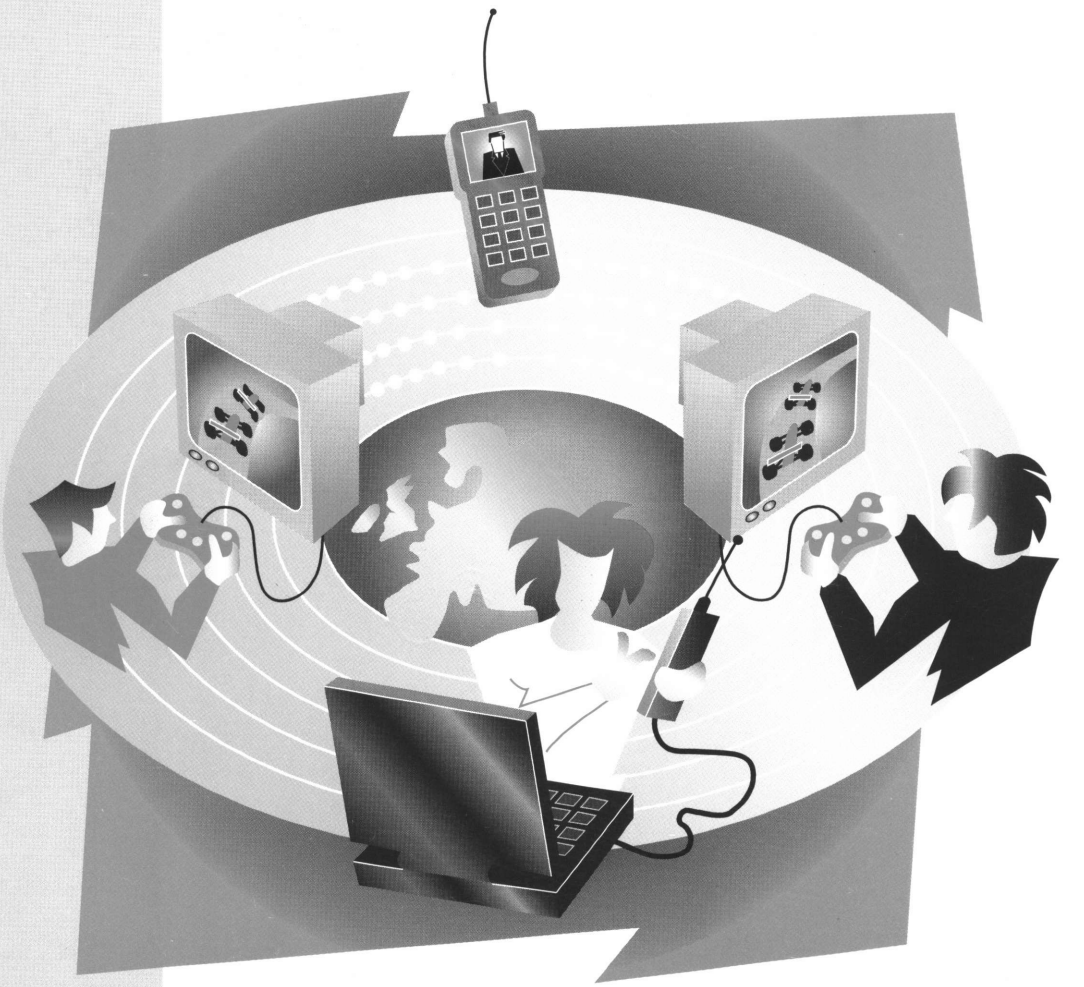
ANNEX 1

Adapting the EU Regulatory Framework to the Developing Multimedia Environment

A Study for the European Commission
(Directorate General XIII)



Squire, Sanders & Dempsey L.L.P.

Analysys

ANNEX I

COMPARATIVE OVERVIEW OF CURRENT REGULATORY ENVIRONMENT IN TELECOMMUNICATIONS AND BROADCASTING SECTORS

Study on Adapting the EU Telecommunications Regulatory Framework to the Developing Multimedia Environment

A Study for the European Commission
(Directorate-General XIII)

Contract No. 48415

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ANNEX I to the Study on Adapting the EU Telecommunications Regulatory Framework to the Developing Multimedia Environment

COMPARATIVE OVERVIEW OF CURRENT REGULATORY ENVIRONMENT IN TELECOMMUNICATIONS AND BROADCASTING SECTORS

The comparative overview of current regulatory environment in telecommunications and broadcasting sectors which follows reflects the law of the Member States as they stood at 1 October 1997.

This comparative overview should be read in conjunction with the individual national reports set forth in Annex II to this Study.

All information contained in this Annex has been assembled in good faith and to the best of the ability of the Study Team.

The information and views expressed do not constitute a legal opinion, and they should not be acted upon without independent confirmation and professional advice. The national correspondents cannot accept any responsibility for loss arising from decisions based upon the national reports.

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Introduction

The transformation of today's telecoms regulatory framework into one which reflects tomorrow's multimedia environment will require a cross-sectoral evaluation of the common and key policy issues which underpin existing regulation in those sectors most immediately affected by convergence, namely, the telecoms, broadcasting and publishing sectors. This cross-sectoral analysis should also extend, wherever appropriate parallels can be found, to the information technology sector.

To this end, Annex I compares and contrasts the various approaches taken at the Community and Member State levels to those regulatory issues which are likely to be key drivers in the development of a multimedia regulatory framework:

(1) Conditions of market entry, particularly the licensing of services and infrastructure.

(2) Definitional issues arising out of the obsolescence of platform-based and technology-based categories for services.

(3) Conditions of market behaviour, particularly the interconnection of, and access to, networks.

(4) Access to scarce public and private resources in a multi-operator multimedia market environment.

(5) The convergence of regulatory functions and authorities.

Of course, the breadth and depth of technological and market convergence (see Chapters I and II of the Study) need not necessarily result in an identical degree of regulatory convergence. The same policy questions, however, will have to be addressed by each of today's discrete regulatory frameworks, which are organised along traditional vertical, sectoral lines. The lessons learned in one sector may find application in other sectors. Indeed, certain issues may require a full cross-sectoral response, or at least one which entails parallel approaches across multiple sectors.

1. Conditions of Market Entry: The Licensing of Infrastructure and Services

The Regulatory Issues

The development of a flexible and transparent licensing regime for infrastructure and services will be a key regulatory driver for the future provision of multimedia services. The formulation of such a forward-looking licensing regime will need to take place at a time when the traditional licensing frameworks in the telecoms and broadcasting sectors are in a state of flux.

For example, the telecoms sector is witnessing a radical shift from monopoly in the provision of voice services to open competition across a full range of telecoms services. Moreover, telecoms services and user needs are becoming increasingly global in scope. Satellite technology in particular is making national borders irrelevant in the design and delivery of services, yet licensing remains highly fragmented along national lines. The radical change from monopoly to open competition is being driven by regulatory developments at the level of the European Union. The adoption of a harmonised Community licensing regime and the market entry it will facilitate are key elements in that process of liberalisation. The increasing harmonisation of licensing principles in the telecoms sector should facilitate the development of global services and should act as a counterweight to alliances among dominant operators.

By way of contrast, licensing in the broadcasting sector is regulated primarily at the Member State level, except insofar as Community competition rules may apply or the content-related issues harmonised under the *Television Without Frontiers Directive*[1] are at issue. In broadcasting, the momentum for the introduction of greater competition has grown because of the opportunities made possible by digitalisation, rather than by harmonised regulatory intervention (*e.g.*, digitalisation is undermining the validity of "scarcity", the traditional rationale for limiting the number of broadcasting licences).

By way of further contrast, the publishing sector has never been restricted in terms of market entry through formal licensing conditions, and has opted instead for a system of self-regulation which is largely administered through national Press Councils or similar self-regulatory bodies.

[1] Directive 97/36/EC of the European Parliament and of the Council of 30 June 1997 amending Directive 89/552/EEC on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities, OJ 1997 L202/60.

The working principles upon which the discussion in this Section is based are as follows:

- Regulatory and economic elements which are common to the licensing of infrastructure and services across industry sectors need to be identified with a view to determining the extent, if any, to which similar regulatory principles should be applied to the licensing of "multimedia" services and networks.

- Burdensome and fragmented licensing conditions can deter market entry and limit effective competition, particularly competition in international and high value services. The Study Team believes that market entry restrictions can only be justified for such fundamental policy reasons as ensuring that certain public interest goals are attained, that public services are provided, that scarce resources are fairly allocated and that market power is controlled. The Community's goal should be to reach a consensus regarding the fundamental licensing conditions which cut across traditional vertical sectoral lines.

- The separate licensing of technology-based services and services identified with a single delivery platform should in principle be avoided in the future. Such licensing is inconsistent with technological convergence and would undermine the important regulatory goal of platform independence. It would also undermine the important progress being made towards the integration of fixed and mobile services and networks.

- There will exist a number of "public interest" and content-related issues with respect to which there is no broad consensus among Member States. In such cases, and consistent with the principle of subsidiarity, it will be important for any future regulatory model to identify clearly those aspects of regulation which fall primarily within the competence of the Member States.

1.1 LICENSING POLICY GOALS

Licences perform a number of policy functions. To the extent that some of those functions are no longer justified by specific public interest goals and discourage market entry and the provision of multimedia services, they should not become part of the emerging regulatory framework for multimedia services.

Historically, licensing has served a number of purposes:

- A licence represents government permission for a private business to operate. Licences often involve the payment of a one-off licence fee or a stream of continuing royalties to the government. To this extent, licences are a mechanism for taxation which, if excessive, can deter market entry. In view of the temptation to use licence fees as a source of general revenue, such fees should be no greater than necessary to cover the actual administrative costs associated with the granting of a licence. Otherwise, short-term revenue generation may lead to the creation of long-term inefficiencies and the lack of innovation usually associated with limited competition. Possible exceptions to this principle would include: (i) licences for facilities-based public operators, where licence conditions are complex and administrative and supervisory costs are correspondingly high; (ii) licences allocating scarce resources, where fees equal to the commercial value of the resource allocated may be justified and may ensure optimal use.

- A licence is often used to correct a market failure that would otherwise lead to the misallocation or misuse of resources. For example, the right to use a certain portion of the electromagnetic spectrum needs to be controlled to prevent the negative effects of radio interference that would occur in an unregulated environment. Another example is the case of public rights-of-way, or wayleaves. To prevent excessive tearing up of public thorough fares and the associated inconvenience, limits may be justified on the right to install underground or overhead facilities. Licences are also used to set conditions on the environmental impact of certain activities, such as the construction and operation of telecoms networks, the siting of radio towers, and so on.

- Licensing can also be used to create a legal barrier to entry for new competitors. The consequence of using licensing in such a manner is the creation of inefficiencies associated with a lack of competition (see above). Licensing restrictions raise barriers to entry, reduce the level of competition and hamper the ability of new entrants to challenge the market power of dominant operators. Licensing may also introduce technological distortions, by imposing conditions going beyond "essential technical requirements".

- A key function of licensing is to grant permission to use a scarce public asset, and to maintain public control over the use of the asset. The element of scarcity has been one of the policy bases for imposing restrictions on the content of broadcasting, which uses spectrum that is arguably a public asset in limited supply. In the telecoms arena, such policies have historically been predicated on the assumption of natural monopoly or the

scarcity of bandwidth, spectrum, or processing power. This approach has led to the imposition in many countries of common carrier and public interest obligations in the telecoms and broadcasting sectors.

- Another function of licensing is to promote the attainment of certain public interest goals and, in particular, to ensure that the operator has met certain standards. The goal is to protect consumers from fraud or unsatisfactory products or services in those cases where service quality is hard to evaluate prior to its purchase. Consumers can be protected by providing the regulator with the authority to issue cease-and-desist orders, impose fines, and use other appropriate enforcement tools, including the referral of fraud to criminal authorities.

- Licences can also be used as a means of supervising activities considered to be of public, cultural and democratic importance. These policy goals have been of particular relevance in the broadcasting sector.

The functions set forth in the first four bullet points above are fundamentally matters of economic regulation. As such, they raise such issues as how many operators should be allowed to provide infrastructure and services in a multimedia environment, and the terms and conditions pursuant to which they should be allowed to do so.

By way of contrast, the last two bullet points raise fundamental issues of public policy.

Licensing requirements in the telecoms and broadcasting sectors will be assessed below in light of these prevailing forms of economic and non-economic regulation. In keeping with the prevailing vertical models of regulation, the Study Team will review these issues on the basis of the current telecoms and broadcasting regulatory frameworks.

1.2 COMMUNITY REGULATORY FRAMEWORK FOR THE LICENSING OF TELECOMS INFRASTRUCTURE AND SERVICES

The harmonisation of licensing conditions for telecoms services and infrastructure in the European Union is being achieved at present through the use of two legislative instruments, namely:

Article 3 of the *Full Competition Directive*;[2] and
The *Licensing Directive*.[3]

The *Licensing Directive*, which is due to be implemented by the Member States by 31 December 1997 (subject to certain derogations), defines a common framework for national licensing and authorisation regimes, based upon the following policy goals:

- a prohibition on the *a priori* limitation of the number of licences that may be granted, other than to the extent required by the efficient allocation of frequencies or, for the time necessary, to make available sufficient numbers in accordance with Community law;[4]
- a preference for the lightest possible regulatory regime;
- a preference for general authorisations (as opposed to individual licences); and
- authorisation of new services not covered by an existing authorisation on a provisional basis within six weeks of the filing of an application (subject to the possibility of Member States extending this time limit for up to four months in objectively justified cases).
- The harmonisation of:
    - national procedures (award procedures must be open, harmonised and non-discriminatory); and
    - the conditions which may be attached to licences (licence conditions must be justified, non-discriminatory and subject to proportionality).

2 Commission Directive 96/19/EC of 13 March 1996 amending Commission Directive 90/388/EEC regarding the implementation of full competition in telecommunications markets, OJ 1996 L74/13.

3 Directive 97/13/EC of the European Parliament and of the Council of 10 April 1997 on a common framework for general authorisations and individual licences in the field of telecommunications services, OJ 1997 L117/15.

4 The Commission acceded to demands of the Member States to limit the number of licences if there is a shortage of numbers (Article 10), but the effect of this is limited since most Member States are obliged to ensure that adequate numbers are available by 1 July 1997 under the terms of the *Full Competition Directive*.

- The facilitation of cross-border services (but without any obligation of mutual recognition).

In adopting the *Licensing Directive,* there was general agreement among the Member States that the Directive should not apply to the rules adopted by the Member States governing the "distribution of audiovisual programmes intended for the general public, and the content of such programmes".[5]

1.2.1 Types of Licences

Individual licences may only be required to the extent that access is being provided to "scarce resources" (namely, access to frequencies, numbers and/or rights of way) [6] or where the licensee is subject to particular obligations/benefits (*e.g.*, universal service obligations, specific obligations arising from "significant" market power in conformity with Community law, or the provision of "public" infrastructure between the European Union and third countries).

Although Member States may require an individual licence for organisations providing universal service, the same is not true of organisations whose only obligation is to contribute to its financing. It is widely understood that an individual licence may be required by most Member States where a company wishes to provide basic voice telephony services and to establish and provide a public telecommunications network requiring the use of radio frequencies.

The *Licensing Directive* also allows Member States to require individual licences for anyone offering a voice telephony service, operating public networks or using radio frequencies in addition to the situations listed above. A review clause can be found in Article 22, however, which requires the Commission to reconsider the scope of the activities which may be subject to individual licences as part of the 1999 telecoms review.

A fee may be imposed for the grant of an individual licence, but only insofar as it reflects the administrative costs incurred in the administration of the licence. The final text of the *Licensing Directive* leaves open the potential for a licence fee to reflect the costs borne in maintaining an independent regulator or administering a licensing regime in general, rather than the costs borne only with respect to the processing of a licence application. The fee structure must be published so as to be easily accessible. Fees imposed to recover administrative costs must be based on objective, transparent and non-discriminatory criteria.

The *Licensing Directive* confers a great degree of flexibility on National Regulatory Authorities. For example, there is nothing to prevent a regulator from

5 Refer to Article 1(2) of the *Licensing Directive.*
6 Refer to Article 3(3) of the *Licensing Directive.*

suspending/withdrawing a general authorisation or an individual licence for non-compliance with licence conditions. However, there is an obligation to give the undertaking concerned an opportunity to state its views and to remedy any breaches. Suspension decisions must be reasoned and made subject to appeal.

1.2.2 Licence Conditions

The *Licensing Directive* also identifies the conditions which may be attached to both general and individual authorisations, when the imposition of a heavier regime is justified.

Conditions which may be attached to individual licences are:

- specific conditions set out in an Annex to the *Licensing Directive*;
- those which may be attached to general licences (but only where justified);
- compliance with "essential requirements"; and
- information requirements necessary to verify compliance with licence conditions.

Conditions which may be attached to general authorisations are:

- compliance with "essential requirements";
- information requirements which are reasonable in order to verify compliance with operating conditions; and
- specific conditions for example, the protection of consumers as defined in the *ONP Voice Telephony Directive,*[7] universal service obligations, the provision of universal directory information, emergency services, and special arrangements for the disabled, and general interconnection obligations (as contained in the *Interconnection Directive).*[8]

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7 Directive 95/62/EC of the European Parliament and of the Council of 13 December 1995 on the application of open network provision to voice telephony, OJ 1995 L321/6.

8 Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of the open network provision (ONP), OJ 1997 L199/32.

1.2.3 Reporting Timetables

The *Full Competition Directive*[9] imposes a number of filing and information obligations on the Member States regarding their telecoms licensing regimes. The following deadlines had to be satisfied unless derogations were obtained:

- notification by 1 January 1997 to the Commission of any licensing or declaration procedures for the provision of voice telephony and/or the deployment of public telecommunications infrastructure; and

- publication by 1 July 1997 of any such licensing or declaration procedures for the provision of voice telephony and/or the deployment of public telecoms infrastructure.

1.3 THE LICENSING OF "TELECOMS" SERVICES

Historically, the European Union has accorded priority to the liberalisation of telecoms services, rather than the infrastructure which can support such services.

Under the terms of the original *Services Directive* in 1990,[10] the provision of telecoms services was fully liberalised except insofar as:

- a monopoly over the provision of voice telephony and the provision of network infrastructure was maintained for telecoms operators;[11] and

- certain types of services were expressly excluded from the scope of the Services Directive because of their relative market immaturity at the time, but which have since been expressly liberalised through successive amendments to the Services Directive (principally, satellite and mobile communications, paging, and also telex).

The discussion of telecoms services below addresses the following categories :

- voice telephony services over fixed lines;

- liberalised or "value added" telecoms services (including on-line and on-demand communications services);

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9 Article 3 of Commission Directive 96/19/EEC of 13 March 1996 amending Commission Directive 90/388/EEC regarding the implementation of full competition in telecommunications markets, OJ 1996 L74/13.

10 Commission Directive 90/388/EEC on competition in the markets for telecommunications services, OJ 1990 L192/10.

11 According to Recital 18 of the *Services Directive*, a monopoly over voice services could only be maintained in order to ensure a revenue base for universal service (i.e., the provision of a nationwide network).

- mobile communications services; and
- satellite services.

1.3.1 Voice Services

The Regulatory Issues

Market interviews indicate that the ability to provide voice telephony services, particularly during the important transitional phase from monopoly to competition, is a critical consideration in the strategic investment decisions of potential new multimedia market entrants. Voice services are seen by many investors as the short-term regulatory driver for the future development of a portfolio of multimedia services, most of which are relatively untested in the marketplace. As a consequence, it is important that the licensing requirements imposed on providers of voice services should not be so cumbersome as to deter market entry.

Conversely, in a future multimedia market, the possible (and some say likely) commoditisation of voice services (see Chapters I and II of the Study) may diminish the relative importance of such services relative to the remainder of a multimedia service package (or at least be of relatively low economic value). The Study Team see this possible market development as exerting pressure on regulators to adopt the least burdensome licensing regime for voice services (*i.e.*, because the relative cost of market entry in the short-term may not be proportional to the economic value of voice services in the longer term). In the transition from monopoly to free competition, it may therefore be important to subject licensing regimes to regular review so as to ensure that they reflect the economic and social values attached to various services in a multimedia world.

Insofar as the intrinsic economic "value" of voice services might diminish over time, the manner in which such services are licensed ought to reflect the manner in which value-added services are regulated. Indeed, Member States such as *Denmark*, *Finland* and *The Netherlands* no longer require an individual licence for the provision of voice telephony services. The growth of voice communications over the Internet will also have the effect of blurring the distinction between "voice" services and other digitalised communications (at least from a technological viewpoint).

(i) Timetable for Liberalisation

In accordance with the terms of the *Full Competition Directive*,[12] the deadline for the liberalisation of public switched voice telephony is 1 January 1998 unless a Member State has been granted a derogation from this obligation on the basis of its less-developed network (or, in the case of *Luxembourg*, its smaller network).[13]

Countries such as *Sweden*, *Finland* and the *United Kingdom* have liberalised voice services for a number of years, with full liberalisation of voice services having occurred most recently in *Denmark* (1 July 1996) and in *The Netherlands* (1 July 1997).

In addition, *France* made available in July 1996 (effective in practice by early 1997) a series of experimental multi-purpose telecoms licences (so-called "Lex" licences) which run for a period of five years and are limited in terms of geographic scope and the number of subscribers that may be served (*i.e.*, not exceeding 20,000).

12 Article 3b of Commission Directive 96/19/EEC of 13 March 1996 amending Commission Directive 90/388/EEC regarding the implementation of full competition in telecommunications markets, OJ 1996 L74/13.

13 Of the five countries which sought derogations -- *Ireland*, *Greece*, *Portugal*, *Spain* and *Luxembourg* -- the periods requested and granted are shorter than the maximum period available (namely, five years). The longest of these derogations was obtained by *Greece*, which has until 31 December 2000 to liberalise voice telephony. In the case of *Spain*, the derogation regarding voice telephony lasts only until 1 December 1998, and was in any event conditional upon *Spain* granting two national voice telephony licences prior to that date (*i.e.*, to Retevision and a third licensee), plus the right of cable TV concessionaires to provide local voice telephony services. See: Commission Decision of 27 November 1996 concerning the additional implementation periods requested by *Ireland* for the implementation of Commission Directives 90/388/EEC and 96/2/EC as regards full competition in the telecommunications markets, OJ 1997 L41/8; Commission Decision of 12 February 1997 concerning the granting of additional implementation periods to *Portugal* for the implementation of Commission Directives 90/388/EEC and 96/2/EC as regards full competition in the telecommunications markets, OJ 1997 L133/19; Commission Decision of 14 May 1997 concerning the granting of additional implementation periods to *Luxembourg* for the implementation of Commission Directives 90/388/EEC and 96/2/EC as regards full competition in the telecommunications markets, OJ 1997 L234/7; Commission Decision of 10 June 1997 concerning the granting of additional implementation periods to *Spain* for the implementation of Commission Directives 90/388/EEC and 96/2/EC as regards full competition in the telecommunications markets, OJ 1997 L243/48; and Commission Decision of 18 June 1997 concerning the granting of additional implementation periods to *Greece* for the implementation of Directive 90/388/EEC and 96/2/EC as regards full competition in the telecommunications markets, OJ 1997 L245/6.

(ii) Scope of "Voice Telephony" Services

For a telecoms service to be regarded as voice telephony, and hence a "reserved service" within the meaning of the *Services Directive*, it must comply with all the criteria used to define the concept of "public switched voice telephony" as:

> *"the commercial provision for the public of the direct transport and switching of speech in real-time between public switched network termination points, enabling any user to use equipment connected to such a network termination point in order to communicate with another termination point."*[14]

The burden of proof that a new service actually constitutes "voice telephony" rests with national regulators.[15]

(iii) Regulatory Status of "Voice on the Internet"

For some time, there has existed a degree of regulatory uncertainty in many Member States as to the regulatory status of voice communications over the Internet. To date, however, "voice on the Internet" has been provided free of any licensing requirements at the Member State level, primarily because it has not as yet had a significant commercial impact.

The classification of voice over the Internet as "voice telephony" would have a significant impact on the future development of such services in the short term. In particular, such services might be subject to an individual licence (and all the attendant costs relating thereto) and subject to the payment of universal service obligations.

Given the regulatory uncertainty regarding the classification of these services, the European Commission issued in May 1997 a "Draft position on the status of voice on the Internet pursuant to the *Services Directive*" (*the "Notice"*).[16] According to the *Notice*, "voice on the Internet" cannot at present be considered "voice telephony", as that concept is defined in the *Services Directive*. More specifically, voice on the Internet does not satisfy the individual elements of the legal definition of "voice telephony", for the following reasons:

- It is often the simple technical non-commercial provision of a telephone connection between two Internet users.

- Internet telephony is usually effected via leased circuits, even if the call terminates on a public switched network.

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14 Article 1(1) of Commission Directive 90/388/EEC on competition in the markets for telecommunications services, OJ 1990 L192/10.

15 Communication by the Commission to the European Parliament and the Council on the status and implementation of Directive 90\388\EEC on competition in the market for the telecommunications services, OJ 1995 C275/2.

16 Commission Notice concerning the status of voice on the Internet pursuant to Directive 90/388/EEC, OJ 1997 C140/8.

- Internet telephony can occur via cable television networks, which do not benefit from a monopoly over voice telephony.

- Internet telephony does not take place in real-time.

1. Legal Impact

Prior to the release of *the Notice*, the regulatory treatment of voice over the Internet was uncertain in a number of Member States, with only *Sweden*, *Italy*, *Germany*, *Finland*, *Denmark* and *Austria* having concluded that voice over the Internet was a liberalised service. Seen in this light, the main consequences of *the Notice* are:

- Voice on the Internet is a liberalised service that cannot be claimed as a monopoly "reserved service" by incumbent national telecoms operators.

- Member States cannot impose an individual licensing requirement on Internet access/service providers.

- Internet access/service providers may not be required to contribute to the support of universal service. [17]

The Commission indicates in *the Notice* the need for proportionality in applying any elements of the current regulatory framework to Internet voice telephony services in the future, as and when it is considered to meet the current criteria.

2. Commercial Impact

The potential commercial challenge presented by voice on the Internet, regardless of its regulatory classification, has been recognised recently by a number of telecoms operators. In *Finland*, for example, Telecom *Finland* became the first incumbent telecoms operator to encourage the use of the Internet for voice communications. Rather than providing such services itself, Telecom *Finland* commenced sales in December 1996 of Vocaltel software (which allows PC users equipped with a microphone and sound card to talk to users with similar equipment).

More recently, in the summer of 1997, a number of events took place which escalated the importance of voice on the Internet. In *Germany*, Deutsche Telekom launched customer trials of a non-PC based telephone-to-telephone Internet telephony service ("T-NetCall"), with plans to commercialise the service by the end of 1997. In *France*, the telecoms

[17] The text of the 1997 French Decree on *Universal Service*, however, arguably subjects Internet traffic to the payment of universal service obligations, which would be contrary to the position taken by the European Commission in its *Notice*.

regulator (the "ART") approved the requests of two major cable networks to provide Internet access. France Telecom announced that it was in the advanced stages of trials for telephone-to-telephone Internet telephony which bypasses the use of the personal computer. Earlier in 1997, Telia of *Sweden* obtained a Section 214 (international facilities-based) licence in the *United States*, citing the relative importance of Internet traffic between *Sweden* and the *United States* as a prime reason for its decision to obtain the licence. According to Telia, it now carries over three times as much "Internet" traffic (although the voice component of this percentage is anticipated to be relatively small) as traditional "voice" traffic on this trans-Atlantic route.

In addition, a number of European telecoms operators are working closely on the ETSI project known as Project Tiphon, which is aimed at establishing common standards for Internet telephony by September 1998. Companies involved in this project include most major equipment and microelectronics manufacturers of both European and North American parentage.

Implications for Multimedia

Defining the regulatory status of voice on the Internet solely in terms of the existing regulatory definition of "voice telephony" highlights the inherent weakness of licensing new digital services along traditional sectoral lines. Even if voice on the Internet communications were being made through a PSTN connection at either end, the reality of digitalisation means that any communication, whether voice, data, images or sound on, is simply a stream of "bits" to the provider of the Internet service. Consequently, an Internet Service Provider ("ISP") is not in a position to know the particular nature of any given communication, nor is the ISP able to differentiate voice communications from other streams of traffic in multimedia applications such as videoconferencing or telemedicine.

In any event, it is the use of enabling software which allows an end user to transmit voice messages over the Internet, and such software may be supplied by a variety of vendors independent of the ISP. In these circumstances, it would be a disproportionate burden to subject the ISP to an individual licence for voice telephony, both because of the high entry costs (licence fees) and because of the inherent difficulties of separating voice from other traffic streams for purposes of determining the ISP's universal service obligation contribution.

The growth in Internet communications may require, therefore, a radical overhaul of existing regulatory definitions (see Section 2 of Annex I) to reflect the realities of digitalisation. In this regard, the increasing use of voice over the Internet may require a re-evaluation of the need to distinguish voice telephony from other communications services.[18]

[18] *The Notice* has been updated to reflect the fact that the dynamics of convergence are having an immediate impact on the existing regulatory definition for "voice telephony". As is acknowledged by the Commission in its revised *Notice*: "The current position of voice communications on Internet under Community law may change in the light of further technical and market developments". Accordingly, the Commission has undertaken to review the scope of the *Notice*, and at least before 1 January 2000. Refer to Status of voice communications on Internet under Community Law and, in particular, pursuant to Directive 90/388/EEC, OJ (1998) C 6/4 of 10 January 1998.

(iv) Licence Requirements for Voice Services

The *Licensing Directive* has been interpreted by most Member States as permitting the individual licensing of voice services.

Countries such as *Denmark* and *Finland*, however, do not require any licence whatsoever (merely a simple pro forma registration). *The Netherlands* has subjected the provision of voice services to a simple authorisation procedure. In the *United Kingdom*, the licensing regime foresees the granting of individual licences for three categories of voice-based services (regional, national and international facilities-based).

In *Sweden*, individual licences were, until the enactment of the 1997 *Telecoms Act* on 1 July 1997, only required for three types of services provided over a public network:

- voice telephony services to a fixed termination point;
- mobile communications services;
- other telecoms services that require the assignment of capacity of a telephony numbering plan.

An additional individual licence category has now been created in *Sweden* under its new 1997 *Telecoms Act* for the provision of infrastructure.

In the transition to full competition, countries such as *Finland*, the *United Kingdom* and *Portugal* have formally separated national and international voice telephony as part of the incremental liberalisation of voice services.

Even where a formal regulatory distinction between national and international telephony has not been established for licensing purposes, effective competition is consistently most pronounced in the provision of international, as opposed to national, telephony services. For example, in *Finland*, the Finnet group achieved a market share of 56% of the international voice market in the first year after Telecom Finland 's international telephony monopoly came to an end. Similarly, in *Sweden*, new competitors for international voice services have secured more than 20% of the market in a period of six years (and rising) but have had little competitive impact on Telia's local telephony operations despite years of free competition. As regards the *United Kingdom*, new entrants have succeeded in obtaining approximately 40% of the international voice telephony market since the introduction of full competition for international voice services. [19] In *Denmark*, Tele Danmark has stated recently that its share of the outgoing international call market has declined from 90% - 95% at the end of December 1996 to 80% by June 1997.

[19] According to OFTEL's document entitled "Market Information 1992/3 to 1996/7" (December 1997), as at March 1997, BT had 61% of all international calls, with Mercury Communications and Cable & Wireless Communications having 14% and 6% respectively, and all other operators holding the remaining 18%. By comparison, BT's market share for local and national calls is resilient, maintaining levels of 90% and 80% respectively.

These figures can be partly explained by the fact that international telephony has traditionally been the most lucrative segment of the telecoms sector. More fundamentally, there is a strong regulatory rationale for such developments. For example, the only country in which serious competition at the level of local voice telephony has occurred is *Finland*, where the members of the Finnet group, because of their widespread access to the customer directly through the ownership of local loop facilities (cable), were able to translate that infrastructure build-out and strong local telephony market share into a significant competitive presence in international voice services.

(v) Licence Conditions

In addition to the criteria set forth in the *Licensing Directive*, licences for voice telephony display the following characteristics:

1. Licence Fees

Market interviews indicate that, with the exception of *Germany*, individual licences for voice services are considered by most licensees to be reasonable, insofar as they do not impose serious barriers to entry.

Under the *German Licensing Ordinance* of 28 July 1997, for example, Class 4 voice telephony service licences are valued at 3 million DM for the whole of the German territory, with a sliding scale of lower fees being payable where the coverage is less (according to the number of inhabitants in the covered area). [20] The German licence fees are applied on a one-off basis, and are not subject to an additional annual charge. Although these licence fees are significantly less than was originally proposed by the German authorities (*i.e.*, 40 million DM), most of the smaller new market entrants consider this licence fee to be prohibitive and contrary to the terms of the *Licensing Directive*.

In *France*, operators need to spend an amount equal to 5% of their investments (tax free) on research and development ("R&D"). This contribution is to be paid annually, and the operators need to submit a summary of the actions they have taken to promote R&D to the national regulatory authority and the Ministry of Communications. [21]

In *Spain*, neither Telefonica nor the second voice telephony operator, Retevision, has been thus far charged a specific fee for the provision of voice services and, although no licence fees have formally been charged for the cable TV concessions which are now being tendered, bidders must agree to a specified "minimum investment" performance bond set at a percentage of the total investment (the performance bond for the Barcelona concession is set, for example, at four percent of the Pta 20 billion (179 m ECU) investment.

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[20] A distinction is drawn between area licences and line licences. The latter type of licence is in turn divided between local and long distance connections.

[21] *Decree of 27 December 1996* (No. 1175), OJ 29 December, Chapter 2, Section 1, Article D. 98(1)(g).

For a comparative list of licence fees, refer to Table IV of Annex I.

2. Duration

The duration of voice telephony licences varies from Member State to Member State. They may be of indefinite duration (*e.g.*, *Spain* and *Sweden*), or may range from 25 years in countries such as the *United Kingdom* to 15 years in *Italy* and *France* (refer to Table III of Annex I).

Commercial cable TV franchises or concessions which include the authority to provide voice services range from 23-25 years in the *United Kingdom*, with 25 years also being most recently prescribed in *Spain* (all terms are renewable).

As is usual with all licences of a "personal" nature, voice telephony licences are not assignable except in certain limited circumstances, which always require the prior approval of the appropriate regulatory authority.

3. Licence Review Procedure

With the exception of such countries as *The Netherlands*, *United Kingdom*, *Sweden* and *Finland*, there has been little practical experience with respect to the manner in which voice telephony licences are processed. In those countries, the usual period between the time an application is filed and a licence for voice telephony is granted currently ranges from four to six months in the *United Kingdom* (a PTO licence),[22] to six weeks in *Germany*. Many of the delays currently experienced are due to the relatively few resources enjoyed by the respective national regulators, as well as the relative immaturity of their respective licensing procedures.

The length of the licensing procedure also often reflects the detailed information required of licence applicants. In *Germany* and *France*, for example, detailed business plans and network rollout strategies must be provided to the regulator in the context of the licence application. Even in the *United Kingdom*, the Department of Trade & Industry regularly make enquires of existing licensees whether their operations are producing tangible public good. A number of potential licensees have commented that this degree of intrusiveness into private business planning is inconsistent with a regulatory framework in which the number of licensees cannot be restricted *ab initio*. Moreover, they claim that many business plans will per force be general in nature, given that most voice telephony markets have yet to be fully opened to the forces of competition. Recent practice in the *United States* and elsewhere suggests that the viability of an applicant's business case is best left to the market to judge *ex post* rather than by the regulator *ex ante*.

[22] In mid-1977, over 125 "PTO" licences were being processed by the Department of Trade & Industry in the *United Kingdom*. At the time of writing, this backlog is being overcome in light of the implementation into national law of the *Licensing Directive*.

1.3.2 Value-Added Network Services ("VANS")

The Regulatory Issues

The provision of value-added network services ("VANS") has been liberalised throughout the European Union since the adoption of the *Services Directive* in 1990. The regulatory treatment of the basket of services which are considered to be VANS should in principle cover most, if not all, forms of new digital services. Consequently, the manner in which such services are regulated in many Member States should serve as an appropriate model for the licensing of "multimedia" services in the immediate future (with the absence of licensing, which currently characterises the publishing industry, possibly being even more appropriate in the context of a competitive multimedia market).

Because there has not been full harmonisation of national "telecoms" licensing frameworks, the approach of the Member States to the licensing of VANS has been anything but consistent. Indeed, some Member States appear to have interpreted the *Licensing Directive* as providing a legal basis for imposing licensing obligations on VANS that were previously provided free from regulation. Insofar as this tendency reflects a minimal level of regulatory involvement (*e.g.*, class licences or simple notifications), this should not create unnecessary market entry barriers for new competitors. Such barriers, however, have arisen in certain Member States whose fee structures bear no reasonable relation to the costs of administering VANS licences. The absence of a harmonised approach to the duration of VANS licences may also have a material effect on the ability of certain new market entrants to provide pan-European services.

Most important, the effects of digitalisation and compression have brought VANS to the forefront of the debate regarding the traditional regulatory lines of demarcation between the telecoms sector and the broadcasting sector. The discussion below explores the ways in which current Member State rules apply to certain new "digital services" whose characteristics contain elements of both regulatory frameworks. The discussion which follows in Section 2 of Annex I explores a number of longer term means of resolving the regulatory impasse which is likely to occur unless fundamental definitional issues are resolved.

The residual category of telecoms services liberalised by the *Services Directive* may conveniently be described as VANS. These liberalised services comprise essentially any transmission of data and/or voice signals (other than public voice telephony) to which a telecoms operator adds some commercial value. For example, VANS include a variety of network-based services, including E-mail, EDI, on-line remote database access, protocol conversion services and access to the Internet. VANS can be offerings to the general public, especially when the service is widely deployed geographically, and is offered to any user who wishes to subscribe.

Although VANS were initially introduced to serve the needs of corporate customers, today services such as on-line information services cater to a much larger set of customers, including residential subscribers. VANS, however, can be distinguished from public offerings insofar as regulators impose no obligations on providers of VANS to make their services universally available[23] and do not regulate the terms and conditions pursuant to which such services are provided. This relatively minimal regulatory interference, however, is not necessarily reflected in all Member States insofar as licensing is concerned. In the absence of full compliance with the harmonised terms of the *Licensing Directive*, VANS are subject to a variety of declaration and authorisation requirements. These licensing requirements, in order of least to most onerous, can be summarised as follows:

(i) Notifications

In many countries, the provision of VANS only requires notification to the national regulatory authority. The details of the notification vary from Member State to Member State. In most cases, services must be notified prior to the commencement of operations (*e.g.*, *France*, *The Netherlands* and *Sweden*). In *Germany*, however, notification may be delayed until one month after the commencement of operations. In *Belgium*, the system is a hybrid one, consisting of a non-opposition procedure, in which a service is deemed approved if the national regulator does not oppose the provision of the service within two months from the filing of the notification. In *Luxembourg*, the enactment of a new law in 1997 has meant that many VANS, which had been previously unregulated, are now required to satisfy a declaration procedure.

In some Member States, notification requirements coexist with individual authorisation requirements for the vast majority of services. In such instances, services subject to a simple notification requirement are often defined very narrowly, which means that the benefits of a notification are not available for most types of VANS. [24]

Under a notification system, the period of authorised operation is by and large unlimited, provided that the operator complies with prescribed essential requirements of a technical

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23 An exception is found in the provision of leased line capacity by incumbent telecoms operators.

24 For example: *Italy*, notification was until recently only appropriate for services not using leased line capacity; in *Greece* -until March 1997 - notification was only appropriate for services using leased line capacity below 2 x 64 Kbp/s.

nature. The transfer of assets and/or operations is usually not restricted, nor are changes in the corporate structure of the operator other than a simple notification of that change for the purposes of ensuring that the new operator complies with essential requirements.

Regulations adopted in *Greece* in 1997 have introduced a unique fee structure (at least for the European Union) for VANS. The fees are based on a percentage of the operator's annual revenues (0.5%). Moreover, the fee is imposed retrospectively. Such a fee structure for VANS - especially those subject to a simple notification procedure - is difficult to reconcile with the terms of the *Licensing Directive*.

(ii) General (Class) Authorisations

The *United Kingdom* is the only Member State in which a system of general (so-called "Class") authorisations applies to all VANS provided within the European Economic Area ("EEA"). This excludes international simple resale services which, if provided outside the EEA, require an individual authorisation.

Some systems which have historically required more restrictive individual authorisations for VANS are now in the process of embracing general authorisation regimes. This is the case, for example, in the latest series of legislative proposals tabled before the respective Parliaments of *Italy* and *Spain* with the exception of a limited number of cases in which individual authorisations will continue to be necessary, namely: (i) where scarce resources are needed; and (ii) in the case of *Italy*, when specific licensing conditions are imposed which would determine the application of an individual authorisation requirement (*e.g.*, obligations regarding: (a) the provision of universal service; (b) Open Network Provision; and (c) the regulation of dominant operators).

(iii) Individual Authorisations

Greece, *Italy*, *Portugal* and *Spain* still have regulatory frameworks which require new entrants to obtain individual authorisations to provide many types of VANS. Legislative proposals currently being discussed by the Parliaments of *Italy* and *Spain*, would, if finally approved, abolish these individual authorisation requirements for the vast majority of telecoms services.

The duration of individual authorisations currently varies among Member States (*e.g.*, 9 years in *Italy*, 10 years in *Greece*, 15 years in *Portugal*) and all are subject to renewal. In *Spain*, authorisations for the direct transmission of data to and from network termination points may be for 10 years (renewable for successive periods of equal duration up to a maximum of 30 years); other VANS are authorised for an indefinite period. This distinction is likely to be removed under proposed legislation.

The transfer of individual authorisations is generally prohibited or requires regulatory approval before it can be effected. Also, material changes in the corporate structure of service providers are subject to regulatory approval.

In some cases, the company seeking to provide VANS is required to establish a branch in the country of operation (*e.g.*, *Greece*) or have a registered address in a country of the European Union (*e.g.*, *Italy*, *Portugal* and *Spain*).

Licence application fees have been reported by operators to constitute a significant burden in some of the countries listed above, especially: (i) in *Italy*, where operators are required to pay one million lire up-front for their licence application, plus one million lire on an annual basis for each site where switching equipment is located; and (ii) *Portugal*, where 500,000 escudos are due at the time of submitting an application, plus an annual fee of two million escudos, plus 250,000 escudos for each renewal which is requested.

In *France* and *Germany*, although individual authorisation schemes were maintained after their respective legislative overhauls in 1996, individual authorisations are for the most part (at least insofar as VANS concerned) linked to the use of radio spectrum or to the operation of public network infrastructure.

(iv) Licensing of "Multimedia" Services

When VANS were limited to data or combined voice and data transmissions, they posed little threat to the regulatory status quo; they certainly did not create any pressure on the traditional definitional boundaries between the telecoms and broadcasting sectors. The onset of digitalisation, the use of compression technology and the take-off of the Internet, however, now mean that telecoms networks are increasingly used to carry visual images (usually associated with the broadcasting sector).

As explained in Chapter II of the Study, ATM technologies and a range of xDSL technologies are facilitating the transport of such images over traditional telecoms networks. The introduction of multi-purpose cable systems and the spread of fixed wireless technologies such as Wireless Local Loop ("WLL") are also making possible the combined transmission of data/voice/images, thereby enhancing the ability of operators to disseminate such multimedia communications.

The Internet has similarly expanded the possibilities for multimedia transmission, creating numerous transmission options over many different types of networks through the use of the IP Protocol, whether for business purposes (*e.g.*, on-line information systems) or entertainment purposes (on-demand video services). We discuss below the different approaches to the regulatory treatment of these services at the Member State level.

1. *Germany*

The only Member State which has adopted specific regulation regarding multimedia services is *Germany*. In its new *Teleservices Law* of 1 August 1997, the German Federal government has concluded that "teleservices" should not be subject to licensing or registration requirements. The *Teleservices Law* applies to:

> "*all electronic information and communication services which are designed for the individual use of combinable data such as characters, images or sounds and are based on transmission by means of telecommunication (teleservices).*"[25]

The definition of "teleservices" expressly excludes those matters defined as "telecommunications" or "broadcasting" under German law. Expressly included within the category of teleservices are: (1) services offered by means of personal communication (*e.g.*, telebanking, data exchange); (2) services offered for information or communication, unless the emphasis is on editorial arrangement to form public opinion (data services providing, for example, traffic, weather, environmental and stock exchange data, the dissemination of information on goods and services); (3) services providing access to the Internet or other networks; (4) services offering access to telegames; and (5) goods and services offered and listed in electronically accessible databases with interactive access and the possibility for direct ordering.[26]

The *Teleservices Law* is the first legislative instrument in which an attempt has been made to define multimedia services in terms of the range of actual services offered, rather than on the usual basis of the technology used to deliver, or the nature of the infrastructure used to transport messages. Such an approach constitutes an important departure from existing practice, and is more consistent with the realities of the emerging multimedia marketplace. The teleservices approach, however, has two weaknesses, namely: (i) the designation of particularised services may trigger further definitional uncertainty in *Germany* because it may not be sufficiently future-proof; and (ii) the introduction of a *new* definitional category, rather than the modification of existing regulatory boundaries, appears to run counter to the general thrust of convergence. These issues are discussed in greater detail in Section 2 of Annex I.

The *Länder* have concluded a Treaty with the Federal government which purports to implement the *Teleservices Law* in a manner which is consistent with their exclusive jurisdictional powers over "broadcasting" matters. Indeed, it is the understanding of the Study Team that the Länder will take an expansive view of the scope of "broadcasting" in relation to new multimedia services. This may create a worst-case scenario in which market players are faced with a dual regulatory characterisation of multimedia services as "teleservices" and "broadcasting". The problems presented by such dual classification are likely to be resolved by the German Constitutional Court.

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25 Article 2(1) (unofficial translation).

26 Article 1(2) (unofficial translation).

2. Other Member States

Unlike the situation in *Germany*, multimedia services have not been regulated specifically by other Member States. The existing regulatory categories of "telecoms" and "broadcasting" have been considered sufficiently flexible (at least for the moment) to include such services. In reality, however, continued reliance on the use of existing regulatory categories will not lend itself to a harmonised view across all Member States on how each service should be characterised.

In the transition of traditional telecoms and broadcasting regulatory environments to a multimedia framework, regulatory uncertainty regarding the status of potentially important multimedia services may subject new operators to a variety of different regulatory requirements in different Member States. This may deter new entry into the provision of such services on a pan-European basis.

Two readily identifiable examples of "multimedia" service providers that are potentially subject to inconsistent classification are Internet Service Providers and Video-on-Demand operations.

- Internet Service Provision

Access to the Internet and a wealth of information-based services is one of the fundamental commercial drivers of multimedia. By and large, on-line services in general and Internet Service Providers ("ISPs") in particular have been regulated as VANS in most Member States (see Table I below). Consequently, they are required to comply with a variety of notification or authorisation procedures: *e.g.*, *Austria*, *Belgium*, *Ireland*, *Italy*, *Spain* and *Greece* - individual authorisation procedure; *United Kingdom* - Class Licence.

ISPs are exempt from any licensing requirements in *Germany*, *France*,[27] *Denmark*, *Sweden*, *Finland* and *The Netherlands*.

Of the Member States, only *Portugal* requires ISPs to obtain an individual licence, with *Luxembourg* also requiring an individual licence where the ISP provides its services over its own infrastructure or that of a third party (otherwise, the ISP is also subject to an authorisation procedure).

Active debates are taking place in a number of Member States at present regarding the future regulation of ISPs.

[27] "Minitel" services are in turn subject to an agreement between France Telecom and service providers.

Table I: Regulation of Internet Service Providers ("ISPs")

Member States	No regulation	Value-Added Service Provider	Individual Licence	Broadcasting Regime	Comments
Austria		✔			In theory subject to an authorisation procedure, although discussions are taking place at the political level in order to determine the best means by which ISPs should be regulated.
Belgium		✔			Regulated as a Data Service Provider which is subject to an individual declaration. The Internet Service Providers' Association ("ISPA") and the BIPT are currently drafting a Code of Conduct for the use of the Internet.
Denmark	✔				---
Finland	✔				---
France	✔				ISPs are in fact treated as VANS providers, but are not subject to a licence or authorisation regime. The *Telecommunications Bill of 1996* contained provisions to the effect that the CSA[28] would exercise jurisdiction over content-related issues, but a judgment of the Conseil Constititionel held that this was unconstitutional.
Germany	✔				Under the terms of the *Teleservices Act*, effective as of 1 August 1997, ISPs are not subject to licence conditions (merely to a notification requirement).
Greece		✔			As of March 1997 (*Law No. 2465/97*), ISPs are only subject to an individual authorisation procedure, with approval following automatically after 3 months if no objections are raised.[29]
Ireland		✔			Subject to the fulfilment of attached terms of a standard licence to which all ISPs are subject.

28 The regulator for broadcasting matters in *France*, the Conseil supérieur de l'Audiovisuel.

29 Previously, where an ISP wished to provide its services over leased lines in excess of 2x64 Kbit capacity, an individual licence had to be sought (which takes up to 6 months) which is ultimately granted by the Minister after consideration by the NTC.

Table I: Regulation of Internet Service Providers ("ISPs") (Cont.)

Member States	No regulation	Value-Added Service Provider	Individual Licence	Broadcasting Regime	Comments
Italy		✔			ISPs are considered to be VANS and subject to an individual authorisation requirement even where they use leased lines with switched access to the PSTN.
Luxembourg		✔	✔		Authorisation available from the Ministère des Classes Moyennes insofar as lines are leased from the local TO. If being provided over self-owned or third party infrastructure, subject to an individual licence.
The Netherlands		✔			As of July 1997, ISPs are subject to a general registration procedure along with all other VANS providers; previously not subject to any regulation.
Portugal			✔		Internet access is classified as a "fixed complementary service" to voice telephony which requires individual licensing.
Spain		✔			Subject to an individual authorisation procedure.
Sweden	✔				--
United Kingdom		✔			Subject to a Class Licence regime for "enhanced services" (the "TSL") where the ISP is an independent entity. Only where the ISP is classified as a "TO" is it regulated under its individual licence as a "supplemental service".

- Video-On-Demand Entertainment Services

On-demand "entertainment" services have been a major early driver of multimedia in the European Union. Although these services are not "interactive" in the strict sense, they nevertheless incorporate consumer selection in the provision of individual services, which takes them outside the sphere of traditional "passive" entertainment broadcasting services. The services most commonly discussed are Video-on-Demand ("VOD") services and Near-Video-on-Demand ("NVOD") services.[30]

To date, with the very limited exception of *France*, there has been no specific legislation regarding new digitalised "entertainment" services in the Member States. In its White Paper (entitled "Broadcasting in the 90s: Competition, Choice, Quality"), the *United Kingdom* decided against creating a specific regulatory structure for such services. Similarly, a Report tabled in *Finland* also concluded that there was no immediate need to amend existing laws to address the expanding market of multimedia services.

In *France*, Pay-Per-View is expressly regulated as part of the offering of cable TV networks, *i.e.*, it is regulated as a broadcasting matter by the CSA. Other Member States have not taken any specific action with respect to Pay-Per-View because they consider it to fall within the sphere of their respective broadcasting laws (*i.e.*, only the transactional aspect constitutes a departure from traditional terrestrial broadcasting).[31]

Similarly, NVOD, because it presumes the scheduled presentation of programmes, falls within the definition of "broadcasting" contained in the *Television Without Frontiers Directive*.[32] Consequently, there is general unanimity among Member States as to the manner in which such services are likely to be characterised under national laws when they become widely available.

The regulatory environment for VOD, on the other hand, presents a more fragmented regulatory picture. The general consensus is that VOD, because the customer selects and receives a programme upon his or her personal request, falls within the definition of "telecommunications" (reception by one consumer at a time). By way of contrast, where the programme is transmitted at set intervals to a large number of actual or potential

30 The difference between VOD and NVOD is that the former implies the provision of a video programme at the precise time requested by a customer, whereas the latter implies that the customer may choose to receive a video programme at a designated time in a series of scheduled times at which the programme is repeated.

31 In *Italy*, enacting legislation will be required for Pay-Per-View services because they will be provided via separate channels. In *Portugal*, providers of subscription television require the authorisation of the Media Commission. NVOD falls under the current interpretation of "subscription television".

32 Refer to definition cited in Part 2 of Annex I.

consumers, the service falls within the definition of broadcasting (simultaneous reception by an undefined number of consumers, as is the case with NVOD). In these circumstances, the provision of audiovisual services on the individual demand of one person is considered to be a point-to-point service and, as such, regulated as any other telecoms service.

In *Germany*, NVOD services fall within the new definition of "teleservices" and are therefore not subject to regulation. At the other extreme, the CSA in *France* takes the view that even point-to-point messages such as VOD should fall within the domain of "audiovisual" matters when based on the transmission of images. Regulation based on a category as broad as "audiovisual", in the view of the Study Team, goes far beyond the traditional definitional boundaries between "telecoms" and "broadcasting" and is *prima facie* incompatible with the notion of a converged environment (discussed further in Section 2 of Annex I).

A number of other Member States have not yet taken a firm legal position with respect to the regulatory status of VOD services (refer to Table II below), with VOD services being provided (if at all) in a legal vacuum.

Table II: Regulatory Status of Video-on-Demand

Country	Telecoms Regulation	Broadcasting Regulation	Comments
Austria	✔		Interactive user-initiated access to databases over the public switched telecommunication network is, according to regulatory definitions, a telecoms service.
Belgium	✔		Unregulated at present, although proposals for regulation being considered. Likely to be considered point-to-point communications; *i.e.*, telecoms, governed at federal level.
Denmark	✔		Falls within definition of a telecoms service.
Finland	✔		Defined under *the 1997 Telecommunications Act.*
France		✔	Video-on-Demand service provided over telephone lines would be an "audiovisual communication" service and, as such, governed by Section 43 of the *Audiovisual Communications Act* of 30 September 1986.
Germany	N/A	N/A	Defined as an unregulated "teleservice".
Greece	--	--	Regulatory status unclear.
Ireland	--	--	Regulatory status unclear. The regulatory status of VOD will be conditioned by the *sui generis* regulation which applies to particular delivery platforms under specific legislation.
Italy	✔		Defined as a telecoms service.
Luxembourg	✔		Defined as a telecoms service.
The Netherlands	✔		Full VOD (when the consumer decides on both time and content) is not considered to be broadcasting. NVOD is treated as subscription television.
Portugal	✔		According to Article 1 of the *Decree Law 58/90* of 7 September, television shall be considered to be the transmission or retransmission of non-permanent images and sounds by means of electromagnetic waves or any other appropriate vehicle, whether through air or cables, that is intended to be received by the public, with the exception of telecoms services operating by means of individual request.
Spain	✔		Regulatory status not addressed expressly in law.
Sweden	✔		Regulatory status not addressed expressly in law.
United Kingdom	✔		Regulatory characterisation has evolved from particular individual licence conditions, rather than express legal definitions.

1.3.3 Mobile Communications Services

The Regulatory Issues

The outstanding commercial success of mobile communications systems which use the GSM[33] standard (including both GSM and DCS-1800 networks), and the political commitment of the Community to a "wireless information society" [34] raise a number of broad public policy issues with ramifications for a future multimedia regulatory environment:

- *First*, the limitation on the number of mobile licences in each Member State has historically been attributable to the scarcity of valuable public resources (*i.e.*, radio frequency spectrum). This raises the issue whether the current management and valuation of those resources should act as the basis for a general regulatory framework in a multimedia environment.

- *Second*, the licensing of mobile systems in the 1990s has largely taken place in the context of a particular technology (*e.g.*, GSM). In a multimedia environment, licensing may more appropriately be undertaken in the context of particular services rather than particular technologies. Such a service-based approach, however, may not be suitable in a competitive environment in which product and service differentiation will become increasingly important.

- *Third*, mobile communications today support high quality voice service and data transmission, including Internet access, E-mail and so forth, but at transmission speeds of only around 9.6 kbit/s. However, third generation mobile systems should support a full range of multimedia services. The evolution of mobile operators which currently enjoy special rights (for existing systems) into third generation broadband operators raises the issue whether regulatory safeguards should be imposed to prevent the abuse of a dominant position.

[33] GSM operators have been assigned the same frequency bands throughout the European Union, namely, between 890-915 MHz for reception and between 935-960 MHz for transmission. DCS-1800 operators, on the other hand, have been assigned between 1700-1785 MHz for reception and between 1805-1900 MHz for transmission.

[34] Refer to Communication to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions on the further development of mobile and wireless communications, COM(97)217 of 29 May 1997.

- *Fourth*, the licensing of new mobile operators has taken place in an environment in which fixed line telecoms operators have been allowed to have a competitive interest in the mobile sector. If competition in the local loop is to be a key regulatory driver for the spread of broadband networks to the home, the question arises whether regulators should permit and, if so, on what conditions, the same entities to operate competing delivery platforms. An ancillary but related issue is whether operators providing a fixed or mobile service today should be given access to additional spectrum in the future.

- *Fifth*, the separation of the provision of mobile services from the ownership and operation of the mobile network has been considered necessary in certain Member States to promote competition. The question arises whether this type of separation, which can be found in the regulatory regimes of certain Member States, is necessary to promote competition in the provision of multimedia services and to ensure the goal of platform independence.

- *Sixth*, the European Commission has either prohibited the imposition of licence fees on new mobile licensees where an incumbent operator in fixed telephony has been permitted to enter the mobile sector without being subjected to the same costs or sought compensating benefits for the new entrant. In a competitive multimedia market, this precedent may be applied by analogy to equalise competitive conditions in the broadcasting sector (especially as digital television licensing commences throughout Europe). This might be achieved by eliminating licence fees for new entrants, imposing them on incumbents, or equalising key competitive conditions by other means (*e.g.*, spectrum re-allocation). In doing so, it is important that the universal service obligations and public service goals of the telecoms and broadcasting sectors are not compromised.

- *Seventh*, the growth of third generation multimedia mobile systems may require additional spectrum which is currently being used inefficiently for State purposes and, to a lesser degree, for broadcasting. In the case of broadcasting, increased technological efficiency may mean that individual channels may require less spectrum in the future. Regulations in a multimedia environment will no doubt need to resolve competing claims to the same spectrum bands in a manner which promotes efficiency and market entry.

- *Eighth*, the future licensing of networks using wireless technologies may require a degree of frequency coordination which goes well beyond the present regulatory framework. The issue arises whether frequency coordination in a future multimedia environment will require the greater convergence of frequency management agencies in the telecoms and broadcasting sectors, and whether such institutional convergence best takes place at a Community or Member State level.

(i) Community Regulatory Framework

In contrast to most other aspects of telecoms in the European Union, the liberalisation of mobile communications services (if not necessarily infrastructure) at the Member State level has in many cases preceded the market-opening policies of the European Commission. Nevertheless, the Community's regulatory framework for 1998 (licensing, interconnection, *etc.*) covers both fixed and mobile networks. It has also addressed a number of issues concerning the licensing of mobile operators, as contained in the following legal instruments:

(1) General Policy:
The Mobile Green Paper[35]
(2) Harmonised Frequency Bands:
Directives 87/372 (GSM), 91/287 (DECT), and 90/544 (ERMES),[36] *as supplemented by various ERC Decisions regarding DCS-1800, TFTS, DSRR and TETRA.*[37]
(2) Liberalisation Measures Under Article 90 of the EC Treaty:
The Mobile Directive[38]
(3) Individual Competition Investigations into Licensing Symmetry:
Proceedings Against Italy and Spain[39]
(4) ETSI Standards Specifications

35 Towards the Personal Communications Environment: Green Paper on a common approach in the field of mobile and personal communications in the European Union, COM(94)145 Final, OJ 1994 C290/10.

36 Council Directive 87/372/EEC of 25 June 1987 on the frequency bands to be reserved for the coordinated introduction of public pan-European cellular digital land-based mobile communications in the Community, OJ 1987 L196/85; Council Directive 91/287/EEC of 3 June 1991 on the frequency band to be designated for the coordinated introduction of digital European cordless telecommunications (DECT) into the Community, OJ 1991 L144/45; Council Directive 90/544/EEC of 9 October 1990 on the frequency bands designated for the coordinated introduction of pan-European land-based public radio paging in the Community, OJ 1990 L310/28.

37 ERC Decision on the frequency bands to be designated for the introduction of DCS 1800, ERC/DEC (95)03; ERC Decision on the frequency bands to be designated for the coordinated introduction of the Terrestrial Flight Telecommunications System (TFTS), ERC/DEC (92)01; ERC Decision on the frequency bands to be designated for the coordinated introduction of Digital Short-Range Radio (DSRR), ERC/DEC (93)01; ERC Decision on the frequency bands for the introduction of the Trans European Trunked Radio System (TETRA), ERC/DEC (96)04.

38 Commission Directive 96/2/EC of 16 January 1996 amending Directive 90/388/EEC with regard to mobile and personal communications, OJ 1996 L20/59.

39 Commission Decision 95/489/EC of 4 October 1995 concerning the conditions imposed on the second operator of GSM radiotelephony services in *Italy*, OJ 1995 L280/49; cf. Commission Decision 97/181/EC of 18 December 1996 concerning the conditions imposed on the second operator of GSM radiotelephony services in *Spain*, OJ 1997 L76/19.

1. Harmonised Spectrum Allocation

A number of Directives have been adopted by the Community and ERC Decisions have been adopted by the signatory States which have specified the radio spectrum available throughout the European Union for various mobile communications services. These frequency bands are:

- GSM - 890-915 MHz and 935-960 MHz
- DCS-1800 - 1700-1785 MHz and 1805-1900 MHz
- DECT - 1880-1900 MHz
- ERMES - 169.4 - 169.8 MHz
- TFTS - 1670-1675 MHz
- DSRR - 888-890 MHz and 933-935 MHz
- TETRA (public services) - 380-400 MHz (emergency services) and 410-430 MHz

2. The *Mobile Directive*

The *Mobile Directive* formally liberalised the market for mobile and personal communications services as of February 1996. In particular, the *Mobile Directive*:

- abolishes all special or exclusive rights granted to incumbent fixed line telecoms operators in the area of mobile communications, and establishes open licensing procedures for new entrants in the mobile telephony market;
- prohibits an *a priori* limitation of the number of mobile licences unless such limitation is based on a lack of frequency spectrum or technical standards;
- removes restrictions on the rights of GSM and DCS-1800 operators to use one another's frequencies;
- mandates the allocation of DCS-1800 licences by 1 January 1998;
- prohibits Member States, as of 1 July 1996, from refusing to allocate DECT/Telepoint licences;

- prescribes that new licences or supplementary mobile licences for existing GSM or DCS-1800 operators may be issued only under conditions which ensure effective competition;

- removes restrictions on the ability of mobile operators to use or develop their own infrastructure or that of other third parties such as utilities; and

- removes restrictions on interconnection options for mobile operators.

National licensing and/or authorisation procedures for mobile communications may remain in place, but only insofar as they are intended to ensure compliance with "essential requirements" or public service requirements, and subject to the principles of non-discrimination and transparency. Similarly, licensing procedures may not impose unjustified technical restrictions.

3. Standards

The Community's involvement in standards-setting through ETSI has been an important element in the commercial success of mobile services throughout the European Union. An integral part of that standards-setting process has been the allocation of radio frequencies at the Community level to facilitate the pan-European coordination of mobile services. Moreover, because of the reluctance of the *United States* to embrace the GSM (or, for that matter, any) standard, it has become recognised as a distinctively "European" standard which has (the *United States* aside) received widespread acceptance.

The success of ETSI in developing the GSM standard has led to the further adoption since 1993 of pan-European standards for the ERMES and DECT systems.

The challenge of developing European standards for third general mobile services ("UMTS") will also fall primarily on ETSI. As was true of the development of the GSM standard, however, there is no consensus whether that European standard should also form the basis of a worldwide standard. Initially, there were attempts to work with the Japanese ("TTC") and the *United States* ("T1") to develop one worldwide standard, but a regionalisation of standards now seems more likely.

(ii) Regulatory Aspects of Market Entry

Mobile services have very quickly been transformed from a specialised market into a mainstream telecoms mass market. The more mature mobile markets such as Scandinavia are exhibiting penetration levels which far exceed 30% (*Finland* and *Sweden* have the highest penetration rates in the world.)[40] The spread of GSM mobile services has created economies of scale which have led to increasingly lower prices for handsets and network equipment. In some cases, mobile equipment is subsidised by the mobile operator or service provider.

40 In the case of *Finland*, the penetration level has reached 40%.

The increase in efficiency and quality, and the decline in the cost of equipment and infrastructure, have made wireless services a viable by-pass option for fixed carrier (local loop) telecoms services. Indeed, the regulatory environment in *Denmark* envisages that mobile and fixed line communications services may fall within the same product market definition for certain regulatory and competition law purposes.[41] Increasingly, mobile services are displacing fixed services, rather than being complementary to them. In fact, customer tariffs for mobile services have fallen so significantly in the past few years in the Scandinavian countries that there is little difference in tariff levels between fixed line and mobile services.

The introduction of mobile services in the European Union has illustrated the relative importance of three regulatory issues, all of which have some analogous application in a multimedia environment, namely:

- the rights and obligations of entities with a dominant position in one product market that wish to migrate to another related, neighbouring or complementary market;
- the extent to which regulatory intervention should operate to prevent vertical integration; and
- whether the subsidisation of consumer equipment by operators should be viewed favourably by regulators as a means of stimulating the market.

Each of these issues is assessed below in its historical context.

- Technological Migration

A key regulatory issue in the future multimedia environment will be whether and on what terms market actors in one product market, particularly those with market power, are permitted to migrate into other markets.

With few exceptions, analogue mobile licences were first granted by Member States to the existing fixed line incumbent telecoms operators. This first mover advantage was in turn extended to second generation GSM mobile licences, such that the leading GSM operators in *Austria*, *Belgium*, *Finland*, *France*, *Ireland*, *Italy*, *Luxembourg*, *The Netherlands*, *Spain* and *Sweden* are subsidiaries of the national fixed line incumbent.[42] In most cases, the

41 Competition between local GSM tariffs and fixed wireline tariffs in *Denmark* suggests that it could be the first European national market in which the majority of voice telephony will be conducted through the use of wireless technology.

42 Contrast *Greece*, where independent companies (Panafon and Telestet) were granted the first two GSM mobile licences, with a subsidiary of the incumbent fixed line operator (OTE), together with Telenor of Norway, being granted a DCS-1800 licence (which is scheduled to commence operations in February 1998 (currently the subject of experimental trials in Thessaloniki).)

incumbent's subsidiary was the first GSM operator to be licensed in each Member State (out of a total of two and, in some Member States, three GSM operators). [43]

In countries such as *Sweden*, *Denmark* and *Finland*, all GSM system operators were also allowed to hold DCS-1800 licences when those licences became available as from 1993 onwards, although this was not permitted in the *United Kingdom* when DCS-1800 systems were launched in 1991. In the Scandinavian countries, the regulatory impetus behind allowing GSM operators to hold DCS-1800 licences was the desire to make the technology as accessible as possible in the shortest period of time. It was felt that this could be achieved most quickly and inexpensively by the entities which already had experience in the sector. The same logic supported the view that fixed line incumbents were in the best position to launch GSM systems.

The licensing of at least one DCS-1800 system is due to take place in the remaining Member States by 1 January 1998,[44] as required by Community law.[45] Countries such as *Belgium*, *Austria*, *The Netherlands*, *Italy*, *Ireland*, *Spain* and *Portugal* are organising tenders or auctions for DCS-1800 licences in the last quarter of 1997/first half of 1998. In some Member States, it has been decided that a truly competitive mobile market requires the introduction of new, independent third parties (*e.g.*, *Belgium*, *Austria*, *Portugal*, *The Netherlands*, *Ireland*).[46] By way of contrast, countries such as *Italy* and *Spain* have expressly decided to allow existing GSM operators to obtain a DCS-1800 licence automatically once those licences become available in the near future. [47] In any event, it will be possible under the terms of the *Mobile Directive* for GSM operators to use DCS spectrum in combination with dual mode handsets to overcome congestion (thereby further enhancing the competitiveness of the early entrants into mobile communications).

As regards third generation mobile systems which will have broadband capabilities, it is clear that the spectrum requirements of UMTS will necessarily limit the number of operators providing these systems. Seen in this context, the issue arises whether existing mobile operators can or should be permitted entry into UMTS.

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43 In the European Union, mobile subsidiaries of fixed line incumbents are estimated to account for 64% of cellular users.

44 Article 2(1) of the *Mobile Directive*.

45 Member States are also obliged to establish a licensing framework for DECT services "within a reasonable timeframe" (Recital 9 of the *Mobile Directive*).

46 Recital 8 of the Mobile Directive provides that: "*Member States should be able to refrain from granting a licence to existing operators, for example to operators of GSM systems already present on their territory, if it can be shown that this would eliminate effective competition in particular by the extension of a dominant position. In particular, where a Member State grants or has already granted DCS 1800 licences, the granting of new or supplementary licences for existing GSM or DCS 1800 operators may take place only under conditions ensuring effective competition.*"

47 In *Italy*, TIM and Omnitel-Pronto Italia have already been permitted to provide DCS-1800 services on an experimental basis prior to the DCS-1800 licensing procedure being launched (possibly as late as mid-1998).

In the view of the Study Team, GSM and DCS-1800 licensees (actual and future) should in principle be permitted to migrate from their existing systems to UMTS. From a technological perspective, the transition from second generation to third generation mobile systems is comparable to the transition of fixed line operators from analogue copper wire networks to fibre optic cable networks with ISDN and ATM capabilities. In the latter case, there have been no regulatory impediments to fixed line operators making the transition from narrowband to broadband networks. Indeed, this technological migration has been considered to be both inevitable and desirable. For the same reasons, GSM and DCS-1800 licensees should be permitted to migrate to the broadband capabilities of UMTS.

In this migration to UMTS, however, a future mature regulatory framework may seek to encourage mobile operators which obtain special rights in UMTS to relinquish their existing first and second generation mobile frequencies over an appropriate timeframe. The spectrum used by those earlier systems could then be released for use by other operators providing multimedia services. Transitional measures would probably be required to promote such a migration. The process of relinquishing spectrum used for existing applications should reflect the extent to which a multimedia mobile market supplants today's mobile communications markets. Because of the increasing possibilities of fixed and mobile communications integration in the context of UMTS, the future regulatory environment for multimedia should also address spectrum sharing and facility sharing on a much greater scale than is relevant under today's market conditions (refer to discussion in Section 4 of Annex I).

In the broadcasting sector, an analogous situation is presented by the availability of new digital broadcasting licences in a number of Member States. If the applicants for digital broadcasting licences in countries such as the *United Kingdom*, *France* and *Germany* are typical of those which are likely to apply in other Member States, existing terrestrial and satellite broadcasters will be the key economic actors in tomorrow's digital broadcast market. The Study Team takes the view, as in the case of fixed and mobile telecoms systems upgrading their capacity to provide broadband services, that there are strong efficiency and public policy grounds for encouraging existing analogue broadcasters to migrate to digital broadcasting. As a regulatory *quid pro quo*, however, traditional analogue broadcasting spectrum should be relinquished for use by other providers of multimedia services, at least once the market for digital broadcasting has sufficiently matured.

- Vertical Integration

GSM operators unaffiliated with the wireline incumbent have traditionally been required to use the infrastructure of the parent of their major GSM competitor (*i.e.*, the incumbent or its affiliate). This means that their costs are governed by those of the incumbent fixed line operator (as, indeed, are the costs of the incumbent's GSM subsidiary), because more than half of the costs incurred by mobile operators are attributable to interconnection and access charges to the public switched telephone network ("PSTN").

It has therefore been important for national regulatory authorities to ensure that mobile operators are not put at a cost disadvantage vis-à-vis the fixed line operator and/or its mobile subsidiary. The liberalisation of mobile infrastructure following the adoption of the *Mobile Directive* in 1996 has assisted GSM operators in developing their economic independence from the fixed line operator, even though individual implementation of that Directive was delayed in a number of Member States. The adoption of the *Full Competition Directive* and the *Interconnection Directive* has meant that incumbent fixed line operators are not able to cross-subsidise their mobile operations with their fixed line operations, nor are they able to provide their mobile affiliates with preferential interconnection rates (refer to discussion in Section 3 of Annex I). In addition, they must implement a system of account separation that distinguishes the competitive and non-competitive aspects of their business.

The acknowledgement that the enduring presence of a fixed line telecoms incumbent in the mobile sector may lead to potential anti-competitive practices has been addressed in a number of policies implemented by the Member States. All of these policies stem from a recognition that the full vertical integration of mobile services into the business of a fixed line telecoms operator - at least in the early stages of telecoms liberalisation - needs to be counterbalanced by certain pro-competitive safeguards.

- Business Separation

Some Member States have sought to restrict the degree to which fixed line incumbents are vertically integrated. Most notably, countries such as France, *Germany*, *Portugal* and the *United Kingdom*[48] have required the mobile subsidiaries of the fixed line incumbent to be operated as separate businesses which are subject to strict accounting separation rules.

In the majority of Member States, however, there have been no attempts to separate the fixed line operations of the incumbent from its mobile operations. This failure to disaggregate fixed and mobile operations has created opportunities for anti-competitive cross-subsidisation. In the transition to a multimedia environment characterised by integrated fixed and mobile services provided by the same supplier, the structural separation of different business units operating distinct delivery platforms such as fixed and mobile (as well as the separation of their accounts) may be necessary to ensure that access and interconnection occur on relatively transparent terms and conditions and that anti-competitive cross-subsidisation does not occur. In a multimedia environment, there will exist strong commercial reasons why operators will wish to bundle their service offerings and tariff packages. In such an environment, however, the regulatory *quid pro quo* for permitting such economically efficient pricing must be the existence of sufficient transparency in the economic relations of individual transmission media. One means of doing so would be through the requirement that there be structural separation in the operation of different delivery platforms.

[48] Indeed, under the terms of the licence for Cellnet, BT's shareholding in Cellnet may not exceed 60%.

On the other hand, given the ultimate logic of fixed-mobile integration, it may be artificial in the long run for infrastructure-based multimedia providers to separate their different business units in the manner outlined above. In certain competitive markets, full structural separation may thwart economies of scope across a range of fixed and mobile service offerings.[49] In such a case, a multimedia environment might be best served by the licensing of multimedia providers across the full range of their different technological routes to market. Whether such an option is feasible will depend in part on the level of competition in the local loop in any given Member State. The greater the level of local loop competition, the less the regulatory imperative to strive for structural separation in the short term, which may lead to inefficiencies in the future. Such an approach may also be conditioned in part by the relative existence of frequencies for all market actors. Insofar as the European Community is able to develop policies which result in the more efficient use of spectrum over a broad range of market actors, the adoption of a policy of full structural separation may be unnecessary.

The use of wireless technology to provide fixed local loops (Wireless Local Loop, or "WLL"), as opposed to more traditional mobile (*e.g.*, GSM) services, complicates the vertical integration analysis. Plainly, fixed line operators should be permitted to use the most efficient technology in providing local loops, particularly if that technology increases the amount of bandwidth that can be delivered to consumers. If that technology is wireless, the question arises whether that technology should be confined by regulation to "fixed" uses. Operators and consumers may deem it advantageous to use the same handset and telephone number for both fixed and mobile services.[50] Such dual use, however, raises a series of pricing, licensing and universal service issues.

- Terminal Equipment

Another example of the decision of certain Member States to restrict vertical integration can be seen in their policies with respect to terminal equipment. In some Member States, and in compliance with EC competition rules, equipment suppliers have been permitted to provide network services only on the condition that their equipment procurement policies be open and transparent, thereby preventing the absolute foreclosure of other equipment suppliers from the mobile equipment market.

- Network and Service Layers

In the case of countries such as the *United Kingdom*, *The Netherlands* and *Germany*, the operation of mobile networks has been separated from the provision of mobile services,

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49 In *Denmark*, for example, Tele Danmark announced in September 1997 that it would roll back its structurally separated GSM operation into its fixed line business and offer bundled fixed-mobile service offerings.

50 Currently available equipment allows an operator to determine whether a wireless handset is being used in or near the home in connection with a wireless local loop or whether it is being used as a mobile handset outside of the home. Such equipment allows operators to charge differently for fixed and mobile use.

with mobile resellers having been authorised as a means of generating greater competition at the service level. This restraint on vertical integration was subsequently relaxed from 1993 onwards in the *United Kingdom* with the introduction of DCS-1800 (or "PCN") services. Mobile operators now merely have the option of marketing their services through independent resellers. There has been an implicit acknowledgement in the *United Kingdom* and in *The Netherlands* that the regulatory separation of the network and service level components of a mobile system does not necessarily result in competitive efficiencies (with the respective regulatory frameworks being accordingly modified).

By contrast, the Scandinavian regulatory experience - which witnessed the earliest development and marketing of cellular mobile systems - is diametrically opposed to the position pioneered in the *United Kingdom*. In the Scandinavian countries, very high penetration rates and relatively low tariff structures were achieved in what resembled near-monopoly situations (without any perceived need for competition at the service provision level and without any attention to the level of vertical integration).

The relative lack of success in stimulating competition in the mobile sector through the separation of network and service elements provides an important precedent for the developing multimedia industry. Such a policy denies investors in new networks the benefits of economies of scale and scope and overlooks the fact that the operation of the network is rarely seen as a "business" in its own right, but rather as an integral element of the overall mobile business. Consequently, in the absence of clear market failure, burdening new market entrants with the obligation to split the provision of infrastructure from the provision of services should be avoided. What may be required, however, is accounting separation of the two discrete aspects of the business. As a general rule, however, the Study Team is of the view that even accounting separation requirements should be limited to market actors which have developed a degree of market power.

- Subsidisation of Consumer Equipment

The rapid growth of the mobile sector has taken place in the face of a number of prohibitions against the subsidisation of mobile handsets by mobile operators. Such a prohibition is justified on the grounds that the provision of ancillary or related goods (*e.g.*, handsets) by a dominant entity at below cost has a tendency to reinforce its market dominance in the primary market (in this case, mobile communications services). On the other hand, there are those who claim that, in new technological markets, the subsidisation of consumer equipment is necessary to make such equipment affordable and thereby stimulate the services market (at least in its initial stages).

Member States of the European Union have seen merit in both of these approaches. In countries such as *Belgium*, for example, the general prohibition on the sale of goods below cost prevents such a practice. In other countries such as *Finland*, *Denmark* and *Italy*, such a prohibition is mandated expressly for the mobile sector. In the *United Kingdom*, the subsidisation of terminal equipment by mobile operators can occur to the extent that the

subsidisation is not considered to be "undue".[51] Most other Member States do not prevent operators from providing mobile handsets below cost. Regardless of the approach adopted, mobile penetration is high in all of these countries.

Perhaps surprisingly, it is in those countries in which the provision of equipment below cost is not permitted that the penetration of mobile services is most advanced, both in absolute terms (*i.e.*, *Italy*) and in *pro rata* terms (*i.e.*, *Finland*). Proponents of such prohibitions assert that, ultimately, it is the overall service/equipment package which is attractive to the consumers, with artificially low equipment prices merely providing very short-term market stimulation. Moreover, it is asserted that the provision of equipment at below cost prices reinforces the dominance of those parties with a first mover market advantage and creates the possibility of market foreclosing practices linked to the supply of terminal equipment. The resolution of this issue is likely to achieve new impetus with the introduction of third generation mobile broadband systems, which will inevitably require new, more expensive, handsets.

51 Competitive safeguards are introduced in the form of: (i) contractual links with subscribers being no longer than 15 months (previously three to four years); (ii) dominant operators such as Cellnet and Vodafone being obliged to meet a cross-subsidy test (as dominant operators); and (iii) the same terms and conditions being offered to all service providers.

Implications for Multimedia

In a multimedia environment, the issue of subsidisation will inevitably arise in the context of conditional access systems or set-top boxes, whether used in the provision of digital interactive or digital broadcast services (or both). The regulatory arguments both in favour of and opposed to the subsidisation of conditional access systems are equally appealing. Although the market for interactive services may require some form of short-term market stimulation because of the expense of set-top boxes, it is also clear that those parties with first mover advantages might reinforce their market power through the use of such conditional access systems. These types of concerns stem from the fact that:

- *Conditional access systems may be the subject of proprietary standards, as is permitted under the Television Standards Directive.*[52] *This means that, unless competition law provisions are actively policed to ensure fair and non-discriminatory access, they are more susceptible than totally open systems to being used to exclude competitors.*

- *The proprietary rights in set-top boxes will often reside in a service provider/broadcaster, rather than in an independent third-party equipment manufacturer. This will create a greater incentive for engaging in abusive behaviour.*

- *Set-top boxes, unlike mobile handsets, are customised for a particular service provider/broadcaster. As a consequence, customers will ordinarily not be able to shift allegiances to another service provider/broadcaster without changing the set-top box accordingly.*

- *The potential for abuse is magnified in the broadcasting context because of the possible links between the service provider/broadcaster and the creation or packaging of content. These commercial links within different layers of the multimedia value chain create the potential for abusive behaviour because of the natural tendency to favour the dissemination of one's own content.*

The subsidisation of set-top boxes should therefore be permissible only in those circumstances where there exist sufficient regulatory safeguards to ensure that such subsidisation does not confer or reinforce a dominant position on the service provider/broadcaster. In such a situation, the usual rules should apply regarding the prohibition of predatory pricing by a dominant firm in violation of Article 86 of the EC Treaty.[53] *In this regard, a flexible approach should be taken with respect to market definition for the purposes of determining dominance in the relevant product market. In a multimedia environment, market dominance may need to be assessed within the overall context of a market actor's upstream and downstream relationships relative to the set-top box, rather than solely with respect to the set-top box itself. In other words, access to the set-top box should normally not be seen as an end in itself, but rather as a means to obtain access to some form of service or customer. It should be the relationship of a service provider/broadcaster to those services or customers - seen in light of their relations with parties in upstream, downstream or neighbouring markets - which are determinative of the issue of dominance in a multimedia environment.*

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52 Article 4 of the *Television Standards Directive*, Directive 95/47/EC if the European Parliament and of the Council on the use of standards for the standards for the transmission of television signals, OJ 1995 L281/51.

53 Refer to *AKZO v. Commission*, Case C-62/86, [1991] I ECR 3359, esp. at para. 69.

(iii) Current Licensing of Mobile Communications

Notwithstanding the requirement of the *Licensing Directive* that there be no *a priori* limitation on the number of licences issued as of 1 January 1998, mobile operators throughout the European Union hold actual or *de facto* "special rights" in connection with the use of particular frequency bands. Moreover, as long as spectrum constraints persist, mobile licences will continue to be limited in number. Issues will therefore arise in a multimedia environment as to the appropriate rules by which additional mobile licences may be granted (assuming that there exists sufficient spectrum for additional licences).

- Licensing Procedures

To date, a limited number of individual mobile licences have been made available to new entrants upon the decision of a Member State to conduct a tender in the form of a "beauty parade".[54] The details of the tender, the duration of the tender procedure and the nature of the submission by prospective applicants have varied in both form and substance from Member State to Member State. Crucial to any given tender bid are the licence fee and the duration of the licence, as both elements are key to the development of a successful business plan. Another key element in the tender process is the relative speed with which a licensee is prepared to complete the national roll-out of its network (both in terms of geographic and population coverage). The terms of the tender are usually available only upon payment of a fee by potential applicants, and much of the content of a licence applicant's bid is confidential in nature.

The typical selection criteria used by Member States which have conducted "beauty parades" to select licensees are often criticised as being insufficiently transparent. [55] For example, even where specific criteria have been enumerated, licence applicants often have little understanding of the relative weighting to be accorded each criterion. The procedures adopted by *Germany* constitute a good example of an open and relatively transparent competitive bidding and selection process for mobile licences. Potential licensees are chosen according to a number of criteria, namely:

- competence to provide the service;
- previous experience;
- sufficiency/organisational resources;

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54 In a number of cases, particular mobile licences have been granted on a "first-come-first-served" basis. The Scandinavian countries and *The Netherlands* are notable examples of such a policy and, to a lesser degree, *France*.

55 Refer to the discussion of mobile licensing procedures as at 1993, much of which is still current, in the Study for the European Commission entitled "Licensing and Declaration Procedures for Mobile Communications in the Member States of the European Community", Study by KPMG Peat Marwick/Stanbrook & Hooper, August 1993.

- viability of technical/business plans; and
- planned quality level and regional coverage.

- Licence fees

There are significant differences in the licence fees imposed upon new mobile licensees by different Member States. The general trend among the Scandinavian countries has been to grant both GSM and DCS-1800 licences at little or no up-front cost (*e.g.*, *Sweden*, *Finland*, *Denmark*) aside from annual spectrum fees.

In most Member States, however, the fees paid for GSM licences have been very high. For example, the fees most recently paid for the second GSM licences in a number of Member States range from 509 million ECU in *Spain* (Airtel) to 21.8 million ECU in *Ireland* (Esat Digifone). Between these extremes, licence fees were 389 million ECU in *Italy* (Omnitel Pronto Italia), 356 million ECU in *Austria* (Max.Mobil), 270 million ECU in *The Netherlands* (Libertel), 221 million ECU in *Belgium* (Mobistar) and 145 million ECU in *Greece* (STET Mobile).

In most Member States, additional annual fees are due for the use of spectrum, ranging from 2.6 million ECU in *Germany* to 0.14% of the turnover in *Sweden*. Many Member States, however, do not charge economic rent for the use of spectrum (*e.g.*, *Austria*, *Greece*, *Italy*, *Spain*, and *Portugal*),[56] preferring instead to extract the economic value of the licence primarily from the up-front fee. By contrast, Member States such as *Finland* and *Denmark* charge GSM licensees exclusively on the basis of spectrum usage. The economic value of spectrum varies significantly from Member State to Member State.

Licence fees for the award of DCS-1800 licences demonstrate three broad patterns, namely:

- the first DCS-1800 licences in countries such as *Finland*, *Sweden* and *Denmark* were awarded without any fee so as to create a regulatory incentive to market the new technology, subject to the payment of annual frequency fees;
- again, with a view to assisting market entry, the next tranche of DCS-1800 licences were awarded for reasonable amounts, often consisting only of an annual administrative fee, plus annual frequency fees; [57] and

56 *Portugal,* however, charges an annual fee of 200,000 ESC (approx. 1,000 ECU).

57 For example: in *France* and *Germany* respectively, Bouygues Telecom and E-Plus were awarded DCS-1800 licences with annual fees of 154,500 ECU and 1.46m ECU (plus frequency fees); in the *United Kingdom*, One2One was awarded licence for an up-front fee of 48,000 ECU, plus an annual fee of 26,000 ECU (plus frequency charges).

- the final tranche of DCS-1800 licences, are being awarded by a number of Member States on the basis of open tenders (*i.e.*, "beauty parades") or auctions.[58]

It is clear that, as DCS-1800 systems have become more attractive, Member States have become increasingly willing to extract commercial value for such licences.

Many believe that auctions are the most appropriate means of determining the market value of mobile licences. In the *United States*, for example, auctions have been used to allocate a wide variety of radio licences. Such auctions are seriously being considered throughout the European Union as a means of awarding licences for mobile services (rather than the usual tender procedure, where the offered price is merely one element of the overall bid). Although auctions may be the most appealing option from an economist's viewpoint, they are subject to a number of criticisms. The possible failings of an auction system have been most recently illustrated in *The Netherlands*, where only two prospective licensees are tendering for two available DCS-1800 licences. In this situation, the economic value of the licence is likely to be artificially low.[59] Over-reliance on auctions may also lead operators with special rights to charge high tariffs to recoup their licence costs over an abbreviated period of time.[60]

The European Commission, relying on competition rules, has taken action on a number of occasions to prevent Member States from charging high licence fees to new mobile operators, where the mobile subsidiary of the incumbent fixed line operator has not had to pay the same amount.[61] In such situations, the subsidiary of the fixed line operator was charged the same amount for its GSM licence or, in the alternative, the new GSM operator was accorded compensatory regulatory measures whose economic value was equivalent to the licence fees it was required to pay.[62]

Absent such relief, the incumbent operator would be at a significant competitive advantage during the crucial start-up phase for the new entrant. This competition-law based approach may also have important implications for multimedia market entry. For example, there are direct parallels in the broadcasting sector, where the first wave of entrants into digital broadcasting will in all likelihood be existing analogue broadcasters. In order to generate

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58 For example, *Ireland*, *Belgium*, *Spain*, *Austria*, and *The Netherlands*. In *Greece*, a DCS-1800 licence has been awarded to a consortium made up of the local fixed line operator, OTE, and Telenor of Norway.

59 This has also happened in the *United States*, where some licenses were awarded for relatively modest amounts. The auctioning procedure in *The Netherlands* provides some protection in that it requires a minimum auction price of 3 million Guilders.

60 As recognised in the *Green Paper* on a common approach to mobile and personal communications in the European Union, COM(94)145 Final of 27 April 1994.

61 For example, in *Belgium*, *Ireland*, *Spain* and *Italy*.

62 For example, in terms of preferential interconnect tariffs, the promise of being awarded a DCS-1800 licence, and so forth.

market demand for such services, regulators may take the view that licence fees should be negligible. Consistent with the Commission's practice in the mobile sector, the imposition of higher fees on later market entrants may be unjustifiable, unless necessary to finance the provision of certain types of public interest services.

- Frequency Fees

The majority of Member States assess annual spectrum fees on mobile operators. Moreover, there is an increasing trend among Member States to adopt spectrum valuation policies (see discussion in Section 4 of Annex I) which ascribe some economic value to the use of spectrum as a scarce resource. There are significant differences in the methods used by Member States to value spectrum. Generally speaking, however, there is a growing tendency for spectrum charges to be based on the type of channels used in light of the demand for such channels and the extent of anticipated congestion for such spectrum. This type of methodology, for example, has been adopted in *Germany* and the *United Kingdom*.[63]

- Duration

The length of mobile licences varies significantly from Member State to Member State. Generally speaking, Member States are attempting to equalise the length of licence terms for both GSM and DCS-1800 licences within their respective territories.

There continue to be significant differences, however, in the length of licence terms for mobile licences as between Member States. For example, licences in a number of Member States run for an average of 15 years (*e.g.*, *Austria*, *France*, *Germany*, *Portugal*, *Ireland*, *Italy*, *Luxembourg* and *The Netherlands*). Member States such as *Austria* and *Greece* (20 years) and the *United Kingdom* (25 years) exceed this average, whereas countries such as *Denmark*, *Sweden* and *Finland* (10 years) fall well below this average.

(iv) Third Generation Mobile Services ("UMTS")

The goal of UMTS is to satisfy the broadband needs of users of personalised mobile communications services. UMTS is planned to become operational by the year 2002, in accordance with the following timetable: (i) UMTS standards studies will have been completed by the end of 1997, with a view to defining its basic features by the end of 1999; (ii) the basic features of UMTS will be available by the years 2000-2001; (iii) the definition of advanced features and their implementation will be deployed by the year 2005; and (iv) a second phase of UMTS which will enhance its broadband capabilities is estimated to be available by the year 2010.[64] Acting far in advance of this timeframe, the *United Kingdom*

63 By way of comparison, an equivalent amount of 34,000 ECU per annum is charged E-Plus, the DCS-1800 operator in *Germany*. Currently, the upper range of spectrum fees for the equivalent operator in the *United Kingdom* (One2One) is set at a comparable level (although the Study Team understands that this figure is likely to rise substantially in the light of new spectrum valuation policies being implemented in the *United Kingdom*).

64 Refer to UMTS Task Force Report, "The Road to UMTS - in contact anytime, anywhere with anyone", Brussels, 1 March 1996; cf. Commission Communication on the Further Development of Mobile and Wireless Communications, Brussels, 29 May 1997, COM(97)217 Final; cf. "Multimedia

has already initiated a licensing procedure which is designed to lead to the grant of a first licence for UMTS by the end of 1998 under a "closed envelope" auction.

Notwithstanding the absence of a precise working definition of UMTS, there are a number of functional elements which define UMTS's essential character. For example, UMTS networks and terminals will be characterised by their ability to deliver broadband multimedia services. UMTS will also be delivered independent of location or terminal. Moreover, UMTS will be delivered over all existing frequency bands for mobile services [65] and by a broad range of technologies. [66] The key distinguishing characteristic of UMTS will be the gradual integration of fixed, mobile and satellite networks, to the eventual point where a customer will not differentiate between the different technologies used to transmit its communications over individual networks. [67] This process of integration will inevitably generate a regulatory dynamic for the horizontal convergence of licensing procedures for applications and delivery platforms which are currently subject to different terms and conditions.

The integration of fixed and mobile services raises a number of fundamental regulatory issues which will need to be addressed in a future multimedia environment. Industry interviews indicate that the future of UMTS is closely linked to the achievement of a radical improvement in spectrum efficiency as compared to second generation mobile systems. This may require the traditional allocation of mobile spectrum - the exclusive assignment of frequencies for particular applications - to be revised. An ERO Report of 1996 posited that a broader range of operators utilising different technologies may be required to share spectrum bands if UMTS is to succeed.

Third generation mobile services should be allowed to develop in response to market demand, rather than in response to regulatory intervention. Industry interviews suggest that there is widespread consensus in the mobile industry that the current regulatory framework at the European Union level is in most respects sufficiently flexible to accommodate the introduction of UMTS. By the same token, the development of any general policy at the Community level for efficient spectrum allocation should take into account the unique characteristics of UMTS. Most potential market actors envisage an important role for regulation in the promotion of a fair and non-discriminatory system for allocating spectrum between market actors and in ensuring the availability of spectrum at reasonable cost.

Communications on the Move", a Consultation Document from the Department of Trade and Industry (UK), July 1997; cf. Communication from the Commission on Strategy and Policy Orientations with Regard to the Further Development of Mobile and Wireless Communications (UMTS), Brussels, 15 October 1997, COM(97)513.

65 For example, over the range of 800, 900, 1800 and 2200 MHz.

66 Including, GSM, DCS-1800, DECT, CDMA and AMPS.

67 Thus, UMTS will have cellular, cordless, satellite, Wireless Local Loop ("WLL") and Radio Fixed Access ("RFA").

There may be compelling policy reasons why the European Community should develop a distinctive spectrum allocation policy to release already-allocated spectrum bands for UMTS in lieu of purely national solutions to spectrum allocation. Although the mandatory re-allocation of GSM spectrum for UMTS use would probably be premature, UMTS providers should nevertheless be obliged to demonstrate their spectral efficiency. In addition, regulators may need to adopt radically different methods of promoting the efficient use of spectrum in light of the increasing integration of fixed and mobile services. The possible auctioning of spectrum for UMTS also needs to be carefully addressed, as it may lead to overpricing.

Regulation should in principle facilitate the development of UMTS by encouraging open platforms and voluntary technical standards because of the potentially limited number of market players for UMTS. To this end, the promotion of interoperability should be a policy priority for the European Union, and the cooperation of all interested parties with ETSI in the development of voluntary technical standards should be encouraged. In addition, the evolution towards fixed-mobile integration should lead to the conclusion that predominantly "mobile" services should contribute to the cost of universal service on the same terms and conditions as other services.

Implications for Multimedia

The evidence suggests that there are residual doubts in the marketplace regarding the use of third generation mobile services for multimedia applications. If, however, the growth in second generation mobile communications is repeated for mobile multimedia applications, regulators will face a multimedia landscape in which fixed communications are being replaced by a broad range of UMTS services.

In these circumstances, the new and growing markets made possible by UMTS would paradoxically be operating under a restrictive system with a limited number of mobile licensees because of a lack of available spectrum, while a declining market for fixed services would be operating under a system of full competition. This regulatory asymmetry between mobile and fixed services may be further skewed by the entry of broadcasters with special rights into multimedia markets. The net effect of this regulatory imbalance could possibly be a slowdown in the process of liberalisation in the European Union.

In the view of the Study Team, the regulatory asymmetry described above may be ameliorated through the implementation of new policies which are designed to:

(i) *release inefficiently exploited spectrum for use by new market entrants (thereby diluting the market power of those entities previously enjoyed "special rights" in a multimedia environment);*[68]

(ii) *promote the efficient sharing of spectrum by all economic actors in the multimedia marketplace;*

(iii) *promote the integration of fixed and mobile services capable of providing broadband services;*

(iv) *establish clear rules regarding the extent to which market actors can migrate from a position of market power in one of today's defined product/service markets to the multimedia market of tomorrow; and*

(v) *specify the extent to which market actors operating different delivery platforms capable of providing multimedia services should operate separate business units for each delivery platform.*

As regards points (i), (ii) and (iii) above, various regulatory options for the more efficient use and sharing of spectrum for multimedia services are discussed in Part 4 of Annex I.

With respect to points (iv) and (v) above, these are the sorts of "structural" competition issues which are linked to the abuse of market dominance. As such, they may be dealt with on a case-by-case basis through the application of Articles 86 and 90 of the EC Treaty. In the alternative, a more coherent approach might be to address these issues through directives adopted under the aegis of Article 90. Such an approach would, in the view of the Study Team, be consistent with the mandate given to the European Commission by the express terms of Article 90. The use of directives (as opposed to individual decisions) adopted under Article 90, however, should be used with caution if its net effect would be to impede the process of convergence across sectors.

[68] Although it is arguable that those rights are not "special" if they have been won through an open auctioning procedure.

1.3.4 Satellite Communications Services

The Regulatory Issues

Satellite, broadband cable and terrestrial fibre networks will soon be widely used to offer multimedia services. These different delivery platforms will often compete with one another for the business of individual end users. In other situations, they will complement one another and address separate market segments. For example, broadcast satellites cannot currently support interactive applications. Satellite-based services must use terrestrial lines for a return path. By the same token, only satellite systems appear capable of providing truly global (*i.e.*, beyond the European Union) broadband services. Satellites are therefore likely to form a part of many global systems, especially where mobility, cost effectiveness, timeliness and interactivity are considered to be important elements in satisfying end user communications needs. [69]

The licensing by the *United States* of companies such as Teledesic has fundamentally changed the traditional world of one-way broadcast satellite. Teledesic will provide interactive "Internet to the home" via satellite. A new generation of regulatory issues may flow from this phenomenon, all of which have global implications. For example, the fixed line voice telephony bypass possibilities created by a broadband satellite system will create irresistible commercial pressure for the dismantling of the existing international settlements framework currently used in telecoms (possibly to be replaced by interconnection charges - see Section 3 of Annex I).

In addition, the unilateral authorisation by the *United States* of a number of global broadband satellite systems using the so-called Ka band raises important strategic concerns for European regulators, including: (i) whether the granting of authorisations by the FCC effectively precludes potential European operators from using the Ka band; and (ii) whether effective actions can be taken by European regulators to correct any foreclosure of European satellite operators. The truly international nature of satellite communications highlights the need for regulatory cooperation beyond the Community level to other international *fora*.

[69] Satellite systems have characteristics which are fundamentally different than other traditional transmission methods, in terms of cost effectiveness, reliability, data rates, terminal installation times and maintenance.

The growth of UMTS, of which satellite communications will form an integral part, will undoubtedly increase the extent to which satellite, mobile and terrestrial networks are used to provide seamless international broadband services. This double-edged phenomenon of network/service integration and competition raises a number of regulatory issues for the future of satellite communications in a multimedia environment:

- *First*, the licensing of satellite services should take place under a sufficiently harmonised set of procedures throughout the European Union. Those procedures should be analogous, even if not identical, to those used for other forms of communications services in order to facilitate fixed-mobile integration. Ideally, because the needs of satellite operators transcend national boundaries, this should involve the mutual recognition of national satellite licensing schemes, or even European level action (either to create pan-European licences or to provide an international coordination body for "one-stop-shopping"). The Community has already taken concrete measures to further such policy goals.

- *Second*, the grant of operating licences under a harmonised system should be complemented by harmonised spectrum allocation procedures. In a multimedia world, this may require the forced migration of existing services from currently used frequency bands so as to open the airwaves for the next generation of mobile communications.

(i) Community Regulatory Framework

The key legal instruments which define the liberalisation and harmonisation policies of the European Union in the field of satellite communications are:

Satellite Green Paper[70]
Council Resolution on Satellite Personal Communications[71]
Council Resolution on the Provision of, and Access to, Space Segment Capacity[72]
Mutual Recognition of Satellite Earth Station Type Approval Directive[73]
Satellite Communications Directive[74]
Commission Communication on Satellite Communications in the Information Society[75]
European Parliament and Council Decision on a Coordinated Authorisation Approach in the Field of Satellite Personal Communications Services[76]

70 Satellite Green Paper of 20 November 1990, as approved in Council Resolution of 19 December 1992 on the development of the common market for satellite communications services and equipment, OJ 1992 C8/1.

71 Council Resolution of 7 December 1993 on the introduction of satellite personal communication services in the Community, OJ 1993 C339/1.

From the perspective of market entry, the key legislative instrument is the *Satellite Communications Directive*, which liberalises satellite telecoms services and satellite terminal equipment by including them within the scope of the *Services Directive* and the *Terminal Equipment Directive* respectively.[77] As a result of the *Directive*, satellite network services for the conveyance of radio and television signals (*e.g.*, the retransmission to cable companies of downloaded TV signals) have been liberalised as " telecoms" services, which fall within the scope of the Directive. By contrast, the *content* of satellite broadcasting services (whether public or private) remains the subject of national broadcasting laws. The liberalisation of satellite services (*i.e.*, the removal of special or exclusive rights) is made subject to local licensing and authorisation procedures. Those domestic procedures are subject to a number of guiding principles, namely:

- **Essential requirements**. Licensing obligations must be designed to ensure compliance with so-called "essential requirements", which are technical issues which must be protected in the public interest.[78]

- **Proportionality**. The *Directive* introduces the idea that individual licences should not be necessary where a simple authorisation or declaration procedure would be sufficient to ensure compliance with essential requirements.[79]

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72 Council Resolution of 22 December 1994 on further development of the Community's satellite communications policy, especially with regard to provisions of, and access to, space segment capacity, OJ 1994 C379/5.

73 Proposal for a European Parliament and Council Directive relating to telecommunications terminal equipment and satellite earth station equipment, including the mutual recognition of their conformity, COM(95)612 of 6 December 1995.

74 Commission Directive 94/46/EC of 13 October 1994 amending Directive 88/301/EEC and Directive 90/388/EEC in particular with regard to satellite communications, OJ 1994 L268/15.

75 Communication from the Commission to the Council, the European Parliament, The Economic and Social Committee and the Committee of the Regions - EU Action Plan: Satellite Communications in the Information Society, COM (97) 91 final of 5 March 1997.

76 Decision 710/97/EC of the European Parliament and of the Council of 24 March 1997 on a coordinated authorisation approach in the field of satellite personal-communication services in the Community, OJ 1997 L105/4.

77 Refer to Article 2(2)(a) of the Directive, interpreted in light of Recital 12 of the Preamble.

78 For a list of relevant essential requirements in the satellite context, refer to Le Goueff, "Satellite Service: The European Regulatory Framework", *[1996] 5 Computer & Telecommunications Law Review*, at pp. 185-191. For example: the efficient use of spectrum; the avoidance of harmful interference between radio-based telecoms systems and other space-based or terrestrial technical systems; the security of network operations; the maintenance of network integrity; and (if necessary) the interoperability of services, data protection, the protection of the environment and town and country planning objectives.

79 For example, Recital 15 of the *Directive* provides that the provision of satellite services only involving the use of a dependent VSAT earth station in a Member State should only be subject to a declaration procedure in that Member State.

- **Objectivity, non-discrimination and transparency**. These characteristics are to be the hallmarks of any national licensing regime for satellites.

  The licensing principles outlined above have subsequently been subsumed into the *Licensing Directive* (discussed in Section 1.2 above).

  Most recently, the European Parliament and the Council adopted a Decision in March 1997 which establishes, *inter alia,* a "one-stop-shopping" procedure. Once the Decision is implemented, prospective applicants for SPCS satellite licences in multiple Member States will be able to utilise a centralised procedure under the auspices of the European Commission, CEPT, ECTRA and the ERC, which would facilitate obtaining multiple satellite licences throughout the European Union within specified timeframes and under harmonised licence conditions. [80]

(ii) Licensing Issues

Communications satellites constitute one particular form of transmission media, as do fibre optic cables and terrestrial microwave links. Today, there are three particular types of satellite systems which are seen as stand-alone communications systems or as complements to fixed line and mobile services:

- Geostationary satellite systems used to augment the transmission facilities of fixed line incumbents in the provision of voice or data services.

- Multipoint networks of numerous small satellite terminals ("VSATs" - very small aperture terminals), which are widely used in distribution and service industries such as retailing and commercial banking.

- Satellite systems in Low Earth Orbit, often referred to as Global Mobile Personal Communications Systems ("GMPCS", also known as "Little LEOs" and "Big LEOs" depending on their size). [81] These are intended, *inter alia*, to transmit and/or receive calls from users with portable mobile terminals. The fixed-mobile telephony and data capabilities of Big LEOs will be tested between the years 1998 and 2000, when the four largest communications systems commence service (a number of Little LEOs are already in operation). [82]

The next generation of mobile systems will be so-called Broadband LEOs, which will provide fixed telephony and broadband multimedia services (scheduled to be operational between the years 2001-2003 (see discussion below)). In addition, recent developments

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80 Refer especially to Article 4.

81 For example, Little LEOs weigh between 40-100 kgs, whereas Big LEOs weigh 450-700 kgs on average; so-called Big MEOs weigh between 2,600-3,000 kgs per satellite.

82 Namely, Iridium, Globalstar, ICO and Odyssey.

suggest that a further group of satellite communications mobile systems - - known as " Mega GEOs" - - may commence operation by the year 2000. [83]

The comments immediately below, while relating specifically to the licensing of Little LEOs and Big LEOs, are equally relevant to these new generations of satellite communications systems.

1. Types of Licences

Within the European Union, each Member State has specific procedures governing the licensing of "Little LEO" and "Big LEO" satellite communications systems (and their constituent elements) that are characterised by differences in the type of licence, its duration and scope. [84] By way of contrast, the FCC in the *United States* licenses complete satellite systems (including access to the space segment).These procedures tend to treat satellite systems as having four separate licensing elements, namely:

- Space segment licences. Radio licensees have the right to establish and operate satellites in certain frequency bands on the basis of their satisfaction of certain technical criteria. [85] Space segment licensing is in principle the responsibility of the country which has jurisdiction over the space segment operator. This means that no other national regulators are involved except to the extent that the space segment must be coordinated under ITU procedures regarding advance publication, coordination and notification, such as Resolution 46. The execution in the European Union of the ITU procedures regarding the Inmarsat and Eutelsat systems is the responsibility of the Member State in which the organisation is located.

  According to the terms of the *Satellite Communications Directive*, regulatory restrictions on the offer of space segment capacity to an authorised earth station network operator have been abolished. Space segment suppliers are authorised to verify the conformity of earth stations with the published conditions for utilisation of their space segment. [86] In addition, the Commission's *1994 Communication on Access to Space Segment Capacity* requires that Member States abolish all restrictions on the offer of space segment capacity on their territory.

  Operators give broad support to the view that only one space segment licence should be required per satellite system. The general feeling is that national

83 Broadband LEOs are on average 500-1,000 kgs in weight, whereas Mega GEOs weigh over 3,000 kgs.

84 Analysed in detail in Le Goueff, "Licensing Global Mobile Personal Communications by Satellite: The Quest for the Holy Grail?", *[1997] 4 Computer & Telecommunications Law Review*, at pp.161-167. Refer to citations contained therein.

85 For example, the orbital characteristics and method of operation of the satellites, plus the frequency assignment for uplinks, downlinks and inter-satellite links (where applicable).

86 Article 2.

sovereignty is not lost because of the multiple licensing requirements exercised by the Member States in connection with ground segment licensing (*e.g.*, gateway earth stations, service provision and user terminals - listed below). On the other hand, there is a growing concern, as a result of the high demand for and the limited spectrum allocations to GMPCS, that any single decision of any single national regulator "could amount to a *de facto* global orbit/spectrum plan for certain frequency bands."[87]

- Gateway earth station licensing. Business and/or radio licences are needed to operate gateway earth stations because they require the use of spectrum to transmit and receive signals from satellites. This is the responsibility of each Member State in which the satellite earth station is located. The transmitting and receiving frequencies used by satellite earth stations are coordinated along the lines prescribed by the ITU Radio Regulations. Interconnection between the earth station and the PSTN is treated as a matter for commercial negotiation. In *Germany*, operators are granted a network licence pursuant to which the licensee is authorised to operate its own network. This gives the operator the status of a telecoms carrier; additional individual authorisations are required, however, for the establishment and operation of earth stations.

- Service provision. Typically, satellite operators establish distribution networks for their services along national or regional lines, which can best be served by local service providers or distributors. A business licence clearly defines the operating conditions relating to the different types of traffic transmitted (*e.g.*, voice, data, video) and authorises the connection of terminals to the PSTN. These licences may take a variety of forms. For example, a limited number of service providers' licences may regulate the use of frequencies or frequency bands by means of an existing satellite system that is coordinated nationally, multi-nationally or internationally.[88] In the alternative, under a less restrictive system, service providers operating within the context of existing satellite networks that are coordinated nationally, multinationally or internationally may be granted an umbrella licence that depends neither on the frequencies nor the satellite system used (with the earth segment being covered by means of individual or general authorisations).[89]

- User terminals. Radio licences are needed to operate each piece of mobile earth station equipment (user terminals), essentially because the terminal acts as a radio transmitter. Individual licences are required in many countries and, until

87 The implication being that entire frequency bands could be blocked on a worldwide basis, thereby preventing their use by other satellite systems. See *Le Goueff*, at p.164 and citations therein.

88 For example, VSAT and SNG services. In this regard, refer also to *VSAT and SNG (Final Report)*, European Radiocommunications Office (25 August 1995).

89 For example, LMSS such as INMARSAT C or EUTELTRACS offered by EUTELSAT. There are differences in the application for such licences in countries such as *Germany* and the *United Kingdom*.

recently, were even required for visitors entering a particular country (*e.g.*, *Portugal*). In other countries, so-called "commissioning" on the part of the satellite operator occurs,[90] rather than individual licensing on the part of the national administration. The licensing of terminals is the sole licensing instrument used to regulate satellite communications in *The Netherlands*. In addition to individual licensing requirements, the lack of a multilateral framework for the mutual recognition of type approvals restricts international mobility.

Licensing on a national basis has been recognised as a potential weakness by the European Radiocommunications Office, which has noted in particular that: (1) the non-uniform use of frequencies attributable to national licensing could lead to the inefficient use of frequency in Europe; (2) national control over a system which has not been licensed by that country is practically impossible because the network operator (gateway) can be located elsewhere; and (3) the mobile terminals are equally difficult to regulate because of their size and dual-mode features.[91]

2. Member State Comparisons

There are currently significant differences between the Member States as regards their licensing procedures for satellite communications systems and, in particular, the major characteristics of those licences. For example, while certain Member States such as *Denmark* require a separate class licence for satellite networks and services, others such as *France* incorporate both the network and the service elements within the same licence. Other Member States such as *Sweden* do not require a licence for the provision of satellite services. An illustration of such differences could be found in the regulatory regimes applicable in a number of Member States.

In *Denmark* and the *United Kingdom*, a general class licence governs the provision of all satellite networks and services. There appear to be no regulatory differences between the different types of satellite networks which might be used. There is no limitation as to the duration of the class licence, and no fee is required. Satellite terminals are nevertheless subject to type approval and to the payment of a fee. In *Germany*, it is necessary to obtain an individual licence for the establishment of a satellite network. By way of contrast, satellite services are only subject to a notification procedure. There is no limitation on the duration of the licence except in the case of a shortage of relevant frequencies. In addition, the terminals are subject to type approval and to the payment of a fee. In *Portugal*, both the establishment of satellite networks and the provision of satellite services are subject to an individual licence. The licence for the network is limited to 15 years, while the licence for satellite services has no limitation in time. In addition, it is necessary to obtain a so-called

90 This is intended to ensure the integrity of the satellite system by verifying that the required technical specifications are met and that all necessary administrative procedures have been satisfied.

91 *Satellite Personal Communications Services (S-PCS)*, European Radiocommunications Office, Report of July 1995, at p.100. See also *Mobile Satellite Services Applications*, European Radiocommunications Office, Report of August 1995 (updated November 1995).

"radio licence" which is limited to five years. Operators of networks and providers of satellite services are also subject to a number of qualifications and operating conditions, including foreign ownership restrictions and the need to provide evidence that they owe no debts to the State. Licences are subject to the payment of a fee.

The duration of licences for communications satellites varies greatly from Member State to Member State, and often varies as between different types of satellites. At one extreme, *Sweden* does not generally require a licence. In *Spain*, satellite licences are of indefinite duration. In the *United Kingdom*, the duration of a satellite licence is 25 years. In a country such as *France*, the duration of the licence is 10 years for VSAT networks and five years for SNG networks.[92] In Member States such as *Austria* and *Belgium* there is no specific duration period for satellite licences, with the length of a licence being determined on a case-by-case basis. The licence may be limited in time because of the scarcity of available frequencies.

Similarly, the scale of licence fees payable for different types of communications satellites varies greatly between the Member States. In *Sweden*, for example, no licence fee is payable whatsoever. In *Austria*, the scale of the licence fee depends on the number of transmitting units and the maximum RF-output power of the transmitting units. In *France*, an annual fee must be paid ranging from 525 ECU to 1,500 ECU per station, with the application fee varying from 3,750 ECU up to 6,000 ECU. In *Spain*, there is a fee for the reservation of radio frequency spectrum. In the *United Kingdom*, no fee is payable for a Class Licence,[93] although a fee is payable for the licence granted under section 1 of the *Wireless Telegraphy Act of 1949*.

As regards licensing procedures, in *Austria* the procedure depends on the services to be offered. For example: voice services to third parties require an individual licence requiring prior approval; voice services to Closed User Groups are not licensed; and data services may be provided without a licence (although notification or declaration is required). In *Belgium*, an individual licence is necessary to establish a network, whereas only registration is necessary where liberalised telecoms services are to be provided. In the *United Kingdom*, satellite systems - - not services - - are subject to individual licensing requirements; other satellite-related matters are subject to a Class Licence regime. This is also reflected by and large in the regulatory regimes of *France*, *Germany*, *Spain* and *The Netherlands* (refer to Recital 15 of the *Satellite Communications Directive*).

92 Namely, Very Small Aperature Terminals ("VSAT") used to describe satellite receiving dishes of less than 2 metres in diameter, and Satellite News Gathering ("SNG") satellites.

93 The Class Licence for satellite services allows anyone within the *United Kingdom* to provide any form of satellite service, including voice, data and video for their own use or for the use of a third party. The major restriction is that that for most services, PSTN interconnection cannot be provided at both ends of the link (i.e., it is only available on a one-way path). In addition, in practice, only five or six undertakings take advantage of the service.

(iii) Satellite-Based Multimedia Distribution Systems

1. Market Developments[94]

Television broadcasting, rather than telecoms services, is the current key application for satellites around the world.[95] Digital television has brought a revolution in broadcasting with the introduction of such new offerings as thematic channels and Pay-Per-View. Satellites offer cost effective delivery of digital television signals and outperform cable and terrestrial distribution in this regard. In anticipation of the successful introduction of digital television, demand for transponders is dramatically increasing and new and more powerful satellites are expected to be launched by the year 2000.

Satellite communications have been dominated by mobile and personal applications during the 1990s, as evidenced by the use of LEO and medium earth orbit ("MEO") satellites to promote first generation Satellite Personal Communications Networks. As mobile systems move into their third generation, the integration of cellular and satellite is occurring in UMTS/FPLMTS, but is still dominated by voice communications, with the promise of multimedia to come.

Although the market for Pay-TV is widely regarded as the driver behind the development of digital television, it is also widely believed that the number of new market entrants will decline dramatically after an initial burst of subscriber interest in the period up to the year 2000. From such market developments, it will become commercially imperative for digital television operators to diversify into non-core businesses such as the provision of data and on-line services.

The recent development of the digital television standard known as DVB-MPEG will enable satellites to handle not only video but also data, which will create new multimedia opportunities for satellite systems. The data dimension will make possible a number of "new on-line" services, broadening the scope of digital television from mere entertainment to business, information and educational applications.[96] The most promising application of the DVB-MPEG standard is its ability to transport data packets over the Internet and provide high speed Internet access.

Despite the many positive aspects of technological convergence, doubts remain as to the relative importance of satellite-based systems in the provision of multimedia services in the short term, at least in the European Union, where fixed line and wireless systems are

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94 For an excellent overview of current market developments, refer to the collected papers at the *Second Ka Band Utilization Conference and International Workshop on SCGII*, September 24-26, 1996, Florence/Italy.

95 Estimated to account for over 70% of the European satellite market and expected to experience further growth as a result of the introduction of digital television.

96 The data transmission facility within the DVB standard is the key to the development of new services, allowing them to be launched on a low cost platform such as the digital television receivers which will be widely available to consumers.

virtually ubiquitous. These doubts stem from a number of perceived technology-based weaknesses of satellite services:

- *First*, it has been questioned whether multimedia services can be delivered by existing satellite technology in the Ku frequency bands, which are already constrained by spectrum capacity. Because of these constraints, only a restricted class of multimedia is possible for satellite-mobile systems. In order to make full multimedia services possible, it will be necessary to move out of Ku bands and towards the new Ka band allocations which have already been licensed in the *United States*. Ka band satellite systems will be able to compete directly with terrestrial broadband technologies such as cable modems and xDSL technologies.[97]

- *Second*, multimedia applications are driven predominantly by the idea of a backbone "superhighway", which is assumed to be dominated by networks built of fiber optic cables.[98] As explained in Chapter II of the Study, it is increasingly likely that ATM will form the key transmission standard in Europe for the future "information superhighway". This standard, however, has been developed primarily by terrestrial fixed network operators in the context of the "ATM Forum" and the ITU, without the impact of satellite operators.[99]

- *Third*, it is by no means clear that satellites can offer the quality of service provided by terrestrial ATM or the degree of mobility that will make satellite-based broadband services attractive to consumers in the European Union.

- *Fourth*, fibre-based systems will always be able to deliver multimedia services more cheaply than satellite systems. Where it is economical to deploy the infrastructure, the same can be said of terrestrial wireless mobile systems. Whether a significant market for satellite-based services exists outside the coverage of the terrestrial infrastructure is therefore a matter of some debate.[100]

Despite these possible impediments to the emergence of satellite-based multimedia applications in the European Union, the issue remains whether the European satellite industry will be able to take advantage of the multimedia opportunities made possible by satellites outside the territory of the European Union. Given the fact that the growth of

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97 Refer to forthcoming Report to the European Commission on *"Prospects for Personal Satellite Communications Using Service Links in the Ka-Band"*, Comsys/Hogan & Hartson.

98 However, in many parts of the world outside of Europe, this is either impossible, uneconomic or will simply take too long to develop. In those countries, satellites do appear to have a niche role to play in developing multimedia services in the short term.

99 Only now is the ATM Forum beginning to consider radio access and the problem of extending the ATM standard to include radio channels.

100 On the other hand, areas which do not have a high enough traffic density, or favourable terrain, to justify the installation of fibre or terrestrial mobile receivers, will be more economically served by satellite systems. Similarly, maritime and aeronautical users can be served more easily by satellite systems, although these may be regarded as very small niche markets for multimedia applications.

multimedia applications over satellite networks is closely linked to the use of mobile systems -- an area in which European companies are particularly strong on a global basis -- the delivery of multimedia services via satellite is arguably something which compels the European Union to take a strong policy position. To this end, the *EU Action Plan on Satellite Communications in the Information Society* promises a new focus on the opportunities arising from increased political and technological/industrial cooperation between the European Union and third countries. [101] Because the GII is a global vision, international cooperation is necessary and critical for its success.

2. Regulatory Developments

In recent years, an increasing number of proposals have been announced to construct and launch global satellite systems for the provision of broadband multimedia services. A significant driving force behind these projects is the fact that the market for regional satellite systems has approached maturity and even saturation, particularly in Europe, the *United States* and Asia.

The *United States*'s FCC has taken an early lead in licensing global broadband satellite systems. The FCC has issued global broadband system licences to such companies as Teledesic, Lockheed Martin for Astrolink, GE Americom for GE Star, Loral for CyberStar, Orion for the Orion Global Satellite Network and Hughes for Spaceways (the Ka band segment). [102]

The wave of applications filed with, and licences granted by, the FCC has led to concerns that the *United States* is becoming the *de facto* arbiter for global satellite systems. In the view of the Study Team, however, attempts to lay any "blame" on the FCC may divert attention from the substantive regulatory concern which is at issue. Pursuant to international treaty, the designated arbiter for global satellite systems is the ITU. [103] Through its Radiocommunications Sector, the ITU is charged with adopting and implementing rules and policies for satellite systems. The Radiocommunications Sector exercises its authority largely through its World Radiocommunications Conferences ("WRCs"), which are currently held ever two years.

Unfortunately, two significant shortcomings have developed in the ITU's management of global orbital resources. First, the ITU's bureaucratic, one vote per Member Nation system of governance prevents the ITU from responding quickly to advances in technology and proposals for new satellite systems. Additionally, some have suggested that developing

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101 Point A12 of the *Action Plan*.

102 The FCC has also placed on Public Notice the proposal for Alcatel's Skybridge. Also pending before the FCC is Motorolla's Celestri application and TRW's Global EHF Satellite Network application, which was filed on 4 September 1997.

103 The ITU is affiliated with the United Nations. The ITU's mission is the international allocation of radio frequencies and satellite orbital positions, the standardisation and interconnection of international telecommunications networks and the development of telecommunications infrastructure in developing countries. Voting membership in the ITU is limited to fully sovereign nations. At last count, 185 countries were members.

countries[104] encourage the adoption of cumbersome administrative procedures in order to preserve orbital resources by inhibiting the prompt deployment of new satellite systems. A second problem with the ITU's method of governance is that it necessitates the development of coalitions, or "voting blocks", in order to gain approval for new initiatives or satellite systems. In recognition of this fact, the European Commission's *Action Plan* urges the Council and the European Parliament to adopt a far more active role in WRC policy development, commencing with the WRC-97, which was held in Geneva in October 1997. At WRC-95, representatives of the US-based Teledesic, with the active support of the *United States* government, forged a compromise which resulted in a major spectrum allotment in the Ka band for non-geosynchronous ("NGSO") satellite systems. Teledesic's success was in part due to the fact that a Ka band NGSO allocation was not on the WRC-95 agenda, which meant that potential opponents were not in a position to respond adequately to the initiative.

There is considerable scope for improvement in ITU processes. During WRC-99, the ITU will be asked to consider proposals for NGSO satellite systems in the Ku band spectrum, currently reserved for geosynchronous systems. The ITU may also be required to take a view on the licensing of "paper satellites" and the auctioning of global system authorisations. In addition, the ITU may be asked to consider plans for global direct satellite systems and inter-satellite links in increasingly higher spectrum bands. Unfortunately, it may be extremely difficult to devise reforms for the ITU that will achieve the dual results of lessening bureaucracy, while at the same time increasing the pool of countries that have the opportunity to propose major satellite systems.

Even if the FCC continues to play a dominant role in the licensing of global satellite systems, it may only have marginal impact on two, arguably far more important issues, namely:

- which global satellite systems will ultimately be constructed; and
- the identity of the parties which will own those systems.

It is estimated that the market for broadband satellite services will never be able to consume more than half the broadband satellite system capacity that has been proposed in recent years.[105] Industry experts believe that those who will succeed in the "race to market" will be the satellite licensees that are successful in forging global equity partnerships, comprised predominantly of major public and private users of satellite capacity and satellite equipment

104 Which comprise a majority of the ITU's membership.

105 This means that a significant market consolidation is likely to occur, and many global satellite licences may never reach the launchpad stage. In a Report prepared for the European Space Agency by TelAstra, a *United States* satellite consultancy, it was estimated that the market for satellite multimedia services will range from 108 gigabits per second to 285 gigabits per second, assuming that satellites capture 6-9.5% market share. In contrast, six of the leading broadband systems that have been proposed would deliver a combined capacity of 438 gigabits per second. See Theresa Foley, "Space Race", *Communications Week International*, August 1997, at p. 25.

manufacturers. As a result, it is entirely possible that the satellite systems that are to be constructed will be truly global in character, and that the licences issued by the FCC may become little more than "flags of convenience". [106]

106 The key results of WRC-97, many of which relate to developing spectrum allocations policies for broadband satellite applications, are discussed in Section 4 of Annex I.

Implications for Multimedia

GMPCS systems do have the potential to create an international multimedia infrastructure, going well beyond the narrow uses of today for international travellers, businesses, and governmental organisations. In terms of creating a truly global infrastructure, satellite communications may become very important because of their ability to supply services to those parts of the world otherwise unable to obtain (or to afford) fixed-line access. Although they could constitute the one broadband network with truly global reach, satellite communications systems in Europe are currently exhibiting technological weaknesses and tend to be characterised by a low take-up in urban areas, which throws into question their relative importance in delivering multimedia to the mass market in the European Union (at least in the short term).

More importantly, however, the current licensing regime for international satellite communications systems in the European Union poses significant hurdles for the take-off of multimedia applications via satellite. Under international law, government regulation and control of satellite systems is considered to be a national matter, with the use of frequencies for uplinking or downlinking clearly deemed to be matters falling within national jurisdiction. A recent study concluded that the factor most likely to slow the growth of GMPCS is current regulatory policy, because of the requirement that operators obtain licensing in every Member State in which they wish to operate.[107] The adoption of the Licensing Directive into Member State laws will succeed partly in ameliorating the effects of fragmented regulation. However, the fact that ground segment licensing requirements can be divided into three separate categories under Member State laws creates the potential for multiple (and different) licensing requirements on a Member State level. Repeating this experience for every country in the world in which an operator wishes to provide global services raises immense market entry barriers.[108]

In the absence of an international satellite regulatory body to facilitate the effective regulation of end-to-end global satellite communications systems, efforts should be made for the harmonisation of national approaches towards licensing requirements. As recognised by the European Commission in its Action Plan, the Community has a potentially important role to play in this process. Beyond that degree of international harmonisation, there are a number of less ambitious regulatory goals which should be sought, namely:

- *The consolidation of ground segment licensing requirements across the European Union, which would greatly expedite the licensing process. The logical way in which such licensing could be consolidated would be along the lines used with respect to other aspects of telecoms, namely, the licensing of networks or infrastructure (in this case, "satellite systems"), on the one hand, and the services provided over or through the use of those systems, on the other.*

- *The "one-stop-shopping" mechanism proposed in the Decision of the European Parliament and Council, once fully implemented, will also be an important step in the erosion of existing regulatory barriers. The extension of the mandate of the ETO[109] to administer licences seems to be a logical extension of its current role in providing one-stop-services for other forms of telecoms services.*

- *The logical next regulatory step after one-stop-shopping is a system of mutual recognition of satellite licences throughout the European Union, as was proposed originally at the Community level in 1994, and as already occurs to a limited degree in the VSAT sector between Switzerland and the Member States of Germany, France, The Netherlands, the United Kingdom and Belgium. The implementation of a successful*

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107 The independent consultancy Ovum, cited in *Mobile Satellite News* of 6 February 1997, at p.5.

108 At the ITU's TELECOM 95 event, a representative from Iridium claimed that 16,000 individual agreements would have to be entered by his company if licensing agreements were necessary for each ITU Member Nation. Globalstar also observed that the establishment of operational licences was the single most burdensome task faced by it.

109 The European Telecommunications Office.

system of mutual recognition may be as effective as the granting of a European satellite licence by a centralised pan-European body.[110] *An essential element of the harmonisation necessary for such a system of mutual recognition to succeed is a relatively high degree of harmonisation of national laws and coordination among Member States of their management of radio frequency spectrum (achieved in large part through the ITU).*

- *The related issue of type approvals should be addressed on an international basis. To this end, a series of mutually recognised standards for GMPCS operations and equipment could be agreed upon between the European Union and other nations on the basis of bilateral arrangements.*

- *Because of its truly international nature and because of the relatively small number of satellite operators throughout the world, there exists the possibility that some form of industry self-regulation may be feasible in the satellite communications sector.*

110 Analysys canvassed these regulatory possibilities in its report of February 1994 to the European Commission.

1.4 THE LICENSING OF "TELECOMS" INFRASTRUCTURE

The Regulatory Issues

The development of a competitive multimedia marketplace will depend on the number, diversity and availability of infrastructure and service providers. The number of infrastructure providers will have a direct and obvious impact on the amount of bandwidth available for multimedia applications. In the absence of readily available bandwidth, the price of transmission capacity will remain high and the development of a mass market for multimedia services may be delayed.

Until recently, many Member States did not differentiate for regulatory purposes between the operation of telecoms infrastructure and the provision of services. Such differentiation was unnecessary as long as Community law focused on the liberalisation of services as the principal means of encouraging competition to the fixed line telecoms incumbent (which continued to hold a monopoly over voice telephony).

It became clear during the mid-1990s, however, that the fixed line telecoms incumbent would continue to have market power even after liberalisation of all telecoms services if service providers were unable to use alternative infrastructure or to build their own networks. Consequently, infrastructure was incrementally liberalised at the Community level in a relatively short timeframe, in the following order: (1) cable television networks providing liberalised telecoms services in 1995; (2) infrastructure supporting mobile networks in 1996; and (3) alternative infrastructure for liberalised services in 1996, and for the provision of any type of telecoms service after January 1998.

This liberalisation programme is reflected in Member State law, and the regulatory distinction between services and infrastructure is now widely drawn, even in countries where neither telecoms services nor infrastructure require licensing. An equivalent distinction in the broadcasting sector is made in only a handful of Member States and, even then, terrestrial television broadcasting networks are operated on a monopoly basis to support the provision of broadcast services.

Having drawn a regulatory distinction between infrastructure and services for licensing purposes, regulators must now decide how an adapted regulatory framework for multimedia should regulate the market behaviour of these different licensees.

The manner in which the operators of infrastructure are licensed and regulated will have a major impact on whether potential investors are willing to make the huge expenditures necessary to construct the proverbial "Information Superhighway" to support the provision of multimedia services to the home. Those expenditures are being put at risk by commercial factors (see Chapter II of the Study) which are progressively

"commoditising" the provision of infrastructure. According to market interviews, the investment in networks is also being put at risk by regulatory policies which prevent investors from deriving the proper value from their investments (especially interconnection and "equal access" policies).

Whether such investments can or should be promoted by a future multimedia regulatory framework is the subject of lively debate, both among the Member States and between regulators within the European Union and the *United States*. The debate has been couched in terms of whether society's multimedia needs are best served by a regulatory model concerned primarily with infrastructure-based competition or services-based competition.

1.4.1 Community Regulatory Framework

The liberalisation of non-voice services by the *Services Directive* in 1990 was not accompanied by any complementary liberalisation of infrastructure. The reasons for this are essentially historical. This regulatory imbalance was redressed by the release of the *Infrastructure Green Paper* in 1994,[111] which expressly acknowledged the importance of comprehensive infrastructure liberalisation by 1 January 1998 as a means of ensuring the competitive provision of voice services. Incremental liberalisation occurred through the adoption of a series of Article 90 Directives which liberalised the use of infrastructure capable of supporting telecoms services which did not fall within the definition of "voice telephony" (refer to Section 1.3.1 of Annex I), namely:

The Satellite Communications Directive[112]
The Cable TV Directive[113]
The Mobile Directive[114]
The Full Competition Directive[115]

- **Satellites**

111 Communication to the Council and the European Parliament, *Green Paper* on the Liberalisation of Telecommunications Infrastructure and Cable Television Networks, Pt. I (Principles and Timetable), Brussels, 25 October 1994, COM(94)440. See also *Green Paper*, Pt. II, 25 January 1995.

112 Commission Directive 94/46/EC of 13 October 1994 amending Directive 88/301/EEC and Directive 90/388/EEC in particular with regard to satellite communications, OJ 1997 L268/15.

113 Commission Directive 95/51/EC of 18 October 1995, amending Directive 90/388/EEC with regard to the abolition of the restrictions on the use of cable television networks for the provision of already liberalised telecommunications services, OJ 1995 L256/49 .

114 Commission Directive 96/2/EC of 16 January 1996 amending Directive 90/388/EEC with regard to mobile and personal communications, OJ 1996 L20//59 of 20 January.

115 Directive 96/19/EC of 13 March 1996, amending Directive 90/388 with regard to the implementation of full competition in telecommunications markets, OJ 1996 L74/13 of 22 March.

The *Satellite Communications Directive* liberalised *inter alia* the provision of "satellite network services". The Directive defines satellite network services as the establishment and operation of satellite earth station networks that allow radio communications between satellite earth stations and space segment (uplinks) and radio communications between space segments and satellite earth stations (downlinks).[116]

- **Cable TV**

The *Cable TV Directive* liberalised the use of existing and new cable TV networks for the provision of liberalised telecommunications services. As from 1 January 1996, [117] the following restrictions were lifted:

- restrictions on the supply of transmission capacity for the provision of telecommunication services other than voice telephony;
- restrictions on the use of cable TV networks[118] for the provision of telecommunications services other than voice telephony; and
- restrictions on the direct interconnection of cable TV networks.

The *Cable TV Directive* does not affect the right of a Member State to make the supply of telecommunications services by a cable TV operator subject to licensing or authorisation procedures. Moreover, the *Cable TV Directive* does not prevent the application of national laws regarding the "distribution of audiovisual programmes for the general public via cable TV networks, and the content of such programmes". [119]

- **Mobile Systems**

As discussed in Section 1.3.3 of Annex I, the *Mobile Directive* lifts all restrictions on operators of mobile and personal communications systems as regards the establishment of their own infrastructure, the use of third-party infrastructure or the shared use of infrastructure in the provision of the services authorised by their licences. Moreover,

116 Article 2 (1) (iv).

117 By 1 January 1998, the European Commission was obliged to carry out an overall assessment of the situation with regard to the remaining restrictions on the use of public telecommunications networks for the provision of cable TV capacity. Refer to *Cable Review*, Commission Communication concerning the Review Under Competition Rules of the Joint Provision of Telecommunications and Cable TV Networks by a Single Operator and the Abolition of Restrictions on the Provision of Cable TV Capacity Over Telecommunications Networks, of 17 December 1997.

118 Cable TV networks are defined, within the meaning of the *Cable TV Directive* as "*any mainly wire-based infrastructure approved by a Member State for delivery or distribution of radio or television signals to the public*". (Corrigendum published 29 November 1996, OJ 1996 L308/59).

119 Recital 17.

Member States are obliged to lift all restrictions on the interconnection of mobile communications systems with one another or with fixed networks. [120]

- **Alternative Infrastructure**

The *Full Competition Directive* completed the process of infrastructure liberalisation set out in the *Satellite Communications Directive*, the *Cable TV Directive* and the *Mobile Directive* by requiring the removal of all restrictions on the deployment of any telecommunications networks [121] used in the provision of liberalised telecommunications services.

According to the terms of the *Full Competition Directive*, the liberalisation of all forms of alternative infrastructure supporting liberalised telecoms services was to occur by 1 July 1996. The only derogations from this timetable were:

- *Portugal* until 1 July 1997
- *Luxembourg* until 1 July 1997
- *Ireland* until 1 July 1997
- *Greece* until 1 October 1997

Infrastructure supporting voice services must be liberalised by 1 January 1998 in order to coincide with the liberalisation of voice telephony in most Member States. The only exceptions to this are:

- *Luxembourg* until 1 July 1998
- *Spain* until 1 December 1998
- *Portugal* until 1 January 2000
- *Ireland* until 1 January 2000
- *Greece* until 31 December 2000

The obligations contained in the *Full Competition Directive* are without prejudice to the licensing, general declaration or authorisation procedures that may exist at a national level, insofar as these procedures: are aimed at compliance with "essential requirements"; are

120 Article 1(3), inserting new Article 3(c) and 3(d) into the *Services Directive*.

121 Telecommunications networks are defined as: "*the transmission equipment and, where applicable, switching equipment and other resources which permit the conveyance of signals between defined network termination points by wire, radio, by optical or any other electromagnetic means*".

objective, transparent and non-discriminatory; require the specification of reasons for any refusal; and include a procedure for appealing any such refusal.

1.4.2 Member State Licensing Policy

Although it is beyond the scope of this Study to examine the extent to which Member States are in compliance with the terms of the *Full Competition Directive*, the Study Team notes that -- as of 1 October 1997 -- all Member States which have not received a derogation have either adopted legislation which implements the terms of the various Article 90 Directives discussed above or are in the process of introducing legislation which purports to do so. In certain cases, public statements have been made that the provision of infrastructure has been liberalised.

Even in those cases where Member States have delayed the implementation of Community legislation, there is widespread evidence of market actors asserting the direct effect of the various Article 90 Directives liberalising the provision of infrastructure and providing capacity for liberalised services, even in the absence of an express licence to do so. [122]

Nevertheless, regulatory policy regarding the licensing of infrastructure for liberalised telecoms services or voice services varies significantly from Member State to Member State:

- In countries such as *Finland* and *Denmark*, for example, licences are not required for any form of infrastructure.

- In *Sweden*, infrastructure was not subject to licensing until recently but, with the passage of the *Telecommunications Law* of 1997, now requires an individual licence.

- *Spain*, which is still in the process of revising its telecoms laws, does not license infrastructure separately from services.

- In the *United Kingdom*, the introduction of the so-called International Facilities Licence (the "IFL") means that that International Simple Resale ("ISR") licences are the only licences which do not include some element of infrastructure as part of the activities of the licensed operator.

- In *The Netherlands*, individual licences for infrastructure provision will no longer be required as from 1 January 1998.

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122 The ability of parties to assert their rights in this way was expressly acknowledged by the Irish Minister for Transport, Energy & Communications, who announced in a Press Release of 24 June 1997 that the liberalisation of alternative infrastructure would occur in *Ireland* through the direct application of the terms of the *Full Competition Directive* pending the introduction of a formal licensing scheme.

In those Member States which require the licensing of infrastructure used in the provision of liberalised telecoms services, individual licences are often required. The Study Team questions whether individual licences are necessary when the services themselves are subject to a relatively light licensing regime (*i.e.*, VANS subject to a declaration or notification procedure). The following are illustrative of the requirements which a particular pan-European provider of alternative infrastructure for liberalised telecoms services must satisfy in various Member States:

- *The Netherlands* — individual licence, at an annual fee of 500 NLG per annum (224 ECU), of unlimited duration.
- *Belgium* — individual licence, at an up-front fee of 270,000 BEF (6,610 ECU) plus an annual renewal of 176,000 BEF (4,309 ECU).
- *Germany* — individual licence, at a one-off fee of 5.3 million ECU based on the number of lines used, of unlimited duration.
- *United Kingdom* — IFL, at an up-front fee of 7,565 GBP (11,445 ECU) plus renewal fees of 8,000 GBP (12,100 ECU), of unlimited duration.

The licensing of infrastructure used in the provision of voice services generally involves an individual licence (*contra*: *Finland, Denmark* and, in the near future, *The Netherlands*).

In acknowledgement of the long term commitment involved in building network infrastructure, most Member States are granting or proposing to grant infrastructure licences for voice services for an indefinite duration. Only *The Netherlands* (10-20 years), *France* and *Italy* (15 years) and the *United Kingdom* (25 years) prescribe shorter periods of time for the duration of such licences. These countries are more or less committed to some form of infrastructure-based competitive model for the telecoms sector (see below). This suggests that their respective regulatory frameworks are premised on the assumption that competition in the local loop will occur over time. [123]

As regards the fees charged for infrastructure licences, these vary significantly from Member State to Member State (refer to Table IV in Section 1.7 of Annex I). At one extreme, a full national infrastructure licence will cost 5.3 million ECU in *Germany* (as a one-off fee not subject to renewals). In between, an infrastructure licence in *The Netherlands* costs approximately 359,000 ECU per annum, whereas the average national infrastructure licence in *France* for a non-dominant operator will consist of an up-front fee of 75,000 ECU (and annual renewal fees of 150,000 ECU). The *United Kingdom* and *Sweden* charge roughly similar up-front fees of 7,565 ECU and 11,600 ECU respectively, coupled with annual renewal fees set at 0.08% and 0.14% of annual turnover.

[123] Consequently, each regulatory regime envisages possible market exit and entry at the infrastructure provision level, rather than a model based on entrenched infrastructure monopoly or oligopoly.

Other aspects of the licensing process for infrastructure mirror the licensing regime for VANS and voice telephony services respectively (see discussions in Sections 1.3.1 and 1.3.2 of Annex I).

1.4.3 Internet "Infrastructure"

The core "infrastructure" which makes up the Internet consists principally of three key types of facilities:

- routers (computers designed to receive and forward packets of data);
- hosts (which store programmes and data); and
- pipes (transmission facilities which connect the hosts and routers).

These facilities, however, do not constitute a "network" in the conventional sense. The constituent elements of the Internet are owned by third parties; for example, hosts and routers are owned by both public and private entities whose computers are linked to the Internet, whereas pipes are most often owned by telecoms companies.[124] Consequently, the Internet is a "virtual" network which is not regulated *per se*, although the underlying infrastructure over which it operates is subject to regulation.

In this environment, network providers have both physical links and contractual relations with other networks.[125] In the absence of such direct physical connections or contractual relations ("peering agreements") between networks, Internet traffic must find alternative routes. It is not uncommon, therefore, for an Internet message transmitted within the same European city to be routed via the *United States*. Responsibility for the delivery of a message is not only spread among different networks, but it is also difficult to determine which networks will participate in the transmission and termination of any given communication (whose route may be unpredictable). Commercial users and academic institutions often have high capacity (bandwidth) connections to the Internet, but mass market users are usually confined to low capacity connections.

Given the diffuse nature of the Internet, it is important that infrastructure be regulated in a manner which is both consistent across Member States and not onerous. It must also give the right investment incentives to new network providers.

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124 These entities provide Internet-compliant routing and switching facilities themselves or lease capacity to network providers who add those facilities to create sections of the Internet. Refer to discussion in *Internet Law & Regulation*, Graham J.H. Smith (1996), p. 3.

125 The physical connection enables traffic to flow from one network to the next. The contractual arrangement governs the exchange of traffic between networks.

1.4.4 Infrastructure vs. Services Competition Models

There is a fundamental theoretical debate taking place in the telecoms sector which is likely to carry over to the multimedia sector. One school of thought sees the future of the telecommunications sector based on competition among a number of local access infrastructure providers, *e.g.*, the incumbent telecoms operator, a local cable TV company, mobile operators, satellite operators, alternative infrastructure providers, Wireless Local Loop operators and an increasing number of fixed networks run by public authorities (*e.g.*, city networks). The main supporters of this model at the Member State level are the *United Kingdom* and *The Netherlands*.[126] These Member States characterise service providers as being simply another means of distribution to market.

A second school of thought sees the market developing primarily on the basis of a regulated monopoly model, in which there will be many service providers which have cost-based non-discriminatory access to a very limited number of local access networks. The proponents of this model assert that service providers will invest in (limited) infrastructure only after they have had an opportunity to grow in the marketplace. Indeed, some market actors have commented that the rapid build-out of infrastructure may result in such excess capacity that there may be little commercial difference between owning or leasing one 's own infrastructure in the future. Most Member States, however, have not yet adopted a clear policy position in either direction.

(i) The Services-Based Competition Model

The services-based competition model has emerged from the experience of the telecoms sector in the *United States*. The model is the product of three interrelated factors. The first is the federal constitutional structure of the *United States*, in which regulatory power is shared between the national government and the governments of the States. [127] This federalist model is only relevant to a handful of European countries, and is relevant only insofar as it is the basis for the jurisdictional division between the telecoms and the broadcasting sectors.[128] The second factor underlying this model is the fact that, unlike almost every other country, the *United States* telephone system has always been owned by private investors rather than by the government. As such, the telephone industry was subject to a unique form of regulation better known elsewhere in the world as "rate of return" regulation. The third factor was the assumption that the local access infrastructure which connects individual customers to the network is a natural monopoly. The assumption of a natural monopoly is the cornerstone of the services competition model, and was the

126 And to a growing degree, *France*.

127 The allocation of costs between the federal and state jurisdictions by the FCC and the state Public Utilities Commissions was guided by the federalist structure of the American constitution and not by the economies of telecoms. In a series of cases in the early part of the twentieth century, the U.S. Supreme Court required this separation of common costs between the federal and state jurisdictions based on the relative proportion of usage. In other words, the allocation of the costs of plant and equipment used to originate and terminate interstate calls was to be allocated between jurisdictions based on a proportion of the call minutes that were interstate.

128 For example, *Germany*, *Belgium*, and, to lesser extents, *Austria* and *Spain*.

predicate for the break-up of the Bell System which resulted in the separation of local service from long distance service. Whatever the merits of the natural monopoly assumption at the time of the break-up, technology has rendered the assumption more or less false.

Because of the *United States*'s constitutional structure, the prices for local service were set at the State level, while the prices for interstate and long distance services were set by the FCC. As a consequence, it became common to think of these two services as separate markets - a local market and a long distance market. Because of rate of return regulation and the existence of separate regulatory jurisdictions, it was necessary to allocate costs and revenue requirements between them for rate-making purposes. Over the course of time, a widening gap developed between long distance prices and underlying costs. This gap created an opportunity for entry into long distance by operators such as MCI. Through a series of policy decisions by the FCC, interstate long distance was opened to new operators. A flourishing long distance industry developed. At the same time, most State regulators retained their legal barriers to competition in local service. Even if they had not, the widespread view of local telecoms as a loss-making natural monopoly retarded the emergence of competition in that segment.

A number of public policy decisions were driven by this view of the telecoms market:

- In response to an antitrust suit brought by the Department of Justice, AT&T agreed to divest its Bell Operations Companies, based on the theory that "competitive" long distance services were being separated from "monopoly" local services. The only variation was that the so-called "Baby Bells" were allowed to carry intrastate short haul long distance calls (intraLATA).[129]

- The FCC, in its Computer Inquiry decisions, adopted Open Network Architecture ("ONA") principles to ensure that enhanced service providers ("ESPs") and information service providers ("ISPs") had non-discriminatory access to call origination functions. ONA required local exchange companies to make available unbundled network components. The pricing of unbundled components had to be cost-based. No distinction was made between originating and terminating access. It was intended that ESPs and ISPs be able to attach their processors or switches to the local loop infrastructure and, in this way, their customers could obtain access to their services.

This ONA approach to pricing reflects the "essential facilities" doctrine, derived from case-law interpreting the prohibition on monopolisation or attempts to monopolise under Section 2 of the *Sherman Act*. The "essential facilities" doctrine was applied in these antitrust cases in the context of "refusals to deal", where a firm with monopoly power controlled a

[129] The revenues from this kind of traffic were intended to provide continued support for local service rates in the interest of Universal Service. State regulators retained jurisdiction over intrastate communications, thus preserving the constitutional separation between federal and State regulation.

particular asset or scarce resource, access to which was imperative to the viability of new or potential new competitors. To be essential, however, the resource must not be simply helpful, but vital to competition in the market. Under *United States* law, a plaintiff invoking the doctrine must prove:

- control of the essential facility by a monopolist;
- a competitor's inability to practically or reasonably duplicate the essential facility;
- the denial of access to the facility;
- the feasibility of providing the facility. [130]

In its ONA orders, which transformed this essential facilities doctrine from an antitrust into a regulatory policy, the FCC clearly took the view that, since the local loop is a natural monopoly and an essential facility, ISPs are entitled to cost-based access. To do otherwise would expose them to either monopoly pricing or refusals to deal, stunting the development of an industry which the FCC was trying to promote. In other words, the FCC concluded that, given the presence of only one local loop provider, all service providers (including long distance operators) should be able to obtain non-discriminatory access at cost-based rates to the local loop.

Many have argued that the service provider model stunted the development of a competitive local access market in the *United States* (with the exception of cellular services).

(ii) The Infrastructure-Based Competition Model

The *United Kingdom*, after initially pursuing the path followed by the *United States*, changed its policy course at the time of the 1989 Duopoly Review.

At the time of privatisation of British Telecom ("BT") in the early 1980s, Mercury Communications was licensed as an alternative facilities-based operator. It was hoped that Mercury would develop into a full second national network, offering local as well as long distance services throughout Britain. Instead, Mercury pursued a strategy of building long distance facilities which were directly connected only to large users in major urban centres. It never developed mass market local loops, preferring to pay access charges for interconnection to BT's local loops.

In 1990, the Department of Trade & Industry ("DTI") abandoned the duopoly policy, opening telecoms infrastructure to competition at all levels. Cable TV operators were encouraged to apply for telephony licences, three new wireless operators were licensed to provide mass market Personal Communications Networks ("PCNs"), and an open regime for licensing of all operators was adopted. The independent regulator began to shift its emphasis from the protection of consumers from abusive practices, to creating an environment conducive to facilities-based competition. This shift in policy gave rise to the Infrastructure Competition Model.

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[130] In the telecoms context, refer to: *MCI Communications Corp. v. AT&T*, 708 F. 2d 1081, 1132 (7th Cir.), *cert denied*, 464 U.S. 891 (1983); *Bellsouth Advertising & Publishing Corp. v. Donnelley Information Publishing*, 719 F. Supp. 1551 (S.D. Fla. 1988), *aff'd*, 933 F. 2d 952 (11th Cir. 1991).

Unlike the *United States*, where telecoms policy drove a "one wire" solution (at least until the passage of *Telecommunications Act of 1996*), the policies pursued in the *United Kingdom* actively encouraged the development of multiple local loops. Investment came from several sources. For example, cable TV operators discovered that they could enjoy economies of scope by offering voice telephone service over their broadband coaxial networks, at very low incremental costs. Not coincidentally, most of these investors were telecoms companies of American parentage, some of which suddenly realised their vulnerability to cable TV competition in their home markets. Wireless investment also came as PCN networks were developed by various partnerships.

The result of these policies was that local loop competition quickly began to flourish in the *United Kingdom*. Although the Duopoly Policy was abandoned only in 1990, most residential and business customers could choose from among at least some of the following for their local dial tone by mid-1996: BT, Mercury Communications, a cable television operator, two cellular operators, two PCN operators (One2One and Orange), Ionica (a provider of Wireless Local Loop Services), the electric utilities, NTL, MFS, WorldCom and others. As one would expect in a competitive market, each operator offers a different package to a different segment, serving different needs with a variety of price and feature combinations. Each of these operators has its own local loop infrastructure on which its customers originate calls. These infrastructure alternatives have developed, despite the fact that retail prices were dropping at more than seven% a year in real terms.

With an infrastructure-based competition model for the telecoms sector, a number of important regulatory policy options naturally follow. For example, in an environment where there exists the possibility of multiple local loops, fundamental issues such as "interconnection", and the rates at which it should be charged, take on a different dimension (see discussion in Section 3 of Annex I). Similarly, a key strategic issue in numbering policy such as equal access (see discussion in Section 4 of Annex I) may be approached from a different perspective, depending on whether a Member State has opted for a services-based or an infrastructure-based competition model.

In a market with multiple local loop operators, the concept of "interconnection" has a different meaning than it does under the Services Competition Model. The existence of infrastructure-based competitors makes it clear that call origination and call termination are not both "essential facilities". The existence of multiple operators offering service to end users and to service providers means that call origination can be a competitive (or a "contestable") market. It is no longer a natural monopoly. Call termination, on the other hand, remains a unique form of essential facility. [131] Owners of local loop infrastructure need

131 This stems from the fact that any given call must terminate on a specific designated number, which is a natural bottleneck. Whereas competition may exist at the functional level of operators choosing alternative carriers for routing purposes, there can by definition be no competition regarding which network a call can terminate on; this is a decision made by the calling party on the originating network, and is not the subject of any 'make or buy' decision on the part of that network operator. This scenario is only challengeable in the case of mobile networks in those markets where mobile telephony has achieved a high penetration rate and where it is priced competitively with fixed

the ability to terminate calls onto other networks and cannot self-provide nor buy the number or name-specific termination from anyone other than the terminating network operator. This critical distinction is expressly recognised in recent consultations in *The Netherlands* regarding interconnection policy. [132]

Seen in this light, the focus of public policy in the *United Kingdom* shifted from a discussion of equal access and fully allocated costs between service categories to one of any-to-any connectivity in a multi-network environment. Although transitional concerns remain regarding the dominance of BT, the telecoms incumbent, over prices for call origination, the key policy debate shifted to the price to be paid for *call termination* and *number portability*. Even debate in 1996 about whether to extend retail price cap regulation focused on its relative impact on local loop investment.

Greater clarity has also been gained on the nature of essential facilities as a result of the *United Kingdom* experience. Long distance providers who lack their own call origination facilities are customers of local infrastructure providers, as are ISPs. As customers, they can be victims of abusive behaviour by a dominant provider. The introduction of competition and the ability to make a reasonable "build-or-buy" decision have the potential to undermine that dominance relatively quickly. In this regard, it is important to bear in mind that ISPs typically do not terminate calls, while long distance operators are compelled to do so. ISPs are therefore not normally vulnerable to the denial of an essential facility as long as call origination is competitively provided over multiple infrastructures. Long distance carriers, however, which must terminate calls, do need this essential facility. They are similar to ISPs, though, at the originating end of a call.

An Infrastructure Competition Model should not in principle damage long distance carriers nor service providers, as long as genuine competition materialises in the local loop. When no longer dependent on a monopoly offering for call origination, service providers and long distance carriers can use their status as large customers to obtain discounted offerings from infrastructure owners and combine their own value-added or long distance capabilities with the underlying local network to provide innovative services and create new markets.

From the long distance and service provider perspective, the advantages of the Infrastructure Competition Model are outweighed by the benefits to them of the Services Competition Model, because they are more advantaged in the short term if they can also obtain call origination functions at cost.

telephony services; in this latter situation, the sophisticated consumer may indeed have a theoretical choice on which telephone number he/she wishes to terminate.

132 Refer to Annex II, EU National Regulatory Reports, *The Netherlands*, Part C.

Implications for Multimedia

The licensing regime that is ultimately adopted for infrastructure will have a profound effect on the shape of the future multimedia market:

- *The licensing of infrastructure separate from services will facilitate market entry by a broad array of alternative infrastructure providers (especially utilities) which, although possibly not wishing to provide multimedia services themselves, may see a business case in providing the underlying bandwidth needed to deliver multimedia applications to a mass market. Indeed, a "carrier's carrier" market, led by companies such as Hermes Railtel and Unisource Carrier Services, is already developing on a pan-European basis.*

- *The provision of infrastructure as a separate "business" in a multimedia environment can provide regulators with a clear indication of the costs involved in operating a "network" separate and apart from the services provided over it. This transparency will facilitate "best practices" comparisons when issues relating to interconnection and access arise, and can serve as a yardstick for identifying abusive practices.*

- *In order to adapt existing regulatory structures to take into account the effects of the Internet on interconnection, access and end-user pricing, the regulatory policies governing the operation of the infrastructure upon which the Internet is based should be market-driven.*

- *The spread of multimedia services will depend in large part on the relative availability of bandwidth, which will increase exponentially relative to the amount of infrastructure deployed.*

- *In the view of the Study Team, a reconciliation of the Infrastructure Competition Model and the Services Competition Model can best be achieved, in a multimedia environment which will require greater broadband capacity, through the implementation of balanced interconnection and access policies which can sustain both service providers and network operators in a competitively neutral manner.*

- *Infrastructure competition will determine to a significant extent the degree to which Community level policies are needed to address such ancillary issues as interconnection, equal access and unbundling. The greater the degree of infrastructure competition, the less need there will be to engage in regulatory micro-management and ongoing ex ante regulatory governance.*

- *Although a long term regulatory goal should be the promotion of infrastructure-based competition, there should be a regulatory "safety net" for service providers in the event of market failure or an abuse of market power. In the transition from monopoly to full competition, concerns about market failure are not without foundation. The most appropriate means of ensuring the viability of service providers, while at the same time protecting the investments of network operators, is to adopt a new model regarding "interconnection" and "access". That model should be based on a distinction between call termination ("interconnection"), on the one hand, and call origination ("access"), on the other (refer to discussion in Section 3 of Annex I).*

- *The influx of infrastructure-based competition in the local loop, coupled with the platform independence of the Internet, should dilute the market power resulting from control of a monopoly network. It is therefore not likely that a multimedia regulatory framework will require measures as extreme as the structural separation of the network and service levels of an operator's multimedia business. Indeed, this type of regulatory intervention runs counter to the technological convergence currently taking place between delivery platforms and service levels, and would complicate the regulatory status of parties with modest infrastructure goals ("hybrid" network/service providers).*[133] *It also would threaten to turn network*

[133] Various combinations of infrastructure ownership/leasing/build-out may occur as liberalisation gathers pace.

operators into de facto utilities, by presupposing that they are natural monopolies which must be regulated in this way.[134]

On the other hand, separation between the wholesale (network) and retail (services) levels, in the form of accounting separation requirements, may be necessary to deter (or at least to identify) abusive pricing practices. Accounting separation requirements would appear to be a more proportionate regulatory response to concerns about cross-subsidisation, price discrimination and bundling by network operators with market power. Where market power is enduring and abusive behaviour flows therefrom, it may be necessary to adopt more extreme measures such as structural separation. Such an approach, however, should be accomplished only on a case-by-case basis where necessary to enforce competition rules.

[134] For example, structural separation between the network and service levels is much more appropriate in other "network" industries which are not subject to such competitive pressures at all levels of the value chain in terms of production, transmission and service (e.g., electricity, gas and water).

1.5 THE LICENSING OF "BROADCAST" NETWORKS AND SERVICES

The Regulatory Issues

Cable and over-the-air television broadcasting have traditionally been subject to a significantly greater degree of regulation than the publishing sector and other forms of mass media. This regulation includes a very burdensome set of subjective licensing procedures which vary dramatically from Member State to Member State and which confer a great deal of discretion on the regulator.

Much of the subjectivity inherent in licensing lies in the fact that issues relating to content are regulated ex ante as part of the market entry process. By way of contrast, the publishing sector operates throughout the European Union on the basis of virtually no *ex ante* regulation. *Ex post* regulation in the publishing sector becomes relevant when and if certain standards of good taste, decency, harmful content, libel and so forth have been exceeded or violated. The publishing sector is also characterised by self-regulation in the form of Press Councils and other national equivalents, which bring together a broad cross-section of societal and market interests.

A number of technical rationales have historically been advanced to justify the extensive involvement of the State in the regulation of broadcasting and, in particular, the privileged treatment accorded to public broadcasters:

- *First*, because the airwaves are a public resource, governments are entitled to license their use on the terms which they see fit.

- *Second*, because frequencies and, hence, available channels are limited, society has an interest in requiring licensees to share their privileges with other representative members of the public, and in compelling them to present a balanced range of programmes in the interests of listeners and viewers.

- *Third*, because the broadcasting media (both television and radio) are more influential than other media, they need to be regulated more stringently than other media such as the press. The presence of both sound and picture in the home is considered to be a key distinguishing feature which makes broadcasting an exceptionally potent opinion-forming medium.

In the view of the Study Team, none of the reasons cited above provides a compelling justification for intrusive regulation of broadcasting in a future multimedia environment. The airwaves used by the telecoms sector are no less "public" property than those used

by broadcasters. The public good, however, is served by using those frequencies to support further competition and the spectral efficiency which such competition promotes (see Section 4 of Annex I). Similarly, digital technology permits the more efficient use of spectrum such that hundreds of TV channels now exist where previously only a few were possible. Hence, as and when digital broadcasting is widely deployed, the scarcity rationale for regulation will no longer be justified.

Finally, the view that broadcasting creates public policy concerns which are absent in other sectors underestimates the influence of other instantaneous transmission media such as the Internet. These new media are changing public perceptions regarding the sources of available information. They are also increasingly blurring the traditional association of "the public" and "passive" entertainment with traditional broadcasting services. Digitalisation, and the possibility of increased interactivity, mean that the borders between "public" and "private" entertainment and communications are becoming increasingly difficult to draw. By making available a wealth of new programming choices, digitalisation may further weaken the claims of public broadcasters - the focal points of the current broadcasting regulatory structure - to be the unique channel for "public" broadcasting and undermine their ability to operate wholly or partly outside the sphere of market economics.

The continuing degree of regulatory involvement in broadcasting can best be explained from a historical perspective by public interest considerations, given that broadcasting is still a relatively new means of mass communication that society has felt compelled to regulate, just as the cinema was initially treated with more caution than the theatre. Moreover, the regulation of broadcasting involves critical issues such as social, cultural and democratic ideals (pluralism), which prompt a uniquely "national" regulatory response in any given case. These elements raise distinctly non-economic issues which are not readily susceptible to a simple market-based regulatory model. Consequently, the history and tradition of the respective Member States, rather than technical reasons, are more relevant today in explaining the divergent treatment of the broadcasting and publishing sectors.

In light of the above, key regulatory issues will be: identifying the elements of the prevailing national regulatory models for broadcasting that can be sustained in a multimedia environment; and identifying the elements of existing broadcasting regulation that should be adapted so as to enable the broadcasting sector to benefit from the opportunities and positive economic effects of the spread of multimedia applications.

1.5.1 The Public/Private Broadcasting Dichtomy

(i) Historical Context

Terrestrial television broadcasting[135] in the European Union, much like telecoms, began as some form of State or public monopoly in virtually every Member State.[136] The scope of that monopoly has usually been defined by reference to a series of "public service" functions which in theory justified the asymmetrical regulatory treatment afforded to public broadcasters vis-à-vis private broadcasters (see below). In some Member States, public broadcasters transmit numerous channels,[137] with many providing both television and radio services.

During the 1970s and 1980s, private commercial broadcasting was gradually introduced into all European countries,[138] with the exception of *Austria*.[139] The expansion of private commercial broadcasting in the 1970s was in some respects driven by technical developments, in particular the spread of cable TV networks and the arrival of direct-to-home ("DTH") satellite television. It is now commonplace for there to be many more private terrestrial broadcasters than public broadcasters. Indeed, public broadcasters are no longer dominant in many European Union countries in the provision of broadcasting services. The across-the-board reduction in viewing numbers for public terrestrial broadcasters, has in fact jeopardised their ability to continue to perform their "public service" functions because of their diminished revenue base.

As a consequence, there has been increasing pressure on regulators to formulate policy alternatives which would facilitate the delivery of the services traditionally provided by public broadcasters in an economically efficient manner. Two major different policy responses have been considered, namely:

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135 The ensuing discussion focuses on television broadcasting, rather than radio broadcasting, because of the greater relative importance to multimedia of the former.

136 The relationship between the private and public broadcasting sectors is, of course, very different in the *United States*. There, private networks and local stations have been long established as the dominant operators, with public broadcasting only being introduced in 1967.

137 For example, *Germany*, *Italy*, *The Netherlands*, *Portugal*, *Greece*, and *Belgium* broadcast over three channels.

138 This process began earlier in the *United Kingdom* with the enactment of the *Television Act 1954*.

139 The Austrian legal regime is currently the subject of a challenge under Article 10 of the *European Human Rights Convention*. Refer also to the judgment of the European Court of Human Rights in *Informationverin Lentia & Ors v. Austria*, Judgment of 24 November 1993, where the Court ruled that the public monopoly rights in broadcasting can only justify restrictions on the freedom of expression in very limited circumstances. Similar difficulties are being faced in *Ireland* at present, where there is presently only one private terrestrial broadcaster authorised to broadcast (which is not as yet operational).

- as has occurred with other industries, some governments have begun to call into question whether the societal goals achieved until now by public broadcasters can be accomplished more efficiently by the private sector, without the need for public financing from budgets which are already stretched; and

- some governments have sought to make public broadcasters more market-oriented in a bid to have them enter developing multimedia markets and/or to become more capable of self-financing their operations. [140]

Commercial pressures aside, the survival of public broadcasting is generally regarded as a cultural imperative throughout the Member States. It is widely thought that only institutions independent of both the State and private commercial influence (and thereby not driven primarily by the pursuit of profit) can discharge the fundamental "public service" obligations entrusted to broadcasters. Constitutional disputes in the 1970s and 1980s in countries such as *Germany*, *Italy* and *France* regarding the exclusive or monopoly status of public broadcasters have confirmed their relative importance in the regulatory frameworks of most Member States. In the overwhelming majority of these cases, the courts did not hold that the monopoly enjoyed by public broadcasters was constitutionally required, merely that it was permissible. It was for the legislature to decide the structure of the broadcasting sector, as long as the statutes of a public broadcaster satisfied certain constitutional requirements (in particular, the principle of freedom of expression). [141] In *Germany*, for example, the Constitutional Court has developed a doctrine of the "basic broadcasting service". Under this principle, public broadcasters have the responsibility of ensuring that viewers and listeners receive a wide range of programmes. Similar doctrines developed in other Member State courts have in effect guaranteed the existence of public broadcasting. [142] Most recently, the Treaty on European Union was amended to reflect the fact that "the system of public broadcasting in the Member States is directly related to the democratic, social and cultural needs of each society and to the need to preserve media pluralism". [143]

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140 For example, the BBC in the *United Kingdom* is allowed to engage in commercial activities, subject to the erection of "Chinese walls" and the separation of accounts between the public broadcasting aspects of its operations and others. Similarly, in *Belgium*, the RTBF has been given wide powers to engage in commercial activities beyond pure "broadcasting". In addition, the so-called Intercommunales, the public or quasi-public authorities which run regional cable TV franchises in *Belgium*, were given the express power in 1996 to engage in commercial activities outside the sphere of their "public service" requirements in running their respective cable TV franchises.

141 Discussed in *Broadcasting Law: a comparative study*, by E.M. Barendt (Clarendon, 1993), at pp 56-60.

142 In the *Fourth Television Case* (73 BVerfGE 118 (1986)), the German Constitutional Court formulated the "Grundversorgung" doctrine. This doctrine guarantees the existence and development of public broadcasting, at least while private channels are unable to fulfill the demands imposed on public service broadcasters. Similarly, in *Italy*, the Constitutional Court adopted the same approach in 1988, ruling that Parliament must provide adequate frequencies and financial resources to enable the public channels to discharge their mission of dissemination of a wide range of opinions on political and social issues (Decision 826/1988 [1988] Giur. Cost. 3893).

143 The Protocol to the *1997 Amsterdam Treaty* concluded at the Inter-Governmental Conference goes on to specify that: "*The provisions of this Treaty shall be without prejudice to the competence of Member*

Public broadcasters continue to enjoy the financial support provided by licence fees paid by individual subscribers or State funding throughout most of the Member States of the European Union. In addition, they continue to have access to significant libraries of content, which will likely be of critical importance in a multimedia environment where access to content will be a commercial imperative.

Private broadcasters have a conditional statutory right to broadcast in most Member States. However, in order to do so, they must satisfy the requirements prescribed by statute or by the relevant national regulatory authority prior to obtaining a licence from the regulatory authority itself or from the relevant Minister. The broadcasting authority and/or the Minister often have fairly broad discretion in the granting of licences, particularly when there is an insufficient number of broadcasting channels available to satisfy demand. In this regard, private broadcasters are in theory less restricted in the type and scope of programming which they are obliged to provide when compared to public broadcasters, which are obliged to inform and educate, as well as entertain their viewers. In a small number of Member States, private broadcasters enjoy constitutional rights to conduct their programming free from government restrictions. Broadcasting freedom in this respect confers the same freedom of speech rights on private broadcasters that are enjoyed by public broadcasters.

(ii) The Elements of "Public Service" Broadcasting

The concept of "public service" broadcasting is not defined in the respective legal systems of the Member States, nor is it defined at the Community level. It thus differs from the concept of universal service in the telecoms sector, which is defined clearly at the Community level in terms of a minimum set of standards. Unlike universal service, the public service obligations of broadcasters can usually be defined only by reference to the terms of their concessions with the State, constitutional requirements regarding freedom of speech, plurality requirements and so forth. The practical application of these individual elements and their relative importance when compared to other relevant elements vary enormously from Member State to Member State. This diversity is due in large measure to the respective historical and cultural heritages of each Member State.

States to provide for the funding of public service in so far as such funding is granted to broadcasting organisations for the fulfillment of the public service remit as conferred, defined and organised by each Member State, and that such funding does not affect trading conditions and competition in the Community to an extent which would be contrary to the common interest, while the realisation of the remit of that public service shall be taken into account."

The public service characteristics of public broadcasters may be summarised as follows:

- **National geographic availability of service**. This obligation does not usually extend to all forms of programming, but to certain programmes (*e.g.*, news and current affairs). [144]

- **Independence from State interests**. The inability of the State to determine editorial opinion constitutes an essential element of broadcasting freedom.

- **Preservation of national cultural identity**. This goal may at times appear to be incompatible with the principles that broadcasting should be immune from State influence (see above) and that a range of viewpoints should be expressed in programming so that minority views are also aired (see below).

- **Programming impartiality**. The provision of equal air time to all political parties is usually associated with the fulfilment of the impartiality requirement. Satisfying this requirement is often difficult given the potentially large number of political viewpoints and the anti-social messages of certain political parties. [145]

- **Variety of programming**. One of the hallmarks of public broadcasters is their commitment to diverse programming and satisfying the interests of minority groups.

- **Public financing**. The clearest defining characteristic of public broadcasters is that they do not face the requirement of a licence fee or a licence fee equivalent. Aside from the *United Kingdom* - which relies solely on licence fees levied on individual TV owners [146] - public broadcasting is financed throughout the European Union by a mixture of licence fees and advertising revenues.

Over time, private broadcasters have begun to display many of the characteristics usually associated with public broadcasters. For example, private broadcasters are by nature of their licensing conditions independent of State control; they are also required to be independent of particular commercial interests (which is unique to private broadcasters). Similarly, the obligation to be impartial is usually required of private broadcasters in their licensing conditions. Because the quality of a broadcaster's programming is a key element in the winning of a licence by a private operator, they often make commitments to cultural programming and current affairs usually associated with public broadcasters. Finally, detailed "must carry" rules apply in each Member State to ensure that cable TV

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144 Universal service obligations for telecoms services must also satisfy geographic coverage requirements.

145 Namely, those which promote racial hatred, violence, anti-democratic principles and so on.

146 Advertising on the BBC is prohibited under the current terms of the BBC's Charter. In its *1988 White Paper* entitled "Broadcasting in the 1990s: Competition, Choice and Quality" (1988), the *United Kingdom* government considered the replacement of the licence fee by a subscription fee. The government is currently considering the lifting of the ban on advertising by the year 2001 in order to allow the BBC greater options for self-financing.

broadcasters transmit those public channels or programmes considered to be in the public good (see discussion in Section 3 of Annex I).

(iii) Satellite and Cable TV Broadcasting

Competition to terrestrial public broadcasters has increasingly come from cable TV franchisees and from DTH satellite television stations over the course of the past decade.

As regards cable TV companies, licences for television broadcasting ("franchises" in the *United Kingdom*, "concessions" in *Spain*) are issued only on a regional basis. [147] In a country such as *Finland*, cable TV companies are owned collectively by the local inhabitants, whereas in *Belgium* the local cable TV franchises are run by public or quasi-public bodies. In those countries where cable TV has been/is being introduced on a commercial basis, it is usual for franchises to be awarded through a public tender, where the value of the bid is merely one aspect of the overall evaluation (*e.g.*, the *United Kingdom*). In *Spain*, rather than paying an up-front fee, concessionaires must make a payment equal to a fixed percentage of their proposed network build-out costs. Most Member States require some form of ongoing annual licence payment based on net revenues generated. Cable TV licensees are also subject to local "must carry" obligations.

Satellite broadcast television (known as direct broadcast satellite ("DBS") or "DTH" satellite) is increasing in popularity throughout the European Union. Many satellite operators are taking advantage of the pan-European broadcasting rights provided in the *Television Without Frontiers Directive*. Under this Directive, broadcasters with a licence obtained in one Member State are able to transmit their signals into another Member State without the need for further licensing. [148] Although there continue to be a handful of Member States with no licensing regulatory framework for satellite broadcasting services, [149] regulatory entry barriers are generally considered to be relatively low, with the licensing procedure being more transparent and licence fees being more reasonable than those applicable to terrestrial television broadcasters. In addition, the leasing of satellite capacity is charged at very reasonable rates in relation to the overall revenues generated by the satellite broadcast business, which means that entry barriers are relatively low.

The success of DTH services may undermine the demand for cable TV programming in certain Member States. In other Member States, it might play a more supplementary or complementary role to cable TV networks through the provision of broadcasting services (whether Pay-Per-View or narrowcast) which can be purchased directly or redistributed by cable TV networks. In either case, the development of regulatory policies relating to access and the implementation of competition policy at both a national and European level

147 The sole exception to this is *The Netherlands*, where geographic coverage can in theory be national in scope.

148 Although this principle may not always be adhered to strictly in practice, intervention by a Member State other than where the licence was granted is relatively limited in its scope.

149 For example, *Belgium* and *Ireland*.

concerning access to content will play a key role in determining the relative success and role of both cable TV and satellite broadcasting alternatives.

1.5.2 Comparative Licensing Requirements

(i) The Licensing of Infrastructure and Services

A differentiation in the licensing of network infrastructure and the services provided over it can be identified most clearly in the cable TV sector. [150] This regulatory distinction reflects the fact that cable TV networks have, from their inception, been seen as a means of transmitting many different types of communication and as facilities through which other programmers may wish to have their content packages broadcast. It also reflects the logic underlying the *Cable TV Directive*.

Notably, the separate licensing of network infrastructure and services has not as yet taken root in *Spain*, even with the adoption of a specific cable TV regulatory regime in 1995. In *Spain*, the grant of a cable concession incorporates the right to provide programming in conjunction with the ownership of the physical network. This regulatory treatment of infrastructure and services as an indivisible whole is also reflected in *Spain*'s telecoms law.

The distinction between the licensing of network infrastructure and the services provided over that infrastructure is increasingly being reflected in the laws of the Member States governing the satellite sector. [151] The acknowledged need of service providers to obtain access to both earth and space segment capacity held by other major satellite organisations makes the regulatory distinction between network and service provision necessary in this sector.

In the terrestrial broadcasting sector, a distinction is drawn between the network provider and the service provider in a number of Member States (namely, the *United Kingdom*, *The Netherlands*, *France*, *Germany*, *Italy* and *Spain*). It is no coincidence that of those countries which currently draw this regulatory distinction, both the *United Kingdom* and *The Netherlands* are committed to the model of infrastructure-based competition (refer to discussion in Section 1.4 and Section 3 of Annex I). Strictly speaking, it may not be correct to refer to a "licensing" framework for terrestrial broadcast networks because, in some of the Member States where the infrastructure/services distinction is drawn, the network

150 For example, *Germany*, *France*, the *United Kingdom*, *The Netherlands*, *Denmark*, *Finland*, *Belgium*, *Portugal*, *Luxembourg*, *Austria* and *Sweden*. In the case of *Sweden*, such a regulatory distinction predates the distinction between the licensing of telecoms network infrastructure and services which only came into effect on 1 July 1997. Prior to that date, Swedish regulation did not disassociate telecoms services from their underlying infrastructure. The regulatory split between infrastructure and services in the cable TV sector is likely to be reflected in forthcoming laws in *Italy* and *Greece*.

151 Thus far, the distinction can be found clearly in the laws of *France*, *Germany*, *Greece*, *Italy*, *Luxembourg* and the *United Kingdom*.

provider is a monopolist.[152] In most Member States, the network provider and service provider are usually the same entity.

(ii) Licence Award Criteria

Unlike the telecoms sector (refer to Section 1.2 of Annex I), there is no harmonised Community regulatory framework for the granting of broadcasting licences. On the contrary, licensing requirements vary enormously from Member State to Member State. Although a broad range of private broadcasters operate in countries such as *France*, *Germany*, *Spain*, *Italy*, the *United Kingdom*, *Greece*, *Portugal* and *Denmark*, bidding procedures are more or less subject to the discretion of the awarding authority.[153] Unlike the telecoms sector, there is a degree of subjectivity and non-transparency inherent in most broadcasting licensing procedures, without any clearcut criteria to determine whether a licence application should be granted.[154] The degree of subjectivity and discretion involved in the grant of a terrestrial broadcasting licence is illustrated in the following examples:

- In the *United Kingdom*, licences for Channel 3 and Channel 5, local cable delivery systems, domestic satellite broadcasting, and national radio are awarded on the basis of the applicant's cash bid, provided it has passed a "quality threshold" with regard to programme standards and can establish that it is financially able to maintain the service throughout the licence period. The cash bid is to be paid annually and is to be revised in line with inflation. The procedure is thus mixed and contains elements of discretion exercisable by the Independent Television Commission ("ITC") or the Radio Authority, and objective criteria, namely the size of the bid. The ITC can decline to award the licence to the highest bidder in exceptional circumstances. More specifically, the ITC can award the licence to a lower bidder where the quality of the service proposed by the lower bidder is "exceptionally high" and "substantially higher" than that proposed by the highest bidder.

- In *France*, the Conseil Supérieur de l'Audiovisuel is required to take into account a number of factors before awarding radio and television licences, namely: the constitutional requirement of pluralism; the need to have a variety of station owners; and the need to avoid the abuse of a dominant position and other anti-competitive practices. Subject to these considerations, the experience of the applicant in the media field may be taken into account, as may its financial resources. Applicants for television licences are entitled to a public hearing of their case.

152 For example, *France*, *Spain*, *The Netherlands*, and the *United Kingdom*.

153 Some effort is made to establish objective criteria under the laws of *Italy*, *Denmark* and the *German Länder*, which private broadcasters must be able to satisfy in order to obtain a licence.

154 There are notable exceptions in the satellite broadcasting sector, where licences are often granted in a relatively open manner; e.g., *Sweden* and the *United Kingdom*.

- In *Italy*, a number of relatively objective criteria have been taken into account by the Minister of Posts & Telecommunications when awarding licences: the applicant's financial resources and its programming and technical plans. For existing licensees, their presence in the market, the quality of their programmes, the proportion of self-produced entertainment and information material in their schedules, and levels of viewership are also relevant.

Licensing procedures in the broadcasting sector vary dramatically from the licensing procedures used in the telecoms sector in a number of other material respects:

- Member States have not taken any initiatives to subject the (incumbent) public broadcaster to licensing requirements equivalent to those to which private broadcasters are subject, as has occurred in the telecoms sector.[155] Public broadcasters are in fact not subject to licensing requirements, but have their rights conferred upon them by a variety of concession contracts, statutory instruments, decrees or laws of Parliament. In the case of the *United Kingdom* and *Ireland*, the respective public broadcasters are subject in part to an elaborate system of self-regulation from which private broadcasters are excluded. Access to rights-of-way and frequencies are also granted automatically to public broadcasters.

- There has been no impetus to create a form of licensing for private terrestrial broadcasters which is less onerous than an individual licence. There is no concept of an authorisation, declaration or notification procedure for the grant of broadcasting licences, as occurs in the telecoms sector. The processing of licence applications is not subject to any strict timeframes for review, nor is a licence application something which can be made to a Minister or national regulatory authority as a matter of right (*i.e.*, it cannot be made in the absence of a government declaration that there is available frequency to support a new channel). Indeed, in Member States such as *Ireland*, *The Netherlands*, *Denmark* and *Austria*, private competition comes only from cable TV and/or DTH, as there is no private national terrestrial broadcaster in those countries (private terrestrial broadcasting is prohibited outright only in *Austria*).

- Individual licences in the broadcasting sector create substantial barriers to entry. Licence fees are often very high and usually determined in the context of a bidding or auction procedure. Telecoms licences, by contrast, unless restricted because of scarce resources (*e.g.*, GSM or DCS-1800 licences), are in principle only subject to the payment of administrative fees which should reflect the cost of administering the licence.

- Unlike the telecoms sector, which has witnessed the elimination of special or exclusive rights over all services and infrastructure, the broadcasting sector continues to be characterised by special or exclusive rights which inure to the advantage of the public broadcaster, whether it be for terrestrial, cable or satellite DTH transmission.[156]

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155 Refer especially to discussion on mobile licensing, Section 1.3.3. of Annex I.

156 For example, private operators are prohibited from using terrestrial frequencies in *The Netherlands* (effectively preventing entry). In the cable TV sector, *Greece* and *Italy* reserve the use of cable

Moreover, all private broadcasters are subject to a licence application process which varies not only from Member State to Member State, but also on the basis of the technology used to transmit signals (*e.g.*, terrestrial, cable TV and satellite).[157] In some Member States, exclusivity is granted to a single private terrestrial broadcaster.[158]

- The regulatory bodies involved in the administration of the licensing regime and other aspects of regulation in the broadcasting sector are numerous, with many of them having overlapping competences (see Section 5 of Annex I). In the telecoms sector, jurisdictional competence is usually shared between the responsible Minister and the national regulatory authority.

- The evaluation of matters relating to content (such as the nature and quality of programming) are usually key elements of the licence review process, which is irrelevant in the telecoms sector. In *France*, for example, satellite service providers must satisfy detailed programming obligations in the context of a Convention signed with the Conseil supérieur de l'Audiovisuel.

(iii) Duration

The duration of broadcasting licences varies not only from Member State to Member State, but also as between the different delivery platforms used for broadcasting (refer to Table III at the end of Section 1.7).

In addition, a licensee which has become insolvent, or whose directors have been convicted of a serious offence relevant to the acquisition of the licence or to the conduct of the company's business, is likely to have its licence withdrawn before expiry of the normal term of the licence. Provision for the withdrawal of a licence is made in all broadcasting laws. Withdrawal of a licence is also the most serious sanction for a failure to satisfy programming standards.

networks to the public operator. As regards the satellite sector, public broadcasters in countries such as *Portugal* continue to have exclusive rights with respect to satellite broadcasting networks.

157 A notable exception is *Germany*, where satellite service licences are dealt with in the same manner as are terrestrial TV licences.

158 For example, this is currently true for *Luxembourg*, *Sweden*, and the two major language communities in *Belgium*.

1. Terrestrial

In the majority of Member States, public broadcasters are expressly authorised to operate for an unlimited period of time. In the other Member States, it is generally assumed that fixed periods of time are the subject of automatic and indefinite renewal. It is only in *The Netherlands* that the period of tenure for the public broadcaster is set at the same level as for private broadcasters, namely, five years.

Private terrestrial broadcasting licences are typically granted for a limited period of time, although they are subject to renewal. Towards the end of the licence period, the national regulatory authority may review such matters as the geographic scope of the regions for which licences are granted and general programme requirements, as well as whether the licensee has satisfactorily discharged its obligations.

The longest period for which a private broadcaster's licence has been granted is 18 years in the Flemish part of *Belgium*. In the *United Kingdom*, the grant period is 10 years, which may be renewed for further terms. This is also the maximum period for private television licences in *France*, whereas five years is the maximum period for radio licences in that country. In *Germany*, the standard maximum period is 10 years, with frequently a minimum period of four to five years being prescribed by the laws of the Länder. In *Italy*, the term is 20 years for the public broadcaster and six years for the other national private channels. The shortest licence period is four years in *Greece*.

2. Cable TV

The licence terms for cable TV franchises reflect the large investment required for cable TV networks, the possible investment of cable TV operators in programming content, and the relatively long period in which franchisees anticipate recouping their investment. At one extreme, cable TV franchises are of unlimited duration in *Sweden*. The general standard, however, is 15 years (*e.g.*, *Portugal*) to 25 years (*e.g.*, *Spain* and the *United Kingdom*), with the possibility of renewal. In the case of *Spain*, renewal may occur in increments of five years until a maximum period of 75 years is reached. At the other end of the scale, cable TV franchises in established cabled territories such as *Germany* run for periods of four to 10 years (renewable).

3. Satellite

The length of a satellite services licence varies from four to 10 years in *Germany*, to 10 years in *France* and *Finland*, to 10 to 15 years in the *United Kingdom* (depending on whether it is, respectively, a non-domestic or domestic licence), to 18 years in the Flemish Community of *Belgium* and 20 years in *Italy* for the public operator RAI (six years renewable for others). In *Sweden*, there are no licensing requirements.

(iv) Licensing of Digital Services

Although the commercial launch of digital terrestrial broadcast services is unlikely to occur before late 1998 in the European Union (especially given the number of regulatory clearances which are required in advance of its launch), a number of Member States have already granted licences to the first wave of digital broadcasters.

In the *United Kingdom*, for example, four individual digital terrestrial broadcasting licences, in addition to the BBC and Channels 3 and 4 licences (which share a multiplexer), were issued between June and September 1997 by the ITC. These licences were granted for 12 year terms. With a view to stimulating the market for digital broadcasting, the licences were not subject to any up-front fees or annual fees payable during this initial first term, as it was felt that the attendant financial risks were too high. The licence review procedure took, on average, around 12 weeks from the time of the application to the time of the grant. Under the terms of the licences, "must-carry" obligations were imposed with regard to what has been classified as an "A" Licence (*i.e.*, Channel 5 and Scottish and Welsh broadcasters must be carried). The joint venture made up of the Carlton and Grenada Groups, known as BDB, was not subject to the same "must-carry" obligations for its "B", "C" and "D" Licences. The bid put forward by BDB was only deemed to be acceptable once B-Sky-B divested its shareholding from the joint venture. According to the ITC and the Department of Trade & Industry, this divestiture was necessary to promote competition in the field of digital terrestrial broadcasting because of anti-competitive concerns regarding B-Sky-B's possible leveraging of its market dominance in certain forms of content into the transmission market.

Moreover, as discussed in Section 2 of Annex I, the *United Kingdom* has recently proposed to introduce a Class Licence regime for conditional access systems for interactive services.[159] The Class Licence would include four different types of conditional access services, namely :

- digital radio;
- digital data broadcast;
- non-broadcast information services; and
- non-broadcast interactive services.

This licensing scheme is intended to complement the existing Class License scheme already in place for conditional access systems for digital broadcasting. It is envisaged, consistent with the approach adopted in the *United Kingdom* regarding the subsidisation of mobile handsets, that set-top-boxes may be heavily subsidised by their providers. This is regarded as a reasonable regulatory position in light of the fact that the conditional access regime of the *United Kingdom* provides extensive powers for the promotion of open access for all broadcasters to such set-top-boxes (refer to discussion in Section 4 of Annex I).

[159] Refer to Oftel/DTI consultation document of July 1997.

In *France*, there is no specific legislation covering the licensing of digital broadcasters. They are licensed, as are other broadcasters, under the terms of Article 34(1) of the *Law of 13 September 1986*. Thus far, frequency bands have been allocated to three digital broadcasters: Radio France, Télédiffusion de France, and Sogetec. In addition, these digital broadcasters can provide auxiliary services such as data transmission. The licences have been awarded for a period of five years.

Digital broadcasting is not specifically regulated in *Germany*. The regulatory authorities of the different Länder have recently agreed that a Treaty on digital broadcasting is required. The proposed Treaty would cover, *inter alia*, equal access to broadcasting, open access for users and uniform standards for digitalisation. Thus, DF1 has concluded a contract with the "Landesmedienanstalt" of Bavaria for the trial and development of digital broadcasting via the Bavarian cable TV network and ASTRA satellites. The contract incorporates the principles of the *Bavarian Media Act*, including the relevant provisions on licence fees. It expires on 31 July 1998, or earlier if digital programmes are supplied on the basis of an ordinary media licence. The first applications for regular media licences (*i.e.*, content provision) for digital TV programmes have recently been filed.

Implications for Multimedia

A number of aspects of existing broadcasting regulation will need to be re-appraised in the context of the emerging multimedia environment.

- *First, the legal character of the broadcasting licence fee will have to be clarified (namely, whether it is a tax, a special fee or duty, or a charge for services rendered by the broadcasting national regulatory authority or NRA). This legal characterisation is relevant to the question whether the fee should be assessed and periodically reviewed by the government or by the broadcasting national regulatory authority. Opinion is split among the Member States as to the particular legal character of such licence fees.*[160] *A key issue is whether the dependence of the broadcasting national regulatory authority on government review of the level of a licence fee compromises its autonomy. By way of contrast, licences in the telecoms sector are directly related to the level of administrative effort required to process the licence application and the extent to which scarce resources are used. In a multimedia environment, it is arguable that the taxation aspect of broadcast licensing should be progressively lessened in order to reflect the harmonised approach currently taken in the telecoms sector.*

- *Second, market and historical developments have led to an environment in which the functions performed by private broadcasters are becoming increasingly indistinguishable from those performed by public broadcasters. In a multimedia environment with the capacity for multiple sources of content, the usual requirements of diversity, pluralism and minority representation may be capable of being satisfied by non-public broadcasting sources. Were this to occur, the privileged position which public broadcasters hold vis-à-vis private broadcasters may need to be re-examined. For example, to the extent that pluralism and other public service goals may be able to be satisfied by the full range of market participants, rather than a single public broadcasting entity, it may be more efficient for the State to sponsor the appropriate public service programming by reference to an open and transparent bidding procedure. This would allow the provision of public services in a form which is not only comparable to the manner in which universal service is provided in a number of Member States, but also compatible with a competitive marketplace. This would be without prejudice, however, to the ability of Member States to define "public services" in a manner which may be unique to each Member State (contra universal service in the telecoms field, which must satisfy certain minimum criteria laid down at the Community level) (refer to discussion in Chapter III of the Study).*

- *Similarly, to the extent that public broadcasters expand their service portfolios to provide multimedia services and take advantage of their strong market presence in broadcasting, the competition rules should apply to them with the same force they apply to other market actors, to the extent that Article 90(2) of the EC Treaty does not apply.*

- *Third, there is an increasing tendency on the part of governments to expand the scope of activities in which a public broadcaster can engage consistent with the terms of its concession or charter. This means that many broadcasters will be able to participate in the provision of multimedia services. It is therefore important that the licensing system which applies to their services clearly differentiate between the provision of multimedia services - which should in principle be subject to a licensing regime similar to that used for VANS in the telecoms sector - and broadcasting services which are subject to more onerous*

160 There are direct rulings of the French and Italian tribunals on the characterisation of these fees. For example, in *France*, the Conseil Constitutionnel has held that the fee ("redevance") should be regarded as a parafiscal duty (Decision 60-8 of 11 August 1960). Accordingly, it is the executive which is responsible for determining the level of the fee. Further to widespread debate on the issue, the *Law of 30 September 1986* prescribed that the redevance is a tax which can be levied by Parliament (Article 53). In *Italy*, the Italian Constitutional Court regards broadcasting licence fees as a duty determined by the legislature (Decision 219/1989 [1989] Giur. Cost. 956). In *Germany*, academic debate has by and large favoured the view that it is to be treated as a regulatory tax (see in particular K. Hümmerich and K. Beucher, "Rundfunkfinanzierung auf dem Prüfstand" (1989) 20 Archiv für Presserecht 708, 713-15).

licensing requirements.

- *Fourth, the concept of "broadcasting" in a multimedia environment should more accurately reflect the changing environment in which such services are provided. The presumption of scarcity traditionally has led to the conclusion that one broadcaster could most effectively satisfy the public good. The introduction of competition suggests that the public good may be capable of being served by others, often as effectively as a public broadcaster. Moreover, changing public perceptions of "information" and "entertainment" sources suggest that the public may be able to obtain a high level of quality services from alternative sources to traditional broadcasters. The relative importance of such alternative sources means that the concept of "broadcasting" should not be interpreted unnecessarily broadly (see discussion in Section 2 of Annex I).*

- *Fifth, in pursuing the overarching policy goal of platform independence, public broadcasters which continue to maintain special or exclusive rights with respect to satellite networks and services should be treated in the same manner as would an incumbent telecoms operator with such interests in an alternative delivery platform such as cable TV.*

- *Sixth, consistent with the principles employed by the Commission in the telecoms sector, the technological benefits of broadcaster migration from analogue to digital services should be treated favourably (i.e., as the equivalent of telecoms fixed operators migrating from analogue to ISDN or mobile operators migrating from GSM to UMTS services). That migration, however, should reflect efficiencies, not the leveraging of market power. Accordingly, this process should be complemented by a regulatory policy which encourages the full transition from analogue to digital over time (rather than a presence in both markets for an indefinite period), coupled with a policy of releasing analogue spectrum for use by other operators as that transition is completed. To this end, the management of spectrum for both telecoms and broadcasting applications should be monitored closely.*

- *Seventh, careful consideration should be given to streamlining licensing procedures for broadcasting in order to make them more reflective of an open marketplace characterised by competition, rather than by scarcity.*

- *In particular, in the interests of market certainty, licensing procedures and conditions should be made more transparent and less subjective in their application. Perhaps the only way of achieving this goal in the context of multimedia, while at the same time doing justice to all of the public policy goals of broadcasting, is to separate from the licensing process all matters relating to content and other public policy issues. In so doing, the licensing framework for broadcast networks and services could over time be governed by the same regulatory principles which apply to the licensing of other networks and services in the provision of multimedia services. There are already concrete examples of such licensing procedures being effectively deployed in the context of the licensing of satellite broadcast services.*

- *Under such a scenario, all content-related issues would be subject to a separate layer of regulation. This would not diminish the relative importance of content-related and other public policy issues. On the contrary, it would simply allow them to be dealt with at the Member State level in a manner which is not interwoven with other issues which have the character of purely economic regulation.*

1.6 OWNERSHIP AND OPERATIONAL RESTRICTIONS

The Regulatory Issues

In a true "converged" or "multimedia" environment, many operators seeking to benefit from economies of scope and scale will wish to provide a full range of multimedia services, ranging from simple voice-based applications, to interactive applications, to traditional broadcasting services. Three types of regulatory restrictions threaten to jeopardise such full-line operations, namely:

- So called "line-of-business" restrictions, which limit the ability of a market actor providing a particular type of service from providing another type or range of services because of that party's ability to affect adversely competition in the provision of the additional services (*e.g.*, prohibiting a telecoms incumbent from providing cable TV services). Although clearly designed to protect competition along "vertical" lines of demarcation, these types of restrictions are inconsistent with the convergence of service offerings and delivery platforms. The challenge is how to balance the countervailing goals of encouraging convergence throughout the European Union while at the same presenting a telecoms or broadcasting incumbent from leveraging its market power to stifle competition in the provision of new routes to the consumer.

- Cross-media ownership restrictions, which reflect the particular regulatory traditions of plurality and cultural diversity of individual Member States. These restrictions run completely counter to the commercial drive towards convergence. Although clearly designed to promote democratic ideals and diversity of choice, these rules were formulated at a time when industrial sectors were defined solely along clear vertical lines, without taking into account the dynamics of convergence. The phenomenon of convergence, and the proliferation of new distribution channels brought about by digitalisation, should increase consumer choice. Accordingly, the historically perceived regulatory need to set limits on the ownership of media-related services should no longer assume the same level of significance as it has in the past. The regulatory challenge lies in preserving plurality, while achieving some degree of harmonisation which would facilitate the provision of pan-European multimedia services.

- Non-uniform foreign ownership restrictions across sectors, which have existed both within and between Member States of the European Union. Although such restrictions are being dismantled in the telecoms sector because of the Community's WTO commitments, they are still pervasive in the broadcasting sector.

1.6.1 Line-of-Business Restrictions

In addition to the existing restrictions on the provision of voice services until 1 January 1998 (or later, in the case of those countries which have obtained derogations - (see Section 1.3.1 of Annex I) and the infrastructure used to support liberalised and voice services (see Section 1.4 of Annex I), there are a number of restrictions which limit the ability of market players to compete across the full range of services in a multimedia environment. These restrictions are justified by regulators that wish to preserve the value of certain types of special or exclusive rights, or that wish to promote nascent investment in new networks and services by excluding incumbent operators.

(i) Telecoms Incumbents Providing GSM Mobile Services

With the sole exception of *Greece*, incumbent telecoms operators throughout the European Union have been permitted to operate GSM networks (see Section 1.3.3 of Annex I). This has usually been accomplished through a separate licence, which requires the operator to maintain accounts that are separate from the fixed line telecoms business. Full structural separation between fixed line and GSM businesses, however, is rare (*i.e.*, *Germany*). It is most recently reported that the application of Community competition rules will require structural separation between the GSM mobile operations and the fixed network operations of Telecom Italia.[161]

GSM licences were often first issued to incumbent telecoms operators and usually at significantly reduced fees, as compared to later entrants. Community competition rules have been used to redress the competitive imbalance created by such a policy in *Italy* and *Spain* (and also in *Ireland* and *Belgium* prior to any discrimination occurring).[162] The policy of *Greece* was changed in 1997, when it was announced that the national telecoms incumbent, OTE, previously prohibited from operating a GSM network, would be permitted to operate one of the two DCS-1800 licences that will be made available by the start of 1998 (as part of a joint venture with Telenor).

(ii) GSM Mobile Operators Providing DCS-1800 Services

Although the Scandinavian countries did not prevent GSM operators from obtaining DCS-1800 licences, the general pattern among many Member States of recent years has been to prohibit GSM operators from bidding for DCS-1800 systems (see Section 1.3.3 of Annex I). *Spain*, *Italy* and the Scandinavian countries are notable exceptions to this general trend. Measures have been implemented widely at the Member State level, however, which allow GSM operators access to a greater degree of spectrum than originally allocated.

161 Refer to discussion in Section 1.3.3 of Annex I.

162 Refer to discussion in Section 1.3.3 of Annex I.

(iii) GSM Mobile Operators Providing Fixed Voice Services

As part of their initial licence grants, most GSM operators were prevented from providing voice telephony services from fixed terminals (*contra*: *Sweden*, *Denmark* and *Sweden*). The logic of fixed-mobile integration and the liberalisation of voice services in most Member States from 1 January 1998 means that these types of restrictions will have to be re-considered.

(iv) Cable TV Operators Providing Telephony

Prior to 1 January 1998, cable TV operators in most Member States -- with the exception of the *United Kingdom*, *Denmark*, *Sweden* and *Finland* -- were not permitted to provide voice telephony services over their networks. Their inability to do so will provide a significant degree of regulatory momentum to the process of convergence. Cable TV operators, however, have been expressly permitted to transmit liberalised telecoms services since the adoption of the *Cable TV Directive* (see Section 1.4 of Annex I), which has by and large been transposed into the laws of most Member States.

(v) Geographical Limits on Cable TV Franchises

Cable TV franchises or concessions in the European Union are generally granted on a local or regional basis. Geographic limits on operation are usually complemented by restrictions on the number of homes which can be served by any given cable TV operator. For example:

- In *Spain*: Concessions are defined in terms of the relevant municipalities with local administrative authority. The number of licences which any given operator can hold is unlimited, although each cable TV operator is currently limited to serving 1.5 million customers. [163]

- In *Belgium*: Concessions are granted to public or quasi-public authorities ("Communales") to run cable TV operations within the geographical confines of a given commune.

- In *The Netherlands*: Cable TV licences are restricted to the municipality granting the licence. Operators, however, can accumulate an unlimited number of licences.

[163] Query whether Telefónica, if operating through separate subsidiaries, can overcome this restriction under existing Spanish Law.

- In the *United Kingdom*: Franchise areas are defined in terms of local communities with a sense of common identity. The size of various franchises can vary enormously. As the *C&W Communications* merger illustrates, however, it is possible to forge more substantial alliances among cable TV franchisees.

- In *France*: Communes or groups of communes delimit the relevant franchise area.

- In *Finland*: Cable franchises are granted on the basis of the local municipality/municipalities covered.

It is only in countries such as *Germany*, *Sweden*, *Ireland* and (more recently) *The Netherlands* that a single cable TV network can provide nation-wide multimedia services. [164] It is no coincidence, however, that cable TV networks in most of these countries are also owned and operated by the incumbent telecoms operator. This means that, in most Member States, individual cable TV network operations cannot provide multimedia services on a truly national or regional basis unless they interconnect with other networks in the context of a strategic alliance (as has occurred in the case of Telenet in the Flanders region of *Belgium*).[165]

(vi) Telecoms Incumbents Providing Multimedia Services

By and large, there are few explicit restrictions that prevent incumbent telecoms operators from providing "multimedia" services. The licences of certain telecoms incumbents, however, do mostly refer to the provision of telecommunications services as the business purpose of such operators. Insofar as multimedia services might be characterised as "broadcasting", the mandates of the national incumbent telecoms operators in *Greece*, *Italy*, *Belgium* and *Spain* arguably extend to the provision of such services. However, insofar as these multimedia services are provided on an "on demand" basis, there do not appear to be any explicit regulatory restrictions on their provision.

By way of contrast, the *United Kingdom* expressly prohibits BT and other domestic telecoms operators from: (i) transmitting or conveying "entertainment " or "broadcast" services over their own telecommunications networks, except in response to individual requests; and (ii) engaging in the "provision" or "production" of content, except at a regional level under certain specified circumstances (to be reviewed in the year 2001). [166]

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164 Although, in the case of *Germany*, for example, Deutsche Telekom has sought to run its cable TV businesses along regional lines.

165 Whereas they may invest or build their own cable TV networks.

166 Changes in the regulatory regime in *Denmark* drew the distinction between the transmission and the production of content, thereby preventing Tele Danmark from producing content. The regulatory regime, however, was amended again in 1996 and removed the restrictions on Tele Danmark's ability to engage in the production of content or the transmission of multimedia services.

This distinction between production and transmission, which was borrowed from the *United States* regulatory model, has since been overhauled in the *United States* by the *1996 Telecommunications Act*. The distinction between transmission and content provision is also relevant in *Germany* where, for constitutional reasons (*i.e.*, the competence of the Länder) the question has arisen whether the telecoms incumbent (Deutsche Telekom) can become involved in the production of content.

The policy behind these restrictions in the *United Kingdom*, as was true in the *United States*, is to protect new investment in cable TV infrastructure until the market is sufficiently mature to ensure competition across all sectors. In the absence of such a policy, it is argued, the advantages enjoyed by an incumbent telecoms operator (*e.g.*, its sunk costs, its economies of scale and scope, its cash resources) will enable it to leverage its market power in the cable TV sector, thereby retarding growth and limiting consumer choice. This type of leverage could manifest itself in anti-competitive cross-subsidisation and price discrimination.

In *Spain*, after a moratorium of between 16 to 24 months, Telefónica will be permitted to build cable TV networks on the same terms and conditions as other cable TV operators. The rationale for this moratorium is that Telefonica will be allowed to construct cable TV networks without going through the same bidding procedures as other cable TV concessionaires.[167] It is open to conjecture whether this type of exemption for Telefonica from competitive bidding is compatible with Community competition rules.

(vii) Telecoms Incumbents Operating Cable TV Networks

Until recently, the only restrictions imposed on the provision of cable TV infrastructure and services by incumbent telecoms operators could be found in *Austria*, *Belgium*, *Italy* and *Luxembourg*. More recently, however, prompted by concerns that the dual ownership of telecoms and cable TV infrastructure raises significant bottleneck issues and threatens competition in the local loop, regulators at both the Community and Member State level have sought to address the extent to which the dual ownership and/or operation of both major terrestrial delivery platforms for multimedia is acceptable.[168] Most recently, the regulatory authorities in *The Netherlands* determined that competition was best served by requiring the incumbent telecoms operator to divest its interest in the CASEMA cable TV

167 That period may be further extended if deemed to be appropriate by the Spanish authorities in light of competitive developments in the Spanish marketplace. A Spanish court has also ruled that, during the moratorium period, Telefonica may not build out a cable TV network, even if it does not provide services over the network until the moratorium period elapses (i.e., such a network roll-out would stifle investment in the independent cable TV operators because of the competitive "overhang" which Telefonica would create in the market).

168 See, for example, the Study performed by Arthur D. Little International, 1997, entitled "Cable Review - Study on the competition implications in telecommunications and multimedia markets of : (a) joint provision of cable and telecoms networks by a single dominant operator; and (b) restrictions on the use of telecoms networks for the provision of cable television services". See also Veljanovski, *Promoting Local Network Competition*, 1996; cf. OECD, *Current Status of Communication Infrastructure Regulation: Cable Television*, OECD/GD(96) 101.

network as a condition for CASEMA's participation in the second national telecommunications operator, Enertel.

The commercial development of European cable TV infrastructure generally reflects the following:

- "Greenfield countries", where there is little or no broadband infrastructure to the home (*i.e.*, *Greece, Italy, Portugal and Spain*).

- Fast developing markets, where there is significant scope for the development of broadband to the home, but where still there is significant investment and installation of advanced modern systems (*i.e.*, the *United Kingdom* and perhaps *France* (at least in the Paris metropolitan area)).

- Widespread mature systems, where installation of broadband to the home is extensive, but requires upgrading (*i.e.*, *Belgium, The Netherlands, Denmark and Germany*).

These patterns of commercial development, however, are not reflected in the regulatory frameworks of the Member States. For example:

- In certain countries such as *Germany* and *Portugal*, the telecoms incumbent enjoys a monopoly or near-monopoly with respect to cable TV infrastructure. In other countries, such as *Austria* and *Finland*, the telecoms incumbent has only a relatively small stake in cable TV infrastructure.

- In certain jurisdictions, the telecoms incumbent's cable TV network may be wholly separate from the infrastructure used to provide telephony services (as occurs in *The Netherlands*[169] or in *Ireland*) or it may share the national telecoms network to a significant degree (as occurs in *Germany*).[170]

- In the *United Kingdom*, the incumbent telecoms operator may not convey or provide broadcast entertainment services over its telecoms network (at least until the year 2001).

- Cable TV companies have in general been subject to territorial restrictions on their operations that are based on various criteria (*e.g.*, population coverage, estimated viewing audience, geographical area or regional limits). In certain jurisdictions, this may result in exclusivity for cable TV licences for each geographic (or franchise) area, although the trend is for cable TV franchisees or concessionaires not

169 During the course of 1997, however, the Dutch telecoms incumbent was required to withdraw from its cable TV interests (see earlier discussion).

170 Similarly, the individual members of the Finnet group in *Finland* have both a cable TV network and a telecoms network going to the homes of local subscribers. In December 1997, however, Deutsche Telekom announced its intention to operate its respective telecoms cable TV networks through structurally separate undertakings.

to be awarded absolute exclusive rights for the provision of cable TV services in any given region. [171]

- In certain Member States, cable TV companies are owned in whole or in part by public municipalities and are subject to non-commercial "public service" obligations (*e.g., Belgium, Finland*).

The combined effect of these various approaches makes it exceedingly difficult to formulate a single strategy at the Community level for separating the cable TV and telecoms businesses of an incumbent telecoms operator. In late December 1997, the European Commission released for comment a draft directive under Article 90 which proposed to amend the *Services Directive* by *inter alia* prescribing that:

"*Member States shall ensure that any telecommunications organisation to which they grant special or exclusive rights in the areas of relevant radiofrequencies or which they control, which, in a substantial part of the common market, is dominant and operates a cable TV network under special or exclusive rights does not do so using the same legal entity as it uses for its public telecommunciations network*". [172]

In addition to this structural separation, the proposed directive envisages that the Commission will examine on a case-by-case basis whether it would be compatible with the principle of proportionality to require individual Member States to take further measures. [173]

(viii) Cable TV Operators Involved in Content Production

Until recently, there were a significant number of Member States in which cable TV operators were not permitted by law to engage in the production of content for distribution over their networks. However, legislative amendments enacted during the course of 1997 have removed this restriction from cable TV operators in *Austria*, *The Netherlands* and *Portugal*.

By way of contrast, the regulatory approach in the *United Kingdom* has been to encourage cable TV operators to produce their own, or to commission independent, programming.

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171 For example, territorial exclusivity for cable TV franchisees is no longer upheld in *The Netherlands*, nor will it be permissible under the terms of a proposed new legal regime which will be introduced in *Spain* during the course of 1998 (there is also no formal territorial exclusivity in *Belgium*). Realistically, however, it will be rare for a heavily cabled region to be able to sustain more than one cable TV network.

172 Draft Commission Directive amending Directive 90/388/EEC with regard to its effective application in a multimedia environment, by legally separating the provision of telecommunications and cable TV networks owned by a single operator, of 17 December 1997.

173 "*The decisions to be taken in respect of specific cases could provide for measures including the opening of a cable operator to a participation of third parties, or the requirement to fully sell-off this entity*". (Recital 2)

Indeed, an ongoing dispute in the *United Kingdom* is the extent to which cable TV operators are said to be "dependent" on content packaged by the satellite broadcaster BSkyB.

Implications for Multimedia

The varied line-of-business restrictions which one finds throughout the European Union constitute a potentially serious impediment to the growth of multimedia services on a pan-European basis:

- *Line-of-business restrictions in a converged environment are prima facie distortive of competition. Such restrictions should therefore only be imposed where they are needed to promote independent investment in new services (e.g., greenfield cable TV investments or new DCS-1800 mobile licences) which would otherwise be threatened by a telecoms or broadcasting operator capable of leveraging its market power into an adjacent or neighbouring market which has not yet matured.*

- *Restrictions on the ability of market players to engage in the production of content, unless prompted by serious competition law concerns resulting from vertical integration, do not appear to be justified in a multimedia world dependent on the production of content for its continuing growth. Moreover, depriving telecoms and cable TV operators of the right to engage in the production of content may jeopardise their commercial future by excluding them from the most lucrative parts of the multimedia value chain. In the case of telecoms companies, the downward pressure on telephony prices will probably need to be offset by high value content-rich transmissions. In the case of cable TV companies, consigning them to the role of carriers would deny them the right to develop strong multimedia product packages to match the entertainment services of broadcasters and the enhanced information services of telecoms companies.*

- *The desire to foster competition between delivery platforms may require the adoption of one of a range of regulatory options, namely:*

- *In extreme cases, an incumbent telecoms operator might be required to divest its interest in an alternative delivery platform such as cable TV. Such a policy option is probably best taken in individual cases at the national level, whether at the behest of the National Regulatory Authority or the National Competition Authority. At the Community level, ex ante legislation to this effect would be difficult to reconcile with the terms of Article 222 of the EC Treaty,[174] especially where vested rights are likely to be affected by any such divestiture.*

- *The European Commission, using to its powers to review strategic alliances under Article 85(3) of the EC Treaty or its powers under the Merger Control Regulation, may require divestiture as a condition precedent to the regulatory clearance of "multimedia" mergers, joint ventures or other looser forms of cooperation. Given that few firms in the industry will have the full range of skills necessary to provide all manner of multimedia services and platforms, it is inevitable that network operators will pursue acquisitions or joint ventures which have the potential to generate a full set of multimedia skills. Accordingly, the European Commission will have ample opportunity to review the potential anti-competitive consequences flowing from the common ownership of multiple delivery platforms.*

- *Another regulatory option to promote platform independence and to prevent anticompetitive cross-subsidisation is to require the structural separation of different businesses run over different platforms, whether those services constitute full substitutes for one another (e.g., telephony provided over telecoms or cable TV networks) or partial substitutes (fixed telecoms and wireless communications). Such an option would be accompanied by the requirement that there be full accounting separation between the separately run businesses. This regulatory option is best implemented on a case-by-case basis, rather than through ex ante regulation, given the very different levels of cable penetration in Europe. The fundamental purpose of structural separation is to prevent the leverage of market power from one sector into another. In a converged environment, however, characterised by mixed service offerings, fixed-mobile integration and the combined*

[174] Article 222 prescribes that *"This Treaty shall in no way prejudice the rules in Member States governing the system of property ownership."*

use of different technologies, the use of structural separation as a general policy without reference to the level of platform and service competition in a given situation, may retard convergence and deny full-line operators economies of scope. Consequently, structural separation would be a viable policy option under the terms of Articles 86 and/or 90 in those individual cases where markets are not fully competitive and where anti-competitive cross-subsidisation or discrimination has occurred.

- *Some of the anti-competitive concerns resulting from the interests of an operator in multiple delivery platforms might be addressed by other regulatory policies which promote greater access to networks. For example, unbundling down to the level of the local loop is mandated in Finland, where each regional cable TV company also operates a separate telecoms network to each household in its region. Although the same unbundling requirement is mandated in Germany, it is questionable whether this regulatory option is as effective in a situation where a single national telecoms incumbent operating in a such a large geographic market also operates the national cable TV network.*

- *Existing geographic restrictions on the operations of cable TV operators should be counterbalanced by a willingness to permit them to forge alliances with other cable TV operators, thereby allowing them to develop economies of scale by providing national broadband services.*

1.6.2 Cross-media Ownership

(i) The European Regulatory Framework

Community legislation in the mass media sector is limited to the harmonisation provisions of the *Television Without Frontiers Directive* of 1989 (revised in 1997).[175] With respect to issues such as media ownership and pluralism, the EC Treaty expressly acknowledges that these are matters which fall primarily within the jurisdiction of the Member States. [176]

In late 1992, however, the European Commission adopted its *Pluralism Green Paper* ("the *Green Paper")*,[177] which was followed in 1994 by its *Pluralism and Media Concentration Communication* ("the *Communication").*[178] In its *Communication*, the Commission concluded that there were significant disparities in the media concentration rules throughout the European Union, the net result of which was to:

- discourage direct investment in media enterprises and the exercise of the right of establishment guaranteed by Articles 52 and 58 of the EC Treaty;
- create legal uncertainty about the free provision of broadcasts throughout the European Union; and
- expose operators to distortions of competition.

The net result of these disparities was to jeopardise the creation of a true Internal Market (as required under Article 7a of the EC Treaty). [179] Moreover, in the absence of some degree of harmonisation, national media ownership restrictions were often capable of being circumvented. [180]

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175 Directive 97/36/EC of the European Parliament and of the Council of 30 June 1997 amending Council Directive 89/552/EEC on the coordination of certain provisions hand drawn by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities, OJ 197 L202/60.

176 Refer to Protocol on the System of Public Undertakings in the Member States in the Amsterdam Treaty, and Article 222 of the EC Treaty.

177 "Pluralism and Media Concentration" in the Internal Market: An Assessment of the Need for Community Action", COM(92)480 Final of 23 December 1992.

178 COM(94)353 of 5 October 1994.

179 This result would also run counter to the goals of the *1994 White Paper on Growth, Competitiveness and Employment*, COM(93)700 Final.

180 Refer to the judgment of the European Court of Justice in *TV 105A v. Commissariaat Voor de Media*, Case C-23/93, [1994] I ECR 4795; cf. *Paul Denuit*, Case C-14/96, [1997] I ECR 2785.

The *Communication* also recognised that new technologies (digital transmission, compression and convergence) have made it essential to provide services across national frontiers. The large amounts of investment needed to implement these new technologies require a pan-European market. The consultation process undertaken in the *Green Paper* tended to confirm the desirability of harmonising national restrictions on cross-media ownership.

To this end, the European Commission decided to take further action and is widely reported to be considering the adoption of a directive harmonising national cross-media ownership rules by setting "audience share" and "consumption" thresholds, instead of restrictions based on ownership. These proposed thresholds were reported to be set at relatively low levels, namely:

- 30% for "monomedia" concentrations for television and radio, respectively; under this standard, a single undertaking could not control another (new or existing) undertaking if the total audience share of the services offered by the combined undertaking equalled or exceeded 30% in the relevant geographic area concerned; and

- 10% for "multimedia" concentrations for a combination of different media; accordingly, an undertaking already active in one media could not control an undertaking in a different media (new or existing) if the total audience share of its combined media equalled 10% or more in the relevant geographic area concerned.

Public service broadcasters were said to be exempt from these proposals. Opposition from the broadcasting industry and the press resulted in the Commission giving consideration to the adoption of a "flexibility" clause which would allow Member States to authorise domestic media companies to exceed the proposed thresholds where considered appropriate. Such flexibility was claimed to be necessary because the proposed thresholds are already exceeded in a number of Member States and because regional broadcasters would be adversely affected by the proposal, even though their relevant geographic areas of operation constitute only a small fraction of the overall national territory. [181]

Effect of European Competition Rules

A *de facto* degree of cross-media ownership restructuring is occurring at a European level as a result of the application of European competition rules to an ever-increasing number of mergers and strategic alliances:

- As regards mergers or concentrative joint ventures, the European Commission's Merger Task Force has had the opportunity to examine a large number of notified transactions

[181] For example, under current estimated market shares based on audience coverage, *France*'s TF1 has approximately 39%, *Belgium*'s VTM has 43%, Italy's three networks run by the Berlusconi Fininvest group have over 40%, while the *United Kingdom*'s ITV Association would hold in excess of 30% in small regions.

in the media sector using its powers of review under the *Merger Control Regulation.*[182] The theoretical possibility that the Commission would be restricted in its attempts to develop a coherent pan-European merger policy across the various multimedia sectors because of the potential application of Article 21(3) of the *Merger Control Regulation* has not materialised. Under the terms of that provision, the jurisdiction of the Commission may be overridden by Member States to protect the "plurality of the media" insofar as such measures are compatible with Community law. Member States have not only been reluctant to exercise their rights under Article 21(3), but they have also referred mergers to the Merger Task Force where domestic merger control laws were deemed inadequate to address such combinations. [183]

- As regards cooperative joint ventures[184] or exclusive relationships[185] involving content, the Commission has had ample opportunity to apply the competition rules in the context of notifications under Article 85(1) seeking Article 85(3) exemptions.

(ii) Cross-media Ownership Restrictions at Member State Level

In order to promote cultural diversity and safeguard pluralism, most Member States have adopted specific cross-media ownership and participation rules. These rules span all forms of media, including broadcast television, cable TV, radio, and the press. In countries such as *Spain* and *Portugal*, the obligation to ensure media pluralism is constitutionally enshrined. In countries such as *Germany*, *Italy* and *France*, the court systems have compelled governments to respect pluralism.

There is great variation in the measures taken by the Member States to implement these policy goals, ranging from a complex set of media ownership rules (*e.g.*, *France*) to more

182 For example, *Nordic Satellite Distribution* (Case IV/M.490 of 19 July 1995); *n-tv* (Case IV/M.810 of 16 September 1996); *Bertelsmann/CLT* (Case IV/M.779 of 7 October 1996); *IP/Reuters* (Case IV/M.730 of 5 July 1996); *CEP/Groupe de la Cité* (Case IV/M.665 of 29 November 1995); *MSG Media Service* (Case IV/M.423 of 14 March 1994); *ABC/Générale des Eaux/Canal+ W.H. Smith* (Case IV/M.423 of 10 September 1991); *Sunrise* (Case IV/M.176 of 13 January 1992); *Bertelsmann/News International/Vox* (Case IV/M.489 of 6 September 1994); *Kirch/Richemont* (Case IV/M.410 of 2 August 1994); *CLT/Disney/Super RTL* (Case IV/M.566 of 17 May 1995); *Canal+/UFA/MDO* (Case IV/M.655 of 13 November 1995); *Channel Five* (Case IV/M.673 of 22 December 1995); *Viacom/Bear Sterns* (Case IV/M.717 of 25 March 1996); *N-TV* (Case IV/M.810 of 16 September 1996); *Bertelsmann/ CLT* (Case IV/M.779 of 7 October 1996); *Cable & Wireless/Nynex/Bell Canada* (Case IV/M.M.865 of 11 December 1996); *Bell Cablemedia/Cable & Wireless/Videotron* (Case IV/M.853 of 11 December 1996); *RTL 7* (Case IV/M.878 of 14 February 1997).

183 For example, refer to the *Holland Media Group* (HMG) Case, OJ 1996 L294/14.

184 For example, *Screensport/EBU* (joint venture), OJ 1991 L63/32; *UIP* (joint venture), OJ 1989 L226/25; *EBU/Eurovision System* (joint buying), OJ 1993 L179/23.

185 For example, *Auditel* (exclusive purchasing), OJ 1993 L306/50; *ARD* (Purchasing Agreement), OJ 1989 L284/36; *Magill* (IPR), OJ 1989 L78/43.

light-handed regulation (*e.g.*, *Germany*).[186] Aside from the application of general competition rules, there are no explicit rules in *Finland* and *Luxembourg* on cross-media ownership and participation.[187] Most Member States, however, take the view that competition rules alone are insufficient to promote the non-economic goals of pluralism and cultural diversity.

Generally speaking, the cross-media ownership restrictions imposed by Member States vary according to the media of transmission or distribution. For example, the terrestrial television sector is the most heavily regulated. Cable TV is less heavily regulated, and satellite television is characterised by the least amount of regulatory interference.[188]

A review of Member State laws suggests that national media cross-ownership laws can be divided into four broad regulatory categories. Many Member States implement a combination of these restrictions:

(1) Horizontal Integration

In addition to relying on national competition rules to prevent the abuse of market power, Member States such as *Belgium*, *France*, *Germany*, *Italy*, *Ireland*, *Portugal*, *Spain* and the *United Kingdom* have adopted specific "monomedia" restrictions to address horizontal integration, (*i.e.*, where an entity or group of entities controls different production units in the same economic activity).

In particular, national laws restrict the ability of parties to achieve high market concentrations through newspaper and magazine mergers. In addition, purchases of local television and radio stations are restricted in order to ensure that programming focuses on the needs of local audiences.

186 In *Germany*, there are no provisions concerning cross-media ownership in either the Länder Broadcasting Treaty or in the press laws of the respective States. Most of the Länder's broadcasting statutes, however, do contain restrictions which vary in their application.

187 In *Finland*, however, the Council nevertheless has the power to limit participation in the broadcasting companies to ensure pluralism and diversity. Moreover, ownership restrictions might be imposed on operators at the time a licence is granted. In *Luxembourg*, the government considers as essential the inclusion of a licence condition requiring the establishment of the service to be of financial and economic interest to *Luxembourg*. In *Finland*, if the ownership of a broadcaster changes, the Council of State may reassess the licence. In *Sweden*, the licence of the commercial operator contains restrictions which assume a continued holding of ownership, with no majority owner being able to increase its stake significantly. By way of comparison, in the *United Kingdom*, after the grant of the so-called Channel 3 and Channel 5 broadcasting licences, there was a one year moratorium during which ownership of the licensee could not change.

188 Only *France*, *Portugal* and the *United Kingdom* have sector-specific ownership restrictions regarding satellite television.

(2) Multimedia Integration

Multimedia integration, whereby an entity controls different media, has been common for some time in the print sector (*e.g.*, newspapers, books, periodicals/magazines). The effects of convergence on the electronic and print media are raising the competitive importance of cross-ownership in these sectors, especially because they compete for the same advertising revenues. Restrictions on this type of cross-ownership are commonly found throughout most Member States. They exist in the laws of *Austria*, *France*, *Italy*, *The Netherlands*, *Spain*, the *United Kingdom*, and several Länder in *Germany* (*e.g.*, Baden-Wurttemberg, Bavaria, Hamburg, Hessen, Lower Saxony).

Restrictions are expressed in a number of different ways. For example, limits are often expressed in terms of the potential audience share which a licensee can obtain within the area of authorisation. In *France*, it is forbidden to acquire a television, radio or cable TV licence if, as a the result, the licensee accumulates more than two of the following: one or more television licences covering in total a population of four million, one or more radio licences covering a total of 30 million people; one or more cable licences covering six million inhabitants; or the control of one or more newspapers with more than 20% of the total national circulation of comparable daily papers. There are similar provisions with regard to local and regional concentrations.

In *Italy*, a restriction has been adopted which attempts to limit the acquisition of resources for the "mass communication" sectors based on individual undertakings controlled. All transactions which lead to a media undertaking acquiring more than 20% of all media resources, or to a multi-sector conglomerate (a body with two-thirds of its resources derived from mass media operations) acquiring more than 25% of such resources are automatically null and void. The definition of "media resources", however, is unclear; it omits references to the resources which might be obtained from book publishing, the production and distribution of films and television programmes, and the sale of music.

In *Belgium*, internal divisions within the country create a severe impediment to cross-media ownership. For example, whereas the French community expressly restricts concentration in multiple media, the Flemish community requires that at least 51% of the capital of non-public television corporations be held by publishers of Dutch language newspapers.

Media cross-ownership limitations are often applied in combination with licensing policies in the television and radio sectors. For example, licences may be combined with programme guarantees from the licensee, usually relating to objectivity requirements, the right of reply, type of programmes, minority programming, and the availability of broadcast time for political campaigns.

(3) Restrictions on Holdings

Legislation in countries such as *France*, *Germany*, *Denmark*, *Portugal*, *Spain* and *Greece* place limits on shareholdings in media undertakings (ranging from 20% to 50%). The object of such rules is to promote pluralism by ensuring that no single shareholder can exercise "decisive influence" over such undertakings (*e.g.*, *Denmark*). For example, in *France*, a company may not hold an interest in more than three analogue private broadcasters. In addition, participation in the first channel may not exceed 49% of the common shares or of the voting rights of the company, while participation held in a second and third channel may not exceed 15% and 5%, respectively, of the shares/voting rights.

(4) Restrictions Based on the Nature of Applicant's Activities

Specific provisions have been adopted in *Portugal*, *Germany,* the *United Kingdom* and by the French community in *Belgium* that restrict political parties, trade unions and other associations which have clear links to political or opinion-making entities, from having shareholding interests in broadcasting entities. For example, the *Media Act* of North Rhine-Westphalia in *Germany* provides that political parties, voter associations, and entities dependent on a political party or voter association cannot be granted a service licence.

Each of these restrictions is designed to ensure transparency so that regulators are in a position to identify operators and service providers alike.

Implications for Multimedia

The continued existence of a patchwork quilt of national cross-media ownership rules requires reform in a multimedia environment:

- *Existing cross-media ownership restrictions were premised on the belief that the various forms of media constituted discrete and separate product markets with little or no overlap. That premise is no longer true. The ability of newspapers, or portions thereof, to be downloaded from computers, the ability of scheduled programming to be received on the Internet, and the capability of telecoms networks to deliver a variety of multimedia services, mean that existing notions of distinct media are becoming blurred. Moreover, the use of such media on an interactive basis (also not envisaged under existing cross-media ownership rules) is fundamentally altering the character of such media.*

- *Technical, complex and widely differing media concentration rules act as an impediment to the growth of truly pan-European (as opposed to regional or national) media operations which can compete on a global scale. The absence of a truly European media industry is no doubt due to the significant cultural and linguistic differences which characterise the European Union. Nevertheless, the relatively successful involvement of Canal+ in American cinema releases suggests that a greater degree of cross-cultural involvement within the European Union itself is feasible if regulatory barriers are lowered.*

- *The traditional goal of promoting pluralism should be re-appraised in light of shifting notions of relevant "markets" in a multimedia environment and also in light of the need to encourage investment in a multimedia environment. Minimal thresholds should be used to protect against distortions of competition whilst encouraging convergence of the different media sectors. Because the notion of "relevant markets" is in a state of flux, harmonisation should not proceed on the basis of simple numerical limits on the numbers of channels, stations, newspapers and so on.*

- *It will also be important to develop a common understanding of how "market power" is to be measured across different media. The United Kingdom, for example, introduced the criterion of "audience share" in its 1996 Broadcasting Act, which certain other Member States may also be willing to adopt (e.g., Germany). The introduction of a concept of "audience share", however, presupposes the existence of well established markets, which will be difficult to define with precision in a multimedia world. At the very least, a common understanding of the elements which enable an undertaking to "influence" the management (whether through ownership or some other form of control) of other media undertakings would facilitate more consistency in the approach to such concepts.*

- *In addition to the definition of common criteria to address cross-media ownership issues, there is a need for increased cooperation among the regulatory authorities responsible for the various media involved. Such coordination would no doubt be facilitated if there were a greater degree of convergence of the regulatory functions currently performed by telecoms and broadcasting authorities.*

- *The Study Team has not identified any compelling policy reasons to treat cross-media ownership restrictions differently when applied to public broadcasters, except insofar as such restrictions would affect their ability to perform public service functions more efficiently.*

1.6.3 Foreign Ownership Restrictions

Despite their *prima facie* incompatibility with Articles 52, 58 and 59 of the EC Treaty, [189] there also exist restrictions on the ownership of local telecoms undertakings and broadcasters by non-Community nationals. Until the signature of the *WTO Agreement,* [190] the telecoms sector was characterised by the following ownership restrictions on non-Community nationals:

- In *Belgium*, ownership of *Belgacom* by a non-Community national was limited to 49% (either capital share or voting rights).
- In *Greece*, there was a "local establishment" requirement for undertakings that provided telecoms services.
- In *Finland*, half of the founders of the undertaking and the members of the Board of Directors, plus the Managing Director, must be permanent residents of the European Economic Area.
- In *France*, non-Community nationals could not hold more than 25% of a national mobile licensee (directly or indirectly) or more than 20% in *France* Telecom.
- In *Portugal*, non-Community nationals could not hold more than 25% in the capital of companies providing "basic services" (including a national mobile licensee), and international services could only be provided by undertakings incorporated in the country.
- In *Spain*, in the absence of Cabinet approval, non-Community nationals could not own more than 25% of any facilities-based, radio-based or satellite network services telecoms licensee (providers of VANS and Closed User Groups services were exempted).

Following the adoption of the *WTO Agreement*, the Member States of the European Union - with the exception of *Belgium*, *France* and *Portugal* -- have removed restrictions on foreign ownership. [191]

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189 Articles 52 and 58 relate to the right of establishment, whereas Article 59 relates to the freedom to provide services.

190 Council Decision of 28 November 1997 concerning the conclusion of behalf of the European Community, as regards matters within its competence, of the results of the WTO negotiations on basic telecommunications services, OJ 1997 L347/45.

191 *Portugal* and *France* have made a commitment under the "Additional Commitments" section of the GATS Schedule to draft legislation aimed at partially removing the present limitations on foreign ownership (promising to introduce legislation to this effect no later than 1998, to become binding as a GATS commitment no later than 1999).

In the broadcasting sector, foreign ownership limitations are more widespread, and not subject to any agreement at the WTO level. For example, there is a broad prohibition on ownership interests in terrestrial television licensees in a majority of Member States (*e.g.*, *Belgium*, *Finland*, *France*, *Greece*, *Italy*, *Portugal*, *Spain* and the *United Kingdom*). These ownership restrictions extend in the *United Kingdom* to the provision of domestic satellite services, and also to the cable TV sector in countries such as *Finland*, *Italy* and *Spain* (*e.g.*, 25% in *Spain*). These restrictions on foreign ownership are unlikely to be removed in the short term, especially in light of the relative importance attached by Member State laws to the preservation of cultural identity.

1.7 MARKET ENTRY REQUIREMENTS: A COMPARATIVE OVERVIEW

The Regulatory Issues

A key policy goal in adapting the current telecoms regulatory framework to tomorrow's multimedia market should be the establishment of clear, transparent and non-discriminatory rules governing market entry. The procedures for granting licences, the criteria used to select prospective licensees and the timeframes within which licences are granted are all important elements of a coherent licensing policy. Although much of the groundwork for such a sound licensing framework will be achieved in the telecoms sector through the effective implementation of the *Licensing Directive*, the licensing traditions of the broadcasting sector do not display a comparable degree of transparency and objectivity. Moreover, even in the telecoms world, differences in the treatment of licences are widespread, both between Member States and between individual service categories within Member States. As discussed throughout Section 1 of Annex I, these differences create a patchwork quilt of market entry conditions throughout the European Union. To the extent that licensing conditions and procedures tend to give the wrong market signals to new entrants, existing licensing requirements may have the effect of discouraging investment in new networks and services and impeding the creation of pan-European multimedia service offerings. Restrictions on the transferability of licences in several Member States also restrict potential exit strategies for new market players.

Two important dimensions of licensing policy in the telecoms sector which may affect investment decisions -- the duration and the cost of licences -- are discussed below. Under the *Licensing Directive*, licence duration is not regulated, but is a matter left to the individual Member States. The *Licensing Directive*, however, does require licence fees for general authorisations to be limited to the "*administrative costs incurred in the issue, management, control and enforcement of the applicable authorisation scheme*" (Article 6). "Administrative costs" is unfortunately a concept prone to a broad range of interpretations (*e.g.*, to satisfy the overall costs of the national regulatory authority, the cost of the overall licensing regime, or simply the administrative costs incurred in processing a single licence application). In the case of individual licences, licence fees should cover only "the administrative costs incurred in the issue, management, control and enforcement of the applicable individual licences", and the fees "should be proportionate to the work involved". Notwithstanding these general requirements, Member States may, where scarce resources are to be used, "allow their national regulatory authorities to impose charges which reflect the need to ensure the optimal use of these resources" (which "shall be non-discriminatory and take into particular account the need to foster the development of innovative services and competition") (Article 11).

There is no comparable regulatory regime established at the European level for the licensing of broadcasting networks and services, even with respect to the most fundamental aspects of licensing policies.

1.7.1 Duration of Licences

The duration of licences is an important factor in the decision of new actors to enter the multimedia market. Among other things, licence duration provides new market entrants with a relevant reference point against which to sink costs, amortize investments and develop profitable services.

Significant variations in licence periods can act as a serious impediment to those entities wishing to provide pan-European multimedia services. Excessively lengthy licences can act as a deterrent to new entrants who feel that "first mover" advantages may be entrenched. In turn, licences which are not of indefinite duration allow individual investors to envisage market exit strategies where appropriate, and can also encourage new entrants in a more mature commercial environment to seek to replace established operators. By contrast, excessively short licence periods discourage new entrants from developing long term business plans and investing in new services which are not assured of immediate consumer acceptance.

There are significant differences among Member States regarding the duration of licences across different service categories. In the European Union, the following trends are apparent:

- The duration of voice telephony licences varies from Member State to Member State. They may be of indefinite duration (*e.g.*, *Germany, Sweden*) or may range from 15 years in countries such as *Belgium*, *Italy* and *France,* to 30 years in countries such as *Spain*.

- The duration of cable TV licences varies from five years (*e.g.*, *Finland, the Netherlands*) up to 25 years (*e.g.*, *Spain* and the *United Kingdom*). In *Germany*, the duration of a cable network licence across the various Länder is comparable to the duration of a private broadcasting licence (*i.e.*, two to 10 years). In *Austria*, *Denmark*, *Ireland* and *Sweden*, these licences are of indefinite duration.

- Mobile licences in a number of Member States run for an average of 15 years (*e.g.*, *France, Germany, Italy, Spain, The Netherlands*). Member States such as *Finland* (20 years), *Greece* (20 years), *Spain* (25 years) and the *United Kingdom* (25 years) exceed this average, whereas countries like *Denmark*, *Finland* and *Sweden* (five to 10 years) fall well below this average.

- VANS licences are usually of indefinite duration, with the exception of *Italy* and *Portugal*, where the validity of the licence is for nine and 15 years respectively. In both of these countries, however, the licences are subject to renewal.

- Whereas public broadcasting licences are generally of indefinite duration (with the exception of *The Netherlands* - five years, the *United Kingdom* - 10 years and *Portugal* - 15 years), the duration of private broadcasting licences varies significantly from Member State to Member State. The longest licence period is granted to private broadcasters operating in Flanders in *Belgium* (18 years). In *France, Germany, Spain* and the *United Kingdom*, the maximum licence period is 10 years. The shortest licence period is four years in *Greece* (cf. one year licence for satellite TV in *The Netherlands*). In most Member States, private broadcasting licences are subject to renewal. It is only in countries such as the *United Kingdom* and *The Netherlands* where there is equality of regulatory treatment between public and private broadcasters as regards licence duration.

Table III overleaf summarises the various licence periods for services across the multimedia spectrum.

TABLE III : COMPARATIVE LICENSING CONDITIONS
DURATION OF LICENCES

Country	Types of Licence/Concession/Authorisation						
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/ Private**
Austria	Unlimited[192]	Unlimited	Unlimited	20 years	Unlimited	Unlimited	seven years
Belgium	Proposed 15 years (renewable for 10 year period)	Unlimited	nine-18 years	15 years	Unlimited	Unlimited	nine years (renewable for nine year periods) for the French Community; 18 years (renewable for nine year periods) for the Flemish Community[193]
Denmark	Unlimited (no licence)	Unlimited (no licence)	Unlimited	five or 10 years.	Unlimited (no licence)	Unlimited	seven years
Finland	Unlimited (no licence)	Unlimited (no licence)	five years maximum (renewable)[194]	five years maximum (network specific) 10 years for frequencies	Unlimited (no licence)	Unlimited	10 years maximum, average of five years (renewable)

192 The Austrian NRA has the power to limit the term of the voice licence granted.
193 Nine years (renewable for nine year period) if only regional.
194 Licence only available for programming.

TABLE III : COMPARATIVE LICENSING CONDITIONS
DURATION OF LICENCES (Cont.)

Country	Types of Licence/Concession/Authorisation						
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/ Private**
France	15 years (renewable)	15 years (renewable)	For the network, the concession between the City and the operator is usually granted for 20 to 25 years. The licence to provide services over the network is of unlimited duration. The duration of the licence to provide broadcasting services is 20 years.	15 years	Unlimited	Unlimited	10 years maximum (renewable up to twice for five year periods)[195]
Germany	Unlimited	Unlimited	Cable network licence comparable to private broadcast licence (*i.e.*, two-10 years)[196]	15 years	Unlimited	Unlimited	two-10 years, depending on specific Länder (renewable for five year periods)
Greece	N.A.	N.A.	N.A.	20 years	Unlimited	25 years	four years (renewable for four year periods)

195 Thereafter, subject to competitive tendering.

196 Revocation of network licence possible upon six months' notice.

TABLE III : COMPARATIVE LICENSING CONDITIONS
DURATION OF LICENCES (Cont.)

Country	Types of Licence/Concession/Authorisation						
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/ Private**
Ireland	To be determined.	N.A.[197]	Unlimited	15 years	Unlimited	Unlimited	Unlimited but may be terminated after seven years.
Italy	15 years (renewable)	15 years (renewable)	nine years	15 years	nine years (renewable)	Unlimited	six years (renewable)
Luxembourg	N.A.	N.A.	N.A.	15 years renewable (for five year periods)	Unlimited	No public operator	15 years (renewable)
The Netherlands	Unlimited[198]	Between 10 and 20 years[199]	five years	15 years	Unlimited	five years (renewable)[200]	five years (renewable)
Portugal	N.A.	N.A.	15 years (renewable)	15 years	15 years (renewable)	Unlimited	15 years (renewable)

197 Alternative infrastructure liberalised as of 1 July 1997. Licences are of indefinite duration.
198 Not to be subject to a licence requirement in the near future.
199 Not to be subject to a licence requirement in the near future, which would mean that they would be of indefinite duration.
200 Automatically renewable in practice.

TABLE III : COMPARATIVE LICENSING CONDITIONS
DURATION OF LICENCES (Cont.)

Country	Types of Licence/Concession/Authorisation						
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/ Private**
Spain	30 years	30 years	25 years (subject to five year renewals), for up to 75 years	25 years (renewable for one period of five years).	Unlimited (except value added services over self-provided infrastructure (10 years).	Unlimited	10 years (renewable for 10 year periods)
Sweden	Unlimited[201]	Unlimited	N.A. (unlicensed)	10 years	Unlimited	N.A. (unlicensed)	four years[202]

201 Subject to revocation for non-fulfillment of licence terms.

202 Notice of revocation can be set after two years.

TABLE III : COMPARATIVE LICENSING CONDITIONS
DURATION OF LICENCES (Cont.)

Country	Types of Licence/Concession/Authorisation						
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/ Private**
United Kingdom	ISR licences,[203] run for only one year (renewable)	25 years[204]	Separate broadcasting and telecoms licences run for 23 and 25 years, respectively	25 years[205]	Unlimited	10 years (renewable))[206]	10 years (renewable for 10 year periods))[207]

203 The only category of pure services-based licence available in the *United Kingdom*.
204 Revocable only on 10 years' notice, only after 15 years.
205 Revocation only possible after 10 years' notice.
206 Previous Charters ran for 25 year periods.
207 Renewal can be sought only after six years of operation. Channel 3 licences, national and regional, renewed in 1997.

1.7.2 Value of Licences

The most obvious and distinctive barriers to entry in the multimedia marketplace are high licence fees which do not reflect the fair market value of public resources (such as rights-of-way, spectrum and access to numbers) or which are so prohibitive as to deter market entry. Excessively high licence fees can discourage entry by efficient, but cash poor, market players (an observation which is consistently made with respect to the high up-front charges for national voice telephony and infrastructure licences in *Germany*).

Licence fees often include an up-front fee and/or an annual fee, plus fees for the use of frequencies and numbers.

- Up-front fees for voice telephony licences start from: in *Austria* (1,221 ECU), *Sweden* (11,600 ECU) and *France* (30,000 ECU). In *France*, the annual fee is 60,000 ECU, whereas in *Sweden* it is equivalent to 0.14% of turnover. In the *United Kingdom*, ISR licences (which involve no infrastructure provision) are issued for 113 ECU each. No fees are charged in *Denmark* and in *Sweden*. In *Germany*, by contrast, up-front licence fees (with no renewal charges) can be as high as 1.5 million ECU for a national licence.

- *Belgium, Denmark, Finland* and *France* do not charge for the grant of cable TV licences. In *Germany*, fees are individually negotiated with Deutsche Telecom and are based on the level of investment involved. In the *United Kingdom*, the value of franchises varies significantly, with a sliding percentage of qualifying revenues being paid in addition to up-front fees. In *Ireland*, an annual fee of 5% of turnover is charged.

- There are significant differences in the fees paid to obtain mobile licences throughout the European Union. Significant up-front fees have been paid for second GSM licences pursuant to an auction/"beauty parade" procedure; *e.g.*, in *Greece* (145 million ECU), in *Austria* (356 million ECU), and in *Italy* (389 million ECU). The Scandinavian countries charge little (*Sweden, Denmark*) or no up-front fees (*Finland*), aside from annual spectrum charges. *Finland* and *Denmark* charge exclusively on the basis of spectrum usage. Annual fees vary widely, ranging from 7,000 ECU in *Austria* (in addition to a high up-front fee of 356 million ECU), to 4 million ECU in *Germany*. In some Member States, the fee is calculated in relation to the turnover generated (*e.g.*, in *Italy*, where the fee is 3.5% of gross profit). In addition, annual fees are payable in most Member States for the use of spectrum, which are calculated in a variety of ways (there is a general tendency for spectrum fees to rise).

- VANS licences are free in *Austria, Belgium, Denmark, Finland, Germany, The Netherlands, Sweden* and the *United Kingdom*. In *Ireland*, it is necessary to pay an up-front fee of 1,354 ECU. In *Italy*, the up-front fee is 519 ECU

and an additional 519 ECU annually for each piece of switching equipment. *Portugal* charges the highest fees for VANS in the European Union, with 2,500 ECU due at the time of submitting the application, plus an additional fee of 10,000 ECU annually.

- No Member State charges fees for the grant of public broadcasting licences. On the contrary, public broadcasters are in general financed by a combination of licence fees levied on the public and advertising revenues.[208] *Finland*, however, requires the payment of frequency fees. As regards private broadcasting licences, there are no fees in *Belgium* and *France*. In *Denmark*, there is an annual fee of 2,017 ECU for each TV licence. In *Germany*, the Länder impose a variety of up-front fees; they are currently considering raising the level of up-front fees to approximately 10,000 ECU. In many other countries, private broadcasting fees can be substantial (in the *United Kingdom*, for example, the Channel 5 licence was auctioned for 310 million ECU). More recently, however, the new digital broadcasting licences granted in the *United Kingdom*, *France* and *Germany* have been issued at little or no cost in order to stimulate market entry.

Table IV overleaf summarises the range of licence fees payable for different types of services provided across the telecoms and broadcasting sectors.

208 As has been indicated elsewhere (refer to *Public Policy Issues Arising from Telecommunications and Audiovisual Convergence*, KPMG, September 1996), licence fees have in fact declined in relative importance as a source of revenue for European television broadcasters from approximately 80% in 1985 to 50% in 1994. This is due principally to increases in advertising expenditures and the growth of revenue from subscription services (a relatively new form of revenue).

TABLE IV: COMPARATIVE LICENSING CONDITIONS

VALUE OF LICENCES

Country	Types of Licence/Concession/Authorisation						
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile (GSM)**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/Private**
Austria	**1,221 ECU** up-front charge	N.A.	N.A.	**356 million ECU** up-front fee + annual fee of **7,000 ECU**	No fee	No fee	N.A.
Belgium	Proposed application fee and annual fee based on use of numbers[209]	Up-front fee of **6,732 ECU** + annual fee of **4,407 ECU**. Separate frequency fee	No fee	**220.3 million ECU** up-front fee + annual fee of **245,000 ECU**[210] Proposed fee for DCS 1800 licence (pending) of **122.4 million ECU**[211]	No fee	No fee	No fee
Denmark	No fee (unlicensed)	No fee (unlicensed)	No fee	Annual fee of **200,000 ECU**	No fee	No fee	Annual fee of **2,017 ECU** for TV licence[212]
Finland	No up-front fee (unlicensed). Fees charged only for numbering & frequency usage	No up-front fee (unlicensed)	No fee	No up-front fee. Annual fee per 200 KHz channel	No fee	Frequency fees only	Frequency fees only

209 To be determined in the near future by Decree.
210 Modified as per EC intervention.
211 Annual renewal fee not yet determined.
212 Annual fee of 504 ECU for radio licence.

TABLE IV: COMPARATIVE LICENSING CONDITIONS

VALUE OF LICENCES (Cont.)

Country	Types of Licence/Concession/Authorisation						
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile (GSM)**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/Private**
France	**45,000 ECU** up-front fee + **60,000 ECU** annual fee	Two-tiered fee structure (up-front and annual fees). Differentiation in terms of type of infrastructure and whether licensee has "market power"[213]	Amount of fee to provide voice telephony is under review. For other services, no fee	**150,000 ECU** up-front fee + annual fee of **150,000 ECU** + annual frequency fee per 200 KHz channel (**90,000 ECU** per GSM duplex channel)	No fee	No fee	No fee
Germany	**1.5 million ECU** for national licence (Class 4); less pro rata fee if an "area" or "line" licence	**5.3 million ECU** for national licence (Class 3) other than mobile or satellite; less pro rata fee if on basis of number of inhabitants or geographic coverage[214]	Fees are individually negotiated with DT and are based on the investment involved On average annual fee of **1.4 million ECU**[215]	Annual fee of **4 million ECU** for D2 network + annual frequency fee of **33,000 ECU** per 200 KHz channel	No fee	No fee	The Länder are considering raising the level of up-front fees to approx. **10,000 ECU**[216]

213 Public telecoms network with national coverage: one-off fee of 74,897 ECU + annual fee of 149,793 ECU; annual fee doubled if operator has significant market power; grant fee is doubled if licensee is selected pursuant to public tendering procedure; for networks for urban coverage only (less than 200,000 inhabitants), one-off fee is 14,979 ECU + annual fee of 29,959 ECU.
"Other public telecoms network licences" valued at 29,959 ECU + 59,917 ECU (same doubling rules in event of market power). If same operator has both a voice services and voice network licence, only the highest of the fees is paid.

214 Class 2 infrastructure licences (mobile) are between 7,500 ECU - 2.5 million ECU (on basis of administrative effort). Class 2 (satellite) infrastructure licences are between 7,500 ECU - 15,000 ECU (on basis of administrative effort).

215 Fee will be reviewed in 1999.

216 The Länder impose a variety of up-front fees, often coupled with annual charges for administrative costs.

TABLE IV: COMPARATIVE LICENSING CONDITIONS

VALUE OF LICENCES (Cont.)

Country	Types of Licence/Concession/Authorisation						
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile (GSM)**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/Private**
Greece	N.A.	N.A.	N.A.	Roughly over **145 million ECU** up-front fee + annual fee of 0.5% annual revenue[217]	0.5% annual charge on companies operating under a declaration procedure for all VANS	No fee	Fee of **16,107 ECU**. Bank guarantee of **805,345 ECU**. Fee for use of radio spectrum[218]
Ireland	Not decided	Not decided[219]	Annual fee of 5% of turnover	**21.8 million ECU** up-front fee + frequency fees	**1,354 ECU**	No fee	N.A.[220]
Italy	Not decided[221]	Not decided[222]	N.A.	**389 million ECU** up-front fee + annual fee of 3.5% of gross profit	**519 ECU** + **519 ECU** per annum fee for each piece of switching equipment[223]	Fee of **21 million ECU**	Fee of **625,000 ECU**[224]

217 DCS-1800 licence available to OTE joint venture. New DCS-1800 licence to be auctioned.

218 The yearly licence fee to be paid is 2 % of the yearly gross revenues of each TV station.

219 Licences for alternative infrastructure are set at one up-front charge of 1,354 ECU (this is an interim measure, subject to review at the end of 1998).

220 In *Ireland*, a para-legal system of "deflector" private broadcasting has been taking place since the 1980s.

221 Fee will be decided in December 1997.

222 Fee will be decided in December 1997.

223 Subject to change in new Law.

224 Fee will be reviewed by March 1998.

TABLE IV : COMPARATIVE LICENSING CONDITIONS
VALUE OF LICENCES (Cont.)

Country		Types of Licence/Concession/Authorisation					
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile (GSM)**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/Private**
Luxembourg	To be determined	To be determined	To be determined	**1.62 million ECU** up-front fee + annual fee of **0.4 million ECU** + fee per duplex radio frequency of **50,000 ECU**	To be Determined	No public operator	No fixed fee. To be negotiated with the government
The Netherlands	Fixed fee of **157,000 ECU** + numbering fees[225]	Annual fee of **359,000 ECU**	Originally **7,000-9,000 ECU** for programming authorisation. Now down to **4,500 ECU**	**345 million ECU** up-front fee for GSM (Libertel); DCS 1800 licences to be auctioned. Realignment of costs for GSM in light of spectrum needs for DCS-1800.[226] Annual fee now to be imposed per 200 KHz channel	No fee	No fee	The fee varies between **540 ECU** to **13,600 ECU** depending on the number of hours broadcast and the reach of the programmes (*i.e.* national or regional level)
Portugal	N.A	N.A	Up-front licence fee of **9,900 ECU** + renewal fee of **1,237 ECU**	**4,950 ECU** up-front fee + annual fee of **24,752 ECU**	Up-front payment of **2,475 ECU**	No fee	Fee of **123,762 ECU** for television licence. Up-front payment of **2,470 ECU** for radio licence and renewal fee of **990 ECU**. Up-front payment of **2,470 ECU** for satellite services + annual fee of **9,900 ECU**.

225 For example, fixed fee of 11,221 ECU for more than 100 numbers and to an annual fee of 9 ECU per number.

226 Previously, no spectrum charges for GSM.

TABLE IV : COMPARATIVE LICENSING CONDITIONS

VALUE OF LICENCES (Cont.)

Country	Types of Licence/Concession/Authorisation						
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile (GSM)**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/Private**
Spain	Not decided	Not decided	Minimum investment performance guarantees approx. 4%. Annual levy for use of the public domain (approx. 1% of annual revenues)	**570 million ECU** up-front fee + annual fee of 1% of turnover	Proposed legislation in late 1997 will abolish fees for liberalised services	No fee	Bank guarantee of **6 million ECU**[227]
Sweden	**11,600 ECU** + annual fee of 0.14% of turnover	**11,600 ECU** + annual fee of 0.14% of turnover	No fee (unlicensed)	**11,600 ECU** up-front charge + annual fee of 1.43 % of turnover[228]	No fee[229]	No fee	Fee of **33 million ECU**

227 Private TV licensees must also pay a fee to Retevision for use of the carrier services.

228 Minimum of 5,795 ECU/licence area.

229 Possibility of fees in 1998.

TABLE IV : COMPARATIVE LICENSING CONDITIONS

VALUE OF LICENCES (Cont.)

Country		Types of Licence/Concession/Authorisation					
	Voice Telephony/ Services	**Voice Telephony/ Infrastructure**	**Cable TV**	**Mobile (GSM)**	**Value Added Services**	**Broadcast/ Public**	**Broadcast/Private**
United Kingdom	ISR licences are issued for **113 ECU** each.	Infrastructure-based telecoms licensing system made up of annual fees for (**7,565 ECU**); national (**52,953-60,517 ECU**) or international facilities-based **10,590 ECU**[230]	All franchises valued differently. Up-front fee[231] and per annum % of qualifying revenues for cable (LDS) licence (e.g., 1% of qualifying revenue sliding to 5% after five years)	Up to **55,979 ECU** up-front fee + annual fee + spectrum fees[232]	No fee	No fee[233]	Channel 3 regional and national licences auctioned for between **3,000 ECU - 65,000 ECU**. Channel 5 licence auctioned for **310 million ECU**.[234] Annual fee based on 0-11% of qualifying revenues

230 Renewal fees for IFLs are set at between 0.06 and 0.08% of annual turnover on 52,953 ECU, whichever is the greater. Over time, IFLs will be assimilated into national licences. BT, the dominant telecoms operator, pays approximately 9,750,000 ECU for its national licence (covering voice telephony and value added services).

231 Up-front fee in range of 1,513 ECU to 605,175-756,469 ECU. Most expensive franchise is Northern Ireland with 18.96 million ECU. Telephony licences for CATV operators are in the range of 3,026 - 15,129 ECU depending on roll-out coverage and annual fee ranging from 1,891-3,782 ECU.

232 Annual fee of up to 30,259 ECU and fees for spectrum licences charged on basis of fixed rate per nature and extent of frequency used.

233 Funding for BBC guaranteed until year 2001. Political debate taking place to encourage BBC to self-finance through various measures, including advertising.

234 Up to 462.95 million ECU if inclusive of guarantees.

Implications for Multimedia

The process of convergence will be facilitated by the development and implementation of a common set of licensing conditions. A review of comparative licence terms and licensing fees, however, illustrates that, at least as regards two key criteria for market entry, there is a broad divergence of views among the Member States as to the appropriate regulatory regimes which should be employed. Policies should be directed towards the gradual harmonisation of the key aspects of licensing policy which, absent harmonisation, may distort the investment signals given to new market entrants.

Harmonised licensing conditions are particularly important if market players are to be able to develop pan-European networks. As the process of fixed-mobile convergence develops further, the need for greater equalisation of these key licensing requirements will intensify. Harmonisation may occur in part as Member States achieve a relatively similar level of liberalisation in the period immediately after 1 January 1998; at present, fragmented regulation may be explained by the different rates at which market liberalisation was pursued in the past.

It will also be important to introduce more market-sensitive mechanisms to the licensing system to assist regulators in valuing licences. The valuation of scarce resources would constitute an important aspect of such an exercise (see Section 4 of Annex I). Access to such resources, when measured in terms of both time (duration) and expense (fees), will establish clear market entry signals.

There does not appear to be any clear policy imperative that would prevent licences and authorisations issued at national level for a broad range of multimedia services from benefiting from the principle of mutual recognition across all Member States - as occurs with most other services. This principle of mutual recognition would probably not be extendable to licences which are dependent upon access to scarce resources such as rights-of-way or spectrum. Insofar as such licences are valued using comparable economic criteria, however, the dangers of fragmented regulation are less likely to assume major policy significance.

At a political level, the mutual recognition of licences and authorisations may be deemed to deprive Member States of the revenues that might be gained by imposing high licensing fees. However, because licence fees should only reflect the necessary costs incurred in their administration and the efficient use of scarce resources, such a motivation would appear to be unjustified as grounds for opposing mutual recognition.

2. The Definitional Boundaries Between "Telecommunications" and "Broadcasting" Services

The Regulatory Issues

The starting point in adapting the current telecoms regulatory framework to accommodate multimedia is a fundamental reappraisal of the definitional boundaries between the "telecommunications" and "broadcasting" sectors. The reasons for this reappraisal stem largely from the following technological and commercial factors:

- Individual delivery platforms, once associated with the transmission of a particular type of message or signal, are now capable of carrying all manner of messages. As a consequence, the conceptual dividing line between "telecommunications" and "broadcasting", which has often been based on the delivery platform used to carry the message, will no longer be valid in a multimedia environment. Similarly, terminal equipment will become increasingly multi-purpose. Consequently, the ability to watch programming or listen to music on a computer (or even to conduct a voice conversation over it) will be matched by the ability of a television set to satisfy interactive entertainment and business needs.

- Definitional boundaries predicated on the distinction between "private" (telecoms) and "public" (broadcasting) messages can no longer be regarded as foolproof. The Internet has blurred the distinction between private and public communications, with the dissemination of communications over the Internet often being at the cross-roads of these two forms of communication; "multicasting" and "Webcasting" services are particular instances of the Internet being used in ways which do not fall within either traditional definitional category.

- Distinctions based on the essential character of the messages transmitted (*e.g.*, voice telephony, video text, data) may also become irrelevant because, in a digital multimedia environment, it may be impractical, if not impossible, to separate individual streams of data, voice and images and to regulate them differently.

Both Community legal instruments and the regulatory traditions of the Member States have distinguished between broadcasting and telecoms by reference to one or more of the foregoing concepts, which are being rendered largely obsolete by convergence. In a digital environment, regulatory definitions may need to be more sensitive to technological convergence, by according greater importance to the commercial relationship between the consumer of communications and the party responsible for their transmission.

2.1 EXISTING DEFINITIONAL BOUNDARIES UNDER COMMUNITY LAW

The definitional divide between "telecoms" and "broadcasting", and the important jurisdictional consequences which flow from that distinction, have not always been consistently drawn at the Community level. This lack of consistency has thus far been acceptable from a regulatory point of view because the definitions have often been used for different regulatory purposes (*i.e.*, as a basis for taxation, to determine which areas of telecoms are open to competition, the creation of harmonised transmission standards in the television industry, the determination of intellectual property rights, and so forth). To the extent that the respective telecoms, broadcasting and publishing markets were satisfied by differentiated services and market actors, these definitional inconsistencies were arguably not critical. In a future multimedia environment, however, the Study Team questions whether such definitional inconsistencies can be maintained.

As outlined in Section 1 of Annex I, the fundamentally different regulatory traditions of the telecoms, broadcasting and publishing sectors are reflected in the barriers raised to new market entrants and the extent to which activities in each sector are regulated. The initial regulatory characterisation of a service is therefore important because it triggers a chain of regulatory rights and obligations which vary significantly from sector to sector. The fact that multimedia services contain elements of both the telecoms and the broadcasting world raises uncertainty as to their regulatory status, and that uncertainty may result in multiple sets of rules applying to the same service or the extension of onerous regulation designed for telecoms networks or broadcast programming to the majority of multimedia services. Neither of these alternatives is likely to be economically efficient, nor is either likely to reflect the intrinsic nature of the vast majority of multimedia services; nor, indeed, will they necessarily achieve the objectives underpinning such rules in a proportionate way.

Table V below provides a cross-section of the ways in which the Community has defined the concepts of "telecoms" and "broadcasting":

Table V: Definitional Boundaries at Community Level

LEGAL INSTRUMENT	DEFINITION OF "TELECOMMUNICATIONS" AND "BROADCASTING"
Television Without Frontiers Directive (Directive 89/552/EEC)	*Television broadcasting* means the initial transmission by wire or over the air, including that by satellite, in unencoded or encoded form, of television programmes intended for reception by the public. It includes the communication of programmes between undertakings with a view to their being relayed to the public. It does not include communication services providing items of information or other messages on individual demand such as telecopying, electronic data banks and other similar services.[235]
Full Competition Directive (Directive 90/388/EEC)	*Telecommunications services* means services whose provision consists wholly or partly in the transmission and routing of signals on the public telecommunications network by means of telecommunications processes, with the exception of radio-broadcasting and television.[236] The telecommunications market "does not concern mobile telephony nor paging services, nor mass communications services such as radio or television".[237]
Licensing Directive (Directive 97/13/EC)	*Telecommunications services* means services whose provision consists wholly or partly in the transmission and routing of signals on telecommunications networks by means of telecommunications processes, with the exception of radio broadcasting and television. This Directive is without prejudice to the specific rules adopted by the Member States in accordance with Community law, governing the distribution of audiovisual programmes intended for the general public, and the content of such programmes.
Interconnection Directive (Directive 97/33/EC)	*Telecommunications services* means services whose provision consists wholly or partly in the transmission and routing of signals on telecommunications networks, with the exception of radio and television broadcasting.[238]
VAT to Telecoms Decisions (Decisions 97/200/EC to 97/214/EC)	*Telecommunications services* shall be deemed to be services relating to the transmission, emission or reception of signals, writing, images and sounds or information of any nature by wire, radio, optical or other electromagnetic systems, including the transfer or assignment of the right to use capacity for such transmission, emission or reception.[239]

235 Article 1(a) of Directive 89/552/EEC.
236 Article 1.1(4) of Directive 90/388/EEC.
237 In first preamble of Directive 90/388/EEC.
238 Article 2(d) of Directive 97/33/EC.
239 Article 1 §2 of Directive 97/200/EC.

LEGAL INSTRUMENT	DEFINITION OF "TELECOMMUNICATIONS" AND "BROADCASTING"
Television Standards Directive (Directive 95/47/EC)	Reference is made to "all television services transmitted to viewers in the Community whether by cable, satellite or terrestrial means" having to satisfy certain standards. In addition, "[fully] digital transmission networks open to the public for the distribution of television services must be capable of distributing wide-format services". [240]
Copyright - Satellite Broadcasting and Retransmission Directive (Directive 93/83/EC)	*Communication to the public by satellite* means: "(a) the act of introducing, under the control and responsibility of the broadcasting organisation, the programme-carrying signals intended for reception by the public into an uninterrupted chain of communication leading to the satellite and down towards the earth. ...(b) The act of communication to the public by satellite occurs solely in the Member State where, under the control and responsibility of the broadcasting organisation, the programme-carrying signals are introduced into an uninterrupted chain of communication leading to the satellite and down towards the earth. *Cable retransmission* means the simultaneous, unaltered and unabridged retransmission by a cable or microwave system for reception by the public of an initial transmission from another Member State, by wire or over the air, including that by satellite, of television or radio programmes intended for reception by the public. [241]
Copyright & Related Rights in the Information Society "Questionnaire"	Community law does not define "communication to the public". Community law refers to broadcasting in several places. *Broadcasting* in the Directives means "the initial transmission by wire or over the air, including that by satellite, in unencoded or encoded form, of ... programmes intended for reception by the public". Communication services providing pieces of information or other services point-to-point and on demand such as photocopying, electronic databases and other similar services are not covered." The concept of broadcasting in the *Satellite and Cable Directive* matches the above definition; it refers to "an initial transmission from another Member State, by wire or over the air, including by satellite, of television or radio programmes intended for reception by the public". It also states that "If the programme-carrying signals are encrypted, then there is communication to the pubic by satellite on condition that the means of decrypting the broadcast are provided to the public by the broadcasting organisation or with its consent."

240 Article 2 of Directive 95/47/EC.
241 Article 2 of Directive 93/83/EEC.

LEGAL INSTRUMENT	DEFINITION OF "TELECOMMUNICATIONS" AND "BROADCASTING"
Green Paper on Encrypted Services[242]	Encrypted services include traditional encrypted broadcast (via cable, hertzian waves or by satellite), new broadcasting services (digital television, Pay-Per-View, near Video-on-Demand) and Information Society services, namely electronic distance services provided on individual request or the user of the services (in particular Video-on-Demand, games supplied on request, teleshopping and multimedia information services).[244]
Revised Directive on Regulatory Transparency[243]	*Information Society services* are defined as "any service provided at a distance, by electronic means and on the individual request of a service receiver". This definition covers a whole range of services, examples of which can be found in the Communication accompanying the proposed Directive.[245]
Proposed Conditional Access Directive[246]	- Adopts definition of *television broadcasting* in the *Television Without Frontiers Directive* (Directive 89/552/EEC). - *Radio broadcasting* means any transmission by wire or over the air, including that by satellite, of radio programmes intended for reception by the public. - Adopts definition of *Information Society Services* in the proposed revisions of the *Transparency Directive*, Directive 83/189/EEC (above).

242 Green Paper on the Legal Protection of Encrypted Services, COM (96)76 Final of 6 March 1996; cf. Commission Press Release, IP/96/204 of 6 March 1996.

243 Proposal for a European Parliament and Council Directive amending for a third time Directive 83/189/EEC laying down a procedure for the provision of information in the field of technical standards and regulations, COM/96/392 of 30 August 1996, OJ 1996 C307/11 (with accompanying Notice, OJ 1996 C307/10).

244 Paragraph III of the Green Paper.

245 "Information Society services will be (or already are) highly diverse and include electronic newspapers, distance education and healthcare services, distance tourism services, the distance selling of goods and services by electronic means, distance betting services interactive games and leisure activities, etc. The feature they all have in common is that they are provided electronically at a distance and are intended to meet one or more specific requests by an individual service receiver. Owing to this latter characteristic, the services are "interactive" inasmuch as the provider responds to specific requests from a receiver and vice versa".

246 Draft Proposal for a European Parliament and Council Directive on the Legal Protection of Services based on, or consisting of, Conditional Access, OJ 1997 C314/7.

LEGAL INSTRUMENT	DEFINITION OF "TELECOMMUNICATIONS" AND "BROADCASTING
WTO Agreement	*Telecommunications* means the transmission and reception of signals by any electromagnetic means.[247] *Public telecommunications transport service* means any telecommunications transport service required, explicitly or in effect, by a Member to be offered to the public generally. Such services may include, *inter alia*, telegraph, telephone, telex, and data transmission typically involving the real-time transmission of customer-supplied information between two or more points without any end-to-end change in the form or content of the customer's information. *Public telecommunications transport network* means the public telecommunications infrastructure which permits telecommunications between and among defined network termination points. WTO commitments do not extend to *broadcasting* matters.[248]

As should be clear from Table V above, there is no uniform approach towards the definition of "telecoms" and "broadcasting" at the Community level. Moreover, the definitions currently used are subject to a number of criticisms:

- One of the defining elements of broadcasting is its broad dissemination. Therefore, broadcasting has often been characterised as a "point to multi-point" service. In terms of legal definitions, the notion of "multi-point" has been treated as being synonymous with the idea of "the public" in most Community legal instruments (see above). Unfortunately, the *Licensing Directive* refers to the "general public". In the view of the Study Team, the qualification "general" adds little additional meaning to the word "public". Similarly, the *Full Competition Directive* excludes "mass communications services such as radio or television" from the scope of the definition of "telecoms". Again, the Study Team is of the view that the use of yet another term to convey the same distinction between public and private communications is unhelpful.

- "Telecoms" services are defined primarily in all Community legal instruments by reference to the transmission of such services either wholly or partly over the "telecoms network". This means that the fundamental notion of platform independence, a key element in the future provision of multimedia services, is absent from all existing definitions of telecoms. Consequently, this opens up the

247 GATS Agreement of 1994 (Marakesh), Annex on Telecommunications.

248 Refer to Resolution of the European Parliament on the Cultural Aspects of GATT, OJ 1993 C 255/182 (used to support the exclusion of audiovisual and content-related matters in the context of Uruguay Round negotiations).

possibility of different regulatory treatment of the Internet if delivery occurs over a broadcasting, as opposed to a telecoms, network.

- There appear to be no strong public policy grounds for certain Community legal instruments to refer to the distribution of " audiovisual programmes". References to "audiovisual" matters, which focus principally on content-related issues, are not identical in regulatory significance to the much broader concept of "broadcasting". Moreover, the concept of "distribution" is *prima facie* inconsistent with the concept of "transmission", which is widely used in both the telecoms and broadcasting worlds. Finally, the use of the word "programmes" is inconsistent with the use of the word "services" in the telecoms sector.

- The expression "television broadcasting" is used on a number of occasions without any definition of key terms such as "television", "television services" or "television transmitters". Restricting the concept of "broadcasting" to transmission by means of a television does not take into account the multi-functional aspects of both television sets and computers, either now or in the future.

- The WTO Agreement on telecoms sheds no light on definitional issues at the Community level, because it was concluded with the relatively narrow aim of liberalising voice telephony services and networks (it being assumed that VANS were more or less already liberalised). Consequently, " telecoms" is defined very narrowly in terms of voice services and the exceptions to the Agreement are defined in terms of a list of transmission options. [249]

- The latest definition of "telecoms services", which is found in a series of *VAT Decisions*, contains an all-embracing definition of the types of services which can be provided over all manner of delivery platforms via all possible technologies. Under this definition, the nature of the signals transmitted (audio, visual, data, voice, and so on) are irrelevant to the issue whether a service is defined as telecoms. At the same time, however, there is no clear differentiation between the types of services considered to be "telecoms" services, on the one hand, and traditional "broadcasting" services, on the other. Consequently, the definition used in the *VAT Decisions* makes one aware of the potential breadth of telecoms services, but not their outer limits. Given the competing jurisdictional claims on the telecoms and broadcasting sectors in a multimedia environment, such a definition is too open-ended to provide a workable definition of " telecoms".

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249 "Broadcasting" is understood by the Community to be "the uninterrupted chain of transmission required for the distribution of television and radio programme signals to the general public, but does not cover contribution links between operators." The exclusion of satellite broadcasting from the WTO Agreement stems from the fact that the *United States* commitment explicitly excluded "one-way satellite transmission of Direct to Home (DTH) and Direct Broadcast Satellite (DBS) television services and of digital audio services". This was justified by the *United States* on the basis that, although these services are treated as "telecoms" services in the *United States*, they are overwhelmingly viewed as "broadcast" services in other countries.

- New Community legal instruments are using the concept of "Information Society Services" as the basis upon which to introduce harmonisation and mutual recognition legislation. The definition of "Information Society Services" relies on the fact that the service in question is being provided at the request of an individual, regardless of the technology or the platform used to transmit the service and regardless of the number of receivers of the service at the time of its transmission.

Given these differences, a fundamental review of regulatory definitions at the Community level is probably required to ensure that Community legislation better reflects the regulatory and technical realities of multimedia. The lines along which such a review should take place are outlined in Section 2.4 below.

2.2 DEFINITIONAL WEAKNESSES UNDER EXISTING MEMBER STATE LAWS

In general terms, the regulatory definitions of telecoms and broadcasting at the Member State level suffer from a number of common weaknesses, as is illustrated by the representative sample of definitions set forth overleaf in Table VI:

Table VI: Definitions at the Member State Level

COUNTRY	TELECOMMUNICATIONS	BROADCASTING
Austria	*Telecommunication* is defined as the technical process of transmitting, transferring and receiving messages of any nature in the form of text, speech, images or tones by means of appropriate technical equipment.[250]	*Broadcasting* is defined as any transmissions of all kinds of presentations in text or sound or picture by electric oscillation through wire or non-wire intended for reception by the public as well as the operation of technical facilities which serve this purpose.[251]
Belgium	*Telecommunications* means any transfer, transmission or reception of signs, signals, texts, pictures sounds or data of any nature, by wire, radio-electricity, optical signals or any other electromagnetic system.[252]	*Broadcasting service* means the service for radio-connection which broadcasts with a view of reaching the general public directly. The service may consist of sound-television- or other means of broadcasting.[253]
The Netherlands	*Telecommunications* is defined in the draft *Telecommunications Act*[254] as "any transmission, emission or reception of signals in any form, by means of cables, radio waves, optical means or other electromagnetic means"; *telecommunications service* means a service which consists wholly or partly of the trans-mission or routing of signals on a telecommunications net-work.[255]	*Broadcasting* is defined in the draft *Telecommunications Act* as an electronic media service concerned with the provision and broadcasting of programmes.
France	*Telecommunications* means any form of transmission or reception of signs, signals, text, image, sound or other information, by wire, optical fibre,	*Audiovisual services* are defined as any work consisting of sequences of moving images, with or without sound.[257]

250 Federal Law to enact a Telecommunications Law that amends the Telegraph Route Law (Telegraphenwegegesetz), the Telecommunications Charges Law (Fernmelde-gebührengesetz) and the Cable and Satellite Broadcast Radio Law (Kabel- und Satelliten-Rundfunkgesetz), and makes supplementary provisions to the Broadcast Radio Law (Rundfunkgesetz) and Broadcast Radio Decree (Rundfunkverordnung).

251 *Federal Constitutional Act to Secure the Independence of Broadcasting.*

252 Article 68, 4° of the *Law of 21 March 1991.*

253 Article 1, 9° of the *Law of 6 February 1987.*

254 Draft submitted to Parliament on 15 September 1997.

255 *Telecommunications Market Act 396/1997.*

256 Chapter I(1) of the *Telecommunications Act.*

COUNTRY	TELECOMMUNICATIONS	BROADCASTING
France (Cont.)	radio or other electromagnetic means.[256]	*Audiovisual communication* is defined as the transmission for the public or for certain categories within the public, by telecommunications transmission means, of any signs, signals, text, images, sounds or information of any nature which do not constitute private correspondence.[258] *Private correspondence* is defined as the message which is expressly designed for reception by one or several determined and identifiable, either physical or legal, persons.[259]
Germany	*Telecommunications* shall mean the technical process of sending, transmitting and receiving any kind of message in the form of signs, voice, images or sounds by means of telecommunications systems.[260]	*Broadcasting* is the provision and transmission for the general public of presentations of all kinds of speech, sound and picture, using electrical oscillations without junction lines or by means of a conductor. The definition includes presentations transmitted in encoded form of receivable for a special payment, as well as broadcast videotext.[261]
United Kingdom	*Telecommunication system* is a system for the conveyance, through the agency of electric, magnetic, electro-magnetic, electro-chemical or electro-mechanical energy, of -- (a) speech, music and other sounds; (b) visual images; (c) signals serving for the importation (whether as between persons and persons, things and things or persons and things) of any matter otherwise than in the form of sounds or visual images; or (d) signals serving for the actuation or control of machinery or apparatus.[262]	*Television broadcasting service* means a service consisting in the broadcasting of television programmes for general reception in, or in any area in, the *United Kingdom*, including a domestic satellite service [but not including a restricted service or a multiplex service]. This definition does not apply to any teletext service or any other service in the case of which the visual images broadcast in the service consist wholly or mainly of non-representational images; *i.e.*, visual images which are neither still pictures nor comprised within sequences of visual images capable of being seen as moving pictures.[263] *Multiplex service* means a service provided by any person which consists in the broadcasting for general reception of two or more services specified ... by combining the relevant information in digital form, together with any broadcasting in digital form of digital additional services.[264]

257 Article L.112.2 of the *French Law on Intellectual Property*.
258 The *Law of 30 September 1986 (Freedom of Communications Act*, or "FCA").
259 Order of 18 February 1988 of The Prime Minister.
260 §2(16) of the *Telecommunications Act*.
261 Chapter I, Section 2(1) of the *Agreement on Broadcasting between Federal States in United Germany*.
262 Part I, Section 4 of the *Telecommunications Act 1984*.
263 Part I, Section II (5) of the *Broadcasting Act 1990*.
264 Part I, Section 1 of the *Broadcasting Act 1996*.

The key ways in which the regulatory regimes of the Member States are not sensitive to the dynamics of convergence relate to:

- The nature of the delivery platform. The key defining element of many definitions of telecoms and broadcasting at the Member State level (as occurs at the European Union level) is the delivery platform used to transmit the messages in question. In a multimedia environment, operators will no longer be constrained in providing telephony over telephone networks, television and radio programming over broadcasting or cable TV networks, nor data over networks based on the internetworking of computers. In such an environment, talk of a " telecoms network" or a "broadcasting network" will become increasingly meaningless. [265]

  The current regulatory notion of "voice telephony" is dictated by the public switched platform over which it is delivered. However, voice transmissions are now being routed over packet networks and delivered via the Internet. Additionally, they may consist of much more than simple voice communications traffic between two users; voice may be carried as an adjunct to other data-based services. [266] Most importantly, in an environment in which voice communications can be made as effectively over a traditional telephone link as they can by computers linked over the Internet, the existing concept of "voice telephony" would appear to be outmoded. Even today, voice applications are often merely one element of multifunction applications that combine voice, data, and graphics (such as telemedicine or data conferencing applications), rather than discrete service offerings. This trend will only increase as multimedia applications become more commonplace in both the home and the office.

  By failing to acknowledge that voice and broadcast services can be delivered by means other than their traditional networks, existing regulatory definitions also run the risk of jeopardising the respective goals of universal service and public service for the telecoms and broadcasting sectors. In a multimedia environment, for example, there is no compelling policy reason why the delivery of a minimum level of voice service at an affordable price as part of universal service obligations cannot be satisfied by means other than a telecoms network (*e.g.*, voice over the Internet).[267] As has been explained in our interviews with a number of Internet

265 Similarly, the idea of regulating broadcasting based on the type of screen to be used (*e.g.*, television) would run counter to the trend of independent delivery platforms.

266 In the *United States*, the FCC has distinguished between the provision of a telecoms conduit and the provision of services which add value to that conduit (*i.e.*, which "enhance" that conduit). Applying the *1996 Telecommunications Act* and the distinction between information/enhanced services and telecoms services, the FCC has issued orders exempting ISPs from regulatory obligations imposed upon providers of such conventional telecoms services as voice telephony.

267 The digital era opens up the possibility of a highly deregulated and competitive environment in which all modes of communication -- data, fax, voice, broadband video and multimedia -- are subject to essentially the same digital encoding, transmitting and de-coding solutions. In a similar vein, the dividing line between telecoms and broadcasting for certain regulatory purposes is sometimes drawn on the basis of the particular technology being used to convey a given signal. As has been explained earlier in this Study, this technological divide is also no longer viable. For example, there is an

Service Providers, the classification of voice telephony as something distinct from data transmission or television broadcasting is a remnant of the analogue era of communications. The separate regulatory classification of voice telephony is also a vestige of the era of a highly regulated telecoms services. The convergence of communications technologies makes distinctions between voice and data increasingly arbitrary and irrelevant. Clearly, the technological trend is towards the unification of communications infrastructures via digitalisation, and away from the old paradigm of distinct carrier platforms.

Similarly, to the extent that Member States have required the fulfilment of certain public service goals (usually associated with certain types of content) through the traditional medium of television broadcasting, there appear to be no compelling public policy reasons why new media may not also be given a role in meeting these objectives.

- The distinction between public and private communications. Another traditional means of differentiating between telecoms and broadcasting regulation has been to focus on whether an individual or the public at large is the intended recipient of a particular transmission. More or less all Member State laws define broadcasting in terms of the public being addressed. As a result of the Internet, however, the distinction between public and private is becoming increasingly blurred; video servers have effectively become point-to-point delivery systems which can simultaneously deliver hundreds of thousands of video streams to thousands of homes. Because the Internet facilitates one-to-one communications, as well as other communications which may or may not be considered public or semi-public in nature (*i.e.*, going beyond the usual confines of a Closed User Group), the traditional association of broadcasting with communications to the public may no longer be sustainable as the overarching defining criterion. [268]

In addition to the common patterns of regulation identified above, the regulatory regimes of certain Member States raise a number of further definitional issues which are relevant to multimedia, namely:

- In *Germany*, a separate regulatory category for "multimedia" services (see Section 1.3.2. of Annex I), which falls expressly outside the existing definitional categories of telecoms and broadcasting, was created as of 1 August 1997. The classification of

increasing tendency towards the integration of fixed and mobile infrastructure and services; wireless local loops are proving to be both a delivery platform in their own right and a means of supplementing an existing network; ATM and XDSL technologies are being deployed across various Member States to achieve the same results; and messages are being transmitted across a broad range of frequencies through the use of electromagnetic means and otherwise. In this evolving environment, it will become fruitless to associate mobile communications systems solely with the telecoms regulatory structure simply on the basis of the particular technology deployed to transmit signals.

[268] The French law also qualifies the notion of "the public" by referring also to "sections of the public". This type of qualification, which may overlap with the notion of a Closed User Group in many circumstances, adds a further layer of complication to the distinction between public and private communications.

services as "multimedia" (or "teleservices") means that they are not subject to licensing requirements. The approach avoids the traditional pitfalls of associating a particular range of services with the delivery platform over which they are delivered, and instead focuses on the essential nature of the services being transmitted. However, the creation of an additional regulatory category will, in the view of the Study Team, inevitably create further definitional disputes between the Federal government (responsible for telecoms) and the Länder (responsible for broadcasting) as they assert jurisdiction over certain types of services.

The Länder, for example, have argued that the regulation of content associated usually with broadcasting should apply with equal force to services which are effectively the same as broadcasting.

Moreover, the catalogue of services described as "multimedia" does not app ear to be sufficiently future-proof to survive in an environment in which new, previously unknown, applications may be introduced. In the absence of a clear theoretical distinction between existing definitional categories and multimedia services, such an approach may not be sustainable in the long term (or, in the alternative, may require regular revision).

- In *France*, "audiovisual communications" (rather than "broadcasting") have been differentiated from telecoms services since 1986. The French law is unique insofar as it draws a definitional divide on the basis of the nature of the content being transmitted. In a converged environment, the use of content-based criteria appears to be counter-intuitive, especially in the context of Internet communications. The differentiation of the constituent elements of a message transmitted over the Internet into voice, data, or video components is only relevant to the sender and the receiver. During the course of transmission, the message simply consists of "bits". Internet service providers cannot distinguish between packets that contain voice and packets that carry text, graphics, or other forms of information. They are therefore not in a position to prevent these packets from reaching their final destination, nor are they in a position to meter such transmissions in order to facilitate regulation.

The definition of "audiovisual communications" used in French law threatens to engulf a vast range of multimedia services, thereby subjecting them to the more onerous regulatory regime associated with the broadcasting sector. Such a regulatory classification is not consistent with the open market conditions in which such services are being provided at present, nor is it consistent with the regulatory regime which applies to VANS throughout the Member States (which is the regulatory classification currently most closely linked to multimedia services). Such a classification has not been adopted by any other Member State, nor is it reflected in Community law or international law. Community law only refers to " audiovisual programmes" as falling outside telecoms regulation because of the importance of content regulation over such programmes. In all other respects, Community law establishes harmonised legal principles with respect to "broadcasting" in general and "television broadcasters" in particular.[269] To the extent that content controls should be enforced, the quality and nature of audiovisual signals will undoubtedly always be highly relevant. However, the logic of a multimedia marketplace runs counter to the idea that the physical character of a given signal determines all aspects of its regulation.

- In the *United Kingdom*, the unification of the regulatory regime for conditional access services for all digital services was proposed in July 1997.[270] Under the proposal, a new Access Control Class Licence will be created which not only embraces conditional access for digital television broadcasts (which are already regulated),[271] but also conditional access systems for:

    - digital radio broadcasts;
    - digital data broadcasts (*e.g.*, software download services);
    - non-broadcast information services (*e.g.*, on-line information services); and
    - non-broadcast interactive services (*e.g.*, games and home shopping).

  The underlying rationale for this initiative is that, in a multimedia world, there are certain issues which regulation should address horizontally across the broadcasting and telecoms sectors. The fact that a service is ancillary to a particular service (*e.g.*, in a given instance, broadcasting) does not mean that it must in turn be regulated by the same regulatory regime as applies to the main service itself. The logic of such an approach, however, does suggest that a degree of convergence in regulatory functions must also occur in order to facilitate the implementation of such a policy. Although

269 Similarly, the WTO Agreement does not serve as a relevant precedent for the regulatory relevance of "audiovisual" issues other than to confirm their affinity to content controls, which clearly fall outside the scope of international trade agreements relating to economic regulation (and which confer clear jurisdiction on individual nations to regulate non-economic issues according to their own legal traditions).

270 Refer to Joint OFTEL and DTI Notice and Consultation entitled "Extending the regulatory regime for conditional access services", July 1997.

271 Refer to the *Advanced Television Services Regulations* (SI 1996 No. 3151) and *the Advanced Television Services (Amendment) Regulations* (SI 1996 No. 3197), along with the *Telecommunications Act* Class Licence issued on 7 January 1997.

there have been strong suggestions in the *United Kingdom* that such regulatory convergence is desirable (see Section 5 of Annex I), the current regulatory structure in that Member State for the oversight of broadcasting matters is particularly fragmented.

The regulatory approach proposed in the *United Kingdom*, while being sensitive to the "horizontal" aspects of convergence, is nevertheless subject to the criticism that it tends to over-regulate services which are today essentially unregulated.

- A number of Member States such as *Finland*, while clearly defining the scope of "telecoms" services in their legislation, have not clearly defined the scope of "broadcasting services". This is largely a reflection of the fact that the broadcasting sector in individual Member States has been considered synonymous with the scope of the authority granted to its national broadcaster(s). Consequently, "broadcasting" has often developed in a haphazard manner which reflects the different types of networks over which audiovisual signals might be transmitted (*e.g.*, *Ireland*).

2.3 Options for Adapting Current Approaches to Multimedia

The essence of multimedia is not merely the crossing over by providers of information and entertainment services into the provision of one another's content or the deployment of different delivery platforms for the transmission of such content. More fundamentally, the technical significance of convergence is that, because of digitalisation, former differences in content disappear as information is reduced to a common stream of binary bits and bytes which can be transmitted through common delivery platforms. In practical terms, this means that the definitional boundaries between a telephone network, a cable television system and a terrestrial television broadcast network which historically carried different types of content should be fundamentally reconsidered.

Regulatory definitions should not only reflect the technical realities of digitalisation, but also the specific characteristics of the service being delivered. For example, the pervasive nature of free over-the-air television, and its acknowledged impact on society, justify stronger rules relating to content than does the provision of content over the Internet.

In determining the manner in which the current telecoms regulatory framework ought to be adapted for multimedia, the conceptual starting point should be a clear vision of the types of services which fall within the respective spheres of telecoms and broadcasting. This key definitional issue can be distilled into the following five policy options:

Option 1: Maintain the current regulatory structure and decide on a case-by-case basis in which regulatory category new digital services should be placed.

Option 2: Treat multimedia services as falling within the traditional sphere of "telecoms".

Option 3: Treat multimedia services as falling within the traditional sphere of "broadcasting".

Option 4: Treat multimedia services in a *sui generis* manner under future Community legislation.

Option 5: Classify multimedia services pursuant to a new converged vision of the future multimedia environment, that reflects a fundamental re-evaluation of existing definitions of broadcasting and telecoms, but pursue the core element of infrastructure regulation.

For the reasons cited above in Sections 2.1 and 2.2, Options 1, 2 and 3 are unlikely to be sustainable in the long term. Continued reliance on the existing regulatory definitions of telecoms and broadcasting at both the Community and Member State level is likely to create major distortions to investment. In turn, Option 4 is likely to result in greater regulatory tension because jurisdictional conflict will exist across three, rather than two, competitive sectors. Although Option 4 is theoretically capable of a light regulatory regime for multimedia services, the overall effect of a new regulatory category would be to create greater regulatory divergence in response to technological convergence, and subject currently unregulated activities to regulation. In light of the existing controversies which have taken place between telecoms and broadcasting regulators in a number of Member States regarding their respective jurisdictional powers, [272] the addition of a further regulatory category can only increase the possibilities of such discord.

In the view of the Study Team, the adoption of Option 5 is the most appropriate regulatory response for two fundamental reasons. *First*, it is the regulatory option most consistent with the phenomenon of convergence (*i.e.*, the gradual bringing together of sectors rather than their further separation). *Second*, it is the option which is likely to be the most workable, to regulators and market actors throughout the European Union, given the existence of a regulatory distinction between telecoms and broadcasting in the legal regimes of every Member State. The conceptual lines upon which a definitional divide can be erected are considered below.

[272] Especially in *France* (the ART and the CSA), the *United Kingdom* (OFTEL and the ITC) and in *Germany* (the Federal State and the Länder).

Implications for Multimedia

In the view of the Study Team, the phenomenon of convergence brings with it the need for an overhaul of existing regulatory definitions. To this end, it is proposed that an alternative regulatory model be adopted which provides a partial horizontal, cross-sectoral response to the phenomenon of convergence.

The regulatory definitional model proposed by the Study Team would seek to differentiate communications services from broadcasting services. Rather than relying on technical or technology-based definitions, which will always run the risk of being superseded as soon as technology moves on to the next generation of sophistication, the Study Team proposes to adopt a functional approach in drawing the definitional boundaries for these concepts

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The proposed future regulatory model consists of the following working assumptions:

- In the short-to medium-term, the regulatory environment for multimedia services will not be monolithic.

  In the view of the Study Team, the regulatory traditions of telecoms and broadcasting will continue to be fundamentally different in certain key respects for the foreseeable future, which means that in the short-to medium-term they are not susceptible to being regulated in their entirety under a single integrated regulatory regime. Moreover, it would be premature to create a single "converged" regulatory regime when the marketplace is just as likely to be characterised by divergence (i.e., a continuing role for analogue television alongside an explosion of digital niche services and programming) as it will be by market convergence (i.e., most market actors providing a full range of multimedia services).

  The challenge for regulators, however, is to determine those elements which lend themselves to a common "horizontal" or "converged" regulatory approach. The licensing of services and infrastructure in a competitive multimedia environment, it has been suggested (see Section 5 of Annex I), provides a core group of issues which are capable of being addressed by a single regulator.

- Telecoms services should be subsumed into a new regulatory category, entitled "communications" services, while traditional broadcasting services would constitute the other relevant regulatory category.

  The regulatory impetus created by the full liberalisation of voice services and the integration of fixed and mobile services, coupled with the technological ability to provide multimedia services over broadband networks, have created an irresistible commercial momentum for the delivery of a broad range of "communications" services. The form of these services may be audio, visual, data or combinations thereof. Over time, the economic premium currently attached in the marketplace to voice services is likely to decrease, which will mean that communications will be treated more or less as a basket of services offered on market conditions. (Some important market actors have gone so far as to predict that simple voice traffic may amount to a very small percentage of the total traffic carried by major market players in the not-too-distant future).

- Communications services should be distinguishable from broadcasting services by virtue of the contractual ("on demand") and/or interactive nature of the former, and the scheduled programming nature of the latter.

  In a multimedia marketplace characterised by competition, the simplest and most effective way of defining that market is to configure it around the perceptions of the consumer. This approach is consistent with the classic competition law perspective of defining relevant markets. In competition law, for example, relevant product/service markets are primarily constructed on the basis of the

consumer's perception of the substitutability of products and services (so-called "demand side" analysis). From the vantage point of the consumer, the defining feature of both voice services and multimedia services rests in the fact that the consumer can select precisely the time and the form of the communication he/she wishes to make or receive, as the case may be (i.e., "on demand"). The informational or entertainment nature of that communication is irrelevant from the viewpoint of economic regulation.

This contractual or "on demand" element may or may not involve an interactive aspect, although it is envisaged that a definition of "interactive" may include the element of personal selection of a particular service. In the alternative, a narrower version of a communications *service may incorporate the broader notion of interactivity, insofar as the linear nature*[273] *of a particular service is susceptible to change. A hybrid definition of communications services, combining the elements of its on-demand and interactive nature, might also be a workable regulatory option. By definition, communications services would be unscheduled in nature.*

On the other side of the definitional divide is broadcasting, *which should be identified in terms of whether messages or broadcasts are scheduled or unscheduled. The Study Team takes the view that the relevance of a scheduled, as opposed to a non-scheduled service, is critical from both a demand side analysis and a supply side analysis. From the demand side, the consumer clearly adopts a more "passive" posture with respect to a scheduled service. The scheduling element would, in our view, override the contractual element in a situation such as Pay-Per-View. From the supply side, private broadcasters clearly perceive scheduling as a key defining element of their business. Because broadcasting revenues are derived primarily from advertising expenditures, which in turn vary significantly in relation to the scheduled timing and quality of certain broadcasts, the scheduling of other types of entertainment (e.g., video-enriched) or information (e.g., computer enhanced) services would be seen to be competing directly or indirectly for advertising revenues in the broadcasting sector.*[274]

The distinction between "scheduled" and "unscheduled", at least from certain viewers' perspectives, may, become academic in a mature multimedia environment. For example, the ever-increasing intelligence which will be embedded in set-top boxes and navigation systems will allow consumers with specialised interests to be served with tailor-made programming and information packages which are largely independent of scheduling. A particular example of new services which would straddle the scheduled/non-scheduled divide are "push" technology services over the World Wide Web.[275]

In the view of the Study Team, the transmission of tailor-made information, even if it transmitted at regular predetermined intervals, should qualify such transmissions as "communications". Sustaining this regulatory classification, however, does become more difficult where the same type of tailored information is disseminated to a very broad section of the public on a pre-scheduled basis.[276] *Ultimately, the dividing line may need to be drawn in marginal cases by reference to the doctrine of proportionality.*

The growth of Internet communications means that the above nomenclature may bring within the scope of "broadcasting" certain types of fledgling on-line information services which should not in principle be subject to the onerous regulatory requirements of the broadcasting sector. To this end,

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273 Namely, a communication whose essential qualities cannot be modified or transformed.

274 The relative importance of advertising in the commercial television context has been identified by the European Commission's Merger Task Force in its finding that there exists a "Dutch market for TV advertising": *Holland Media Group Case*, OJ (1996) L134/32.

275 "Push technology" has the ability to deliver tailored information to desktops, based on a user's requirements profile, rather than requiring a user to pull the information down from the Web.

276 Such a group, although having a common set of requirements, would arguably not be tantamount to a "Close User Group", as that expression is understood under Community telecommunications legislation.

certain exceptions may need to be created regarding those services which are de minimis in terms of their overall economic impact on the marketplace.[277] *In addition, or perhaps in the alternative, the concept of broadcasting ought to exclude those scheduled communications which consist solely of the transfer of data (i.e., without voice, audio or visual signals).*

- The distinction between communications services and broadcasting services should facilitate the regulatory evolution of the respective concepts of universal service and "public service" mission.

  The proposed regulatory model outlined above would allow the distinctive traditions of universal service and public service, drawn from the respective telecoms and broadcasting sectors of today, to develop independently in response to the demands of the multimedia marketplace. Universal service would continue to be treated, at least for in the foreseeable future, as relating to a basic range of voice-related services. As the Information Society gathers momentum, however, the core issues addressed by today's concept of universal service may be expanded over time to include the provision of certain types of multimedia services falling within the rubric of "communications" services a long equivalent conditions. Similarly, the traditions of public service missions in the broadcasting sector – which include obligations linked to the content of the services provided -- can continue, albeit possibly in a form which is more consistent with the goals of an evolving competitive market (see discussion in Chapter III of the Study) and with individual Member State policy goals.

- The regulation of broadcasting should focus increasingly on the range of public policy issues (especially content-related) which are of ongoing importance to the sector.

  The adoption of regulatory definitions which distinguish between "communications" and "broadcasting" would treat the regulation of broadcasting as a distinct sector characterised by the presence of a broad range of public policy goals, most of which relate to the preservation of certain levels of quality and diversity of content, convergence at the technological level is driving the convergence of regulatory functions at the transmission and service provision levels (in terms of the regulatory requirements which need to be satisfied by all market actors across both the telecoms and broadcasting sectors). Technological convergence, however, does not require the same level of convergence of regulatory functions in matters relating to content controls. Consequently, the communications/broadcasting distinction would be primarily directed towards the identification of those areas of regulation which do not lend themselves to a horizontal regulatory approach.

  The framework set fourth above is given greater weight by the recent amendments to the Television Without Frontiers Directive, which added a definition of "broadcaster" to Article 1(b) of the Directive:

  "... the natural or legal person who has editorial responsibility for the composition of schedules of television programmes and who transmits them or has them transmitted by third parties."

  The imputation of "editorial responsibility" to broadcasters, as an integral part of their nature, highlights the relative importance of content-related issues in the broadcasting world. In the world of communications, by contrast, an infrastructure provider or service provider may do little more than facilitate communications between parties, with little or no access to the production or dissemination of content. Of course, the regulatory model proposed does not imply that the regulation of content will never be relevant outside the sphere of broadcasting. It will continue to have relevance, to the extent determined to be appropriate by individual Member States. However, the extent of State involvement in content-related issues outside the broadcasting sector is likely to be -- and should be -- of a totally different magnitude. The proper application of the doctrine of proportionality will be of major significance in determining which content controls should play a role in the provision of multimedia

277 For example, new Webcast services which may, *stricto sensu*, be considered to be broadcasting services.

services. To the extent that personal selection renders the purchase of on demand services little different from the purchase of a newspaper or a book, there appears to be no compelling policy ground why the system of self-regulation and the primacy accorded to the freedom of speech in the publishing sector should not be progressively assimilated into the regulatory framework for communications services.

3. Conditions of Market Operation: Interconnection and Access in the Telecoms and Broadcasting Sectors

The Regulatory Issues

In a competitive multimedia environment, the key operational issue for all market players will be the terms and conditions pursuant to which they can obtain interconnection and access to one another's networks and/or to one another's customers.

Extensive competitive entry, especially when characterised by niche market players performing diverse network roles, will create the potential for a "network of networks". In such an environment, a wide variety of operators will provide different components of what is effectively a single network (whether switched or packet-switched). The Internet is the prototype of how this network of networks may operate.

The adoption of a coherent policy on interconnection and access for this "network of networks" in a multimedia environment is complicated by the fact that the concepts of interconnection and access in the respective fields of telecoms and broadcasting are the product of many different policies:

(1) In the telecoms field, "interconnection" has come to mean the physical connection of networks needed to ensure "any-to-any" communications. Regulatory policy has been directed towards achieving interconnection with incumbent telecoms operators at cost-based charges. The concept of interconnection has recently been extended in certain Member States to embrace looser configurations of networks. The term "access" is generally used to refer to the relations between service providers and network operators, usually in the context of a service provider obtaining access to a customer of the network operator. In certain Member States and, indeed, under certain instruments of Community law, the dividing line between the two concepts has become blurred.

(2) In the broadcasting field, interconnection has been by and large irrelevant from a regulatory perspective because of the fact that broadcasting has traditionally been a one-to-many service which has not exhibited any signs of interactivity. By way of contrast, "access" has had a number of important social and cultural connotations in broadcasting, most of which relate to the preservation of pluralism. The most tangible manifestation of the access concept is the range of "must carry" rules which apply to cable TV companies throughout the Member States of the European Union. Access, however, will achieve economic dimensions in a multimedia environment (*i.e.*, similar to its role in telecoms) as broadcasters become vertically integrated and assume the position of gatekeepers through their control of conditional access systems. In a limited number of Member States, the issue has arisen whether a more economic concept of access should apply to the networks of cable TV operators, similar in terms to the Open Network Provision concept in the telecoms sector (which has to date been characterised by a network monopoly).

In a multimedia environment, the regulatory challenges are twofold:

⇒ *First*, regulation should preserve and extend the notion of cost-based interconnection for any-to-any communications. In doing so, however, a theoretical model which addresses the real sources of concern in interconnection -- the existence of bottlenecks -- should be developed.

⇒ *Second*, regulation, in providing service providers with access to networks, should not deprive network owners of all the "value " of their networks. To do otherwise would be to restrict network owners to the role of common carriers and would jeopardise their willingness to invest in the roll-out of broadband networks.

3.1 COMMUNITY LEGAL FRAMEWORK FOR INTERCONNECTION AND ACCESS IN TELECOMS SECTOR

The concepts of "interconnection" and "access" are the subject of detailed regulation at the Community level, based on a number of legal instruments:

Interconnection Directive[278]
Draft Access Notice[279]
Full Competition Directive[280]
ONP Voice Telephony Directive (as amended)[281]
Interconnection Pricing Recommendation[282]

(i) *Interconnection Directive*

The *Interconnection Directive*[283] provides a harmonised approach to interconnection in the European Union. It complements the general interconnection obligations imposed on incumbent telecoms operators by the *Full Competition Directive*. The *Interconnection Directive* establishes a minimum set of harmonised rights and obligations in the field of interconnection of public telecoms networks. Because it is based on the harmonisation provisions of the EC Treaty, the Directive's interconnection requirements are broader in scope than the obligations normally imposed under competition rules (Articles 85 and 86 of the EC Treaty).

278 Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of the open network provision (ONP), OJ 1997 L199 /32.

279 Communication from the Commission on the application of the competition rules to access agreements in the telecommunications sector - framework, relevant markets and principle, OJ 1997 C76/9.

280 Commission Directive 96/19/EC of 13 March 1996 amending Commission Directive 90/388/EEC regarding the implementation of full competition in telecommunications markets, OJ 1996 L74/13.

281 Amended proposal for a European Parliament and Council Directive on the application of open network provision (ONP) to voice telephony and on universal service for telecommunications in a competitive environment replacing European Parliament and Council Directive 95/62/EC, OJ 1997 C248/13 (text agreed in December 1997, awaiting signature).

282 C(97)3148 of 15 October 1997.

283 Open Network Provision ("ONP"), a concept used in the *Interconnection Directive,* denotes the system of open and efficient access to public telecommunications networks and, where applicable, to public telecommunications services and the efficient use of those networks and services.

The *Interconnection Directive* is based on three key policies: namely, cost-orientation, non-discrimination, and transparency. The basic terms and conditions pursuant to which interconnection will be provided are as follows:

- Interconnection is a matter for the commercial negotiation of the parties. However, organisations with "significant market power" in a relevant market are subject to additional interconnection obligations. An organisation with a market share in excess of 25% is presumed to enjoy significant market power, unless the National Regulatory Authority ("NRA") determines otherwise.

- The right of service providers to obtain access to an incumbent telecom operator's facilities is also guaranteed. However, based on the *United Kingdom*'s regulatory model, network operators will be able to offer different interconnection tariffs, terms and conditions to different categories of organisation (*e.g.*, fixed network operators as compared to service providers), where such differences can be objectively justified on the basis of the type of interconnection provided and/or the relevant national licensing conditions (assuming that the conditions applied are not discriminatory).

- The *Interconnection Directive* does not require the use of a specific costing model for interconnection tariffs, although they must be oriented towards costs and forward looking. The Long Run Incremental Cost ("LRIC") model is preferred by the European Commission and by Member States (at least insofar as call termination is concerned), but other approaches are not excluded. Although contributions to the net cost of providing universal service may be added to interconnection charges, they must be unbundled from interconnection charges. Accounting separation requirements must also be in place to ensure that these pricing obligations are observed.

- Interconnection disputes will be subject to the supervision and intervention of NRAs. NRAs have the discretion to require the retrospective adjustment of interconnection tariffs. They can also be empowered to hear and resolve (within a defined timeframe) interconnection disputes if the parties are unable to resolve their differences. It is only where interconnection disputes have a cross-border dimension that a special dispute resolution procedure at the Community level is triggered, which is overseen by the European Commission.

- NRAs can require the submission of standard interconnection offers by incumbent operators pursuant to which they provide interconnection to interested third parties (subject to the confidentiality of sensitive business information).

- Incumbent telecoms operators may not discriminate in the interconnection provided to affiliated entities (*e.g.*, a mobile subsidiary) as compared to unaffiliated competitors.

- Essential requirements which constitute justified restrictions on access to, and use of, public telecoms networks and services, are limited to:

  (i) the security of network operations;

  (ii) the maintenance of network integrity;

  (iii) the interoperability of services in justified cases; and

  (iv) the protection of data wherever appropriate.

- There is a policy in favour of European standards in the field of interconnection. The harmonisation of technical interfaces and standards, based on international standardisation initiatives, is also promoted.

(ii) Revised *ONP Voice Telephony Directive*

The stated object of the *ONP Voice Telephony Directive* (as amended) is the harmonisation of conditions for the efficient access to and use of fixed public telephone networks and fixed public telephone services in a competitive environment (in accordance with the ONP rules).

Public network operators are required to make information regarding network access available to NRAs, and to publish other information prescribed by the *Directive*, at least insofar as special or exclusive rights continue to exist in the provision of fixed public telecoms networks and voice telephony services. In addition, organisations enjoying significant market power (as defined by the ONP rules) and operating fixed public telecoms networks and/or providing fixed public telecoms services may not unjustifiably terminate, interrupt, or vary in any material respect, the services which they provide to other organisations.

Access to, and use of, the fixed public telephone network and/or public fixed telephone service may be restricted by the Member States only on the basis of essential requirements, namely: (i) the security of network operations; (ii) the maintenance of network integrity; (iii) the interoperability of services; (iv) the protection of data; and (v) the effective use of frequency spectrum.

The *ONP Voice Telephony Directive* also includes a requirement that organisations with significant market power in the provision of fixed public telecoms networks respond to reasonable requests for access at network termination points other than the commonly provided network termination points listed in an Annex to the *Directive* (referred to as Special

Network Access, "SNA"). Although SNA arrangements are to be negotiated by the parties, they must nevertheless reflect a number of criteria, in particular:

- all charges must be cost-oriented;
- conditions must be non-discriminatory, fair and reasonable for both parties;
- conditions must ensure the greatest possible benefit for all users;
- agreements must be implemented in an efficient and timely manner, in compliance with recognised standards, essential requirements and end-to-end quality of service; and
- details of these agreements must be made available to NRAs on request, subject to the protection of confidential information.

(iii) *Draft Access Notice*

In March 1997, a *Draft Notice on the Application of the Competition Rules to Access Agreements in the Telecommunications Sector* was released for public comment ("*Draft Access Notice*").[284] In its *Draft Notice*, the Commission explained how it intends to apply EC competition rules to interconnection and access issues. The *Draft Notice* is, strictly speaking, not binding on national courts; nonetheless, it remains the basic "operator's guide to legal market behaviour" in the field of interconnection.

According to the *Draft Notice*, the existence of a harmonised regulatory framework for interconnection does not override the application of competition rules to these types of agreements. Until such time as the Member States adopt a harmonised regulatory framework for interconnection, the prevention of anti-competitive behaviour through the application of such rules is essential.

The *Draft Notice* is premised on the general principle that new entrants, at least at the early stages of liberalisation, must be ensured access to the networks of incumbent telecoms operators. The concept of "access" remains undefined in the *Draft Notice*, and appears to encompass a number of different scenarios. Although access is not restricted to physical network facilities, the *Draft Notice* focuses principally on the restrictions which may appear at this level. This focus reflects the fact that incumbent operators will retain *de facto* monopolies, even after formal liberalisation takes place.

284 OJ 1997 C76/9. Scheduled to be released in final form in February 1998.

"Relevant Markets"

The Commission has taken the view that two product markets are relevant when analysing access issues under Articles 85 and 86 of the EC Treaty, namely:

(i) the market for services (defined mainly from the viewpoint of demand substitutability); and

(ii) the market for access (defined as access to the facilities needed in order to provide the services in question).

Beyond this distinction, the Commission does not define any specific product markets; market definition is to be resolved on a case-by-case basis. The *Draft Notice* also does not differentiate between the various kinds of access that are made available for different network functions or facilities.

Infringements of Article 86

According to the *Draft Notice*, the main potential for abuse in the access and service markets is likely to arise from the control of "essential facilities". Although dominance does not always necessarily arise from the control of an essential facility, the *Draft Notice* focuses on those cases where it does.

The *Draft Notice* adopts a broad concept of facilities which are considered to be "essential". Amongst these facilities are the public telecoms network for the provision of voice and/or data, leased circuits and related network terminating equipment, basic data regarding subscribers to public voice telephony service, numbering schemes, and other customer and technical information. Not all of these facilities, however, are incapable of being reproduced at a reasonable cost by competitors. As a consequence, not all of these facilities would be considered "essential" under existing EC jurisprudence and Commission administrative practice.

Also addressed by the *Draft Notice* is joint dominance by two companies operating in the same geographic area (in particular, operators of telecoms infrastructure). In order for joint dominance to exist, there must be no competition between the jointly dominant undertakings. The Commission appears to be prepared to make such a finding not only when the operators in question have established interconnection or other cooperation agreements, but also in cases where only more tenuous economic links exist amongst the jointly dominant companies. The Commission sets forth as examples of joint dominance the cases where access to the local loop is controlled by the incumbent telecoms operator and an exclusively franchised cable TV operator; whether joint dominance exists in such cases will depend on an analysis of the competitive situation in the relevant market, defined on a case-by-case basis.

Abuse of dominance (or joint dominance), which is contrary to Article 86 of the EC Treaty, includes the refusal to provide access to an existing or a new downstream market actor, the

termination of existing access relations, and/or making such access economically unprofitable by charging excessively high or predatory prices, or by establishing conditions which make it more difficult or burdensome for other (actual or potential) suppliers, provided there is no objective justification for such a course of action.

Discrimination is considered to constitute an abuse if undertaken by a dominant (or jointly dominant) operator, unless objectively justified. The requirement of non-discrimination applies to the treatment accorded to different customers and the treatment accorded to customers as compared to the treatment granted to the operator's own subsidiary or downstream service arm. Among the allegations of discrimination which the Commission will examine most closely are those related to network configuration, the number and/or location of interconnection points, and the number of dialled digits.

Infringements of Article 85

The *Draft Notice* recognises that access agreements are essentially pro-competitive, in that they are essential to competition in downstream markets. The Commission, however, also identifies potentially restrictive aspects of such agreements, particularly arrangements to exchange customer and traffic information, as well as interconnection agreements under certain circumstances.

(iv) Interconnection Pricing Recommendation

Interconnection charges constitute a potential entry barrier for new market entrants, often representing 40% of their total expenditures. The most basic interconnection service provided is that of call termination, and the *Recommendation* concentrates on pricing principles for that service.

In its *Recommendation*, the Commission has compiled a list of "best current practice" interconnection charges that should apply until such time as interconnection prices can be properly calculated on the basis of forward-looking long run average incremental costs ("LRAIC").

The recommended prices include the price of terminating a call, at peak time, on established fixed networks, at three different levels :

(i) "Local" level interconnection (*i.e.*, at a local exchange or as near a local exchange as possible); with a "best current practice" interconnection charge between 0.6 and 1.0 /100 ECU per minute.

(ii) "Single transit" interconnection (*i.e.*, providing access to 0.5-1M customers in a metropolitan area); with a "best current practice" interconnection charge between 0.9 and 1.8 /100 ECU per minute.

(iii) "Double transit" interconnection (*i.e.*, providing access to customers on a national network); with a "best current practice" interconnection charge between 1.5 and 2.6 /100 ECU per minute.

The Commission's purpose in identifying these prices, which apply from 1 January 1998, is to alert NRAs to investigate further if a network operator proposes prices falling outside the recommended ranges.

The biggest impact of the *Recommendation* is likely to be felt in two areas where prices are currently out of line with costs. The first is the price paid by mobile operators to terminate calls on fixed networks; these prices are still much higher than the prices for fixed-to-fixed network interconnection. The second area concerns calls between Member States, where the prices charged have been much higher than prices for national calls of the same distance. With the adoption of this *Recommendation*, these two anomalies should progressively disappear after 1 January 1998.

3.2 TELECOMS INTERCONNECTION AND ACCESS RULES AT MEMBER STATE LEVEL

Most Member States of the European Union have enacted rules with a view to regulating interconnection in a liberalised environment. These rules generally follow those contained in the *Interconnection Directive*, although their level of detail and sophistication greatly varies according to each Member State.

The following trends, however, can be gleaned from a comparative study of these rules:

(i) Interconnection is considered to be a matter for commercial negotiations, subject to special regulation in the case of operators with significant market power

The new telecoms legislation approved in *Germany* (the German *Telecommunications Act* of August 1 1996) and *France* (the French *Telecommunications Law* of July 28 1996) make it clear that the details of interconnection negotiations are matters which are best left to the parties, with the caveat that operators with "significant market power", are subject to a special range of mandated obligations.

Also, according to the proposed new *Italian* telecoms law which was adopted during the last quarter of 1997, operators declared to be *in a position of significant market power* by the NRA and which provide switched and unswitched bearer capabilities upon which other telecoms services depend, are subject to special interconnection obligations, they also enjoy special rights to interconnect with other operators.

Similarly, under the proposed new telecoms law in *Spain*, operators with "significant market power" in the relevant geographic market (whether municipal, regional or national), which are authorised to provide public telecoms networks and/or publicly available telecoms services are subject to additional interconnection obligations. Significant market power is presumed to exist where an entity has a market share in excess of 25% of a relevant market, unless the

Spanish NRA determines otherwise. The Council of Ministers (with the previous binding opinion of the NRA) may modify this 25% market share threshold. [285]

(ii) Special Network Access ("SNA") is generally available, at least when establishing interconnection to the PSTN or to a dominant operator's network .

National rules on SNA have not been developed in any detail. The general requirements for SNA are contained in the *Interconnection Directive* and in the revised *ONP Voice Telephony Directive.*

(iii) Operators with significant market power are under an obligation to publish a standard offer, subject to regulatory approval .

The contents of standard offers are largely left undefined in the laws of Member States such as *Germany*, *Spain* and *Italy*. By way of contrast, in *France,* the *Interconnection Decree of 3 March 1997* sets forth in great detail the minimum set of issues that must be addressed by the standard interconnection offers of dominant operators.

National legislation generally permits the application of different interconnection terms and conditions to different categories of operators, as long as these differences are objectively justified. As a result of an amendment to the *Interconnection Decree* in *France*, France Telecom is now required to state these differences clearly in its standard offer.

The scope of the obligation to publish information regarding the terms and conditions of interconnection ("Reference Interconnection Offers") is the subject of a joint document prepared by Directorates-General IV and XIII of the European Commission. [286] *Germany* and *Denmark* were notified by the European Commission in November 1997 that their failure to mandate the provision of a Reference Interconnection Offer by their respective national telecoms incumbents would result in formal infringement procedures. [287]

(iv) Some level of "unbundling" is required

In *Finland* and *Germany*, unbundling is mandated down to the level of the local loop. [288] Generally speaking, however, national interconnection regulations do not specifically mandate the unbundling of intelligent network functionalities (even for dominant operators). The precise level of unbundling necessary in any given case is likely to be determined on a case-by-case basis in most Member States.

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285 The concept of "significant market power", as used in the *Interconnection Directive*, is the subject of clarification before the ONP Committee (Working document for discussion dated 7 November 1997, ONP, COM(97)41).

286 Refer to discussion document on "Reference Interconnection Offers: Terms and Conditions", (ONP COM(97)45, Brussels, 14 November 1997).

287 Commission Press Release, IP/97/954 of 5 November 1997.

288 Not coincidentally, both of these countries are characterised by a situation where the local loop telecoms operator is also the local cable TV operator.

(v) Interconnection pricing varies widely among the Member States

The greatest divergences among Member States exists with respect to pricing standards and the way interconnection charges are determined.

In *Denmark*, *France*, *Germany*, *Italy*, and *Sweden*, the determination of interconnection charges is left to commercial negotiations, subject to regulatory intervention by the NRA which is empowered to resolve disputes and approve the standard interconnection offers of dominant operators. In *Spain*, the maximum tariffs for interconnection with the PSTN of facilities-based providers of basic telephony are mandated by the current interconnection rules.

In the *United Kingdom*, charges for interconnection with British Telecom ("BT") have been traditionally established by OFTEL. This system, however, is in the process of changing. OFTEL proposed, for the period beginning August 1997, to eliminate the criteria that actually determine the level of interconnection charges; instead, OFTEL will establish a broad framework within which BT will be allowed to set its own charges. The degree of control by OFTEL would vary according to the competitiveness of the particular interconnection service in question.

A difference is drawn by OFTEL between:

1. Competitive interconnection services and prospectively competitive interconnection services (all of which are "call origination" services), which will be unregulated (prospectively competitive services, however, will be subject to a cap of Retail Price Index (RPI) + 0%, to prevent charges from increasing in real terms); and

2. Bottleneck and non-competitive interconnection services, which will be regulated, subject to price caps, and divided into two separate baskets (one for call termination services and one for general network services), with the weighted average charge for services in the baskets not being allowed to increase by more than RPI-X each year.

In terms of the actual prices charged, dominant operators are generally subject to the obligation to follow certain standards when fixing their interconnection prices. In the *United Kingdom*, as of August 1997, interconnection charges for call termination will be based on forward-looking incremental costs. [289]

According to the new *Telecommunications Law* in *Italy*, interconnection costs must follow "effective costs", plus a reasonable return on investment. The economic conditions for interconnection must be "sufficiently unbundled" to allow the NRA to monitor compliance with this general principle and to allow the party requesting interconnection to ensure that it is only paying for the interconnection services requested. The LRAIC formula, however, is not clearly required as the basis for calculating interconnection charges.

289 See Oftel's Consultative Document published in December 1996, "Network Charges from 1997".

Under the *Telecommunications Law* in *Spain*, rates for interconnection must reflect "actual costs" and be "sufficiently unbundled". The new Spanish law, however, allows a system of Access Deficit Charges, the scope and form of which are undefined, to be added to interconnection charges.

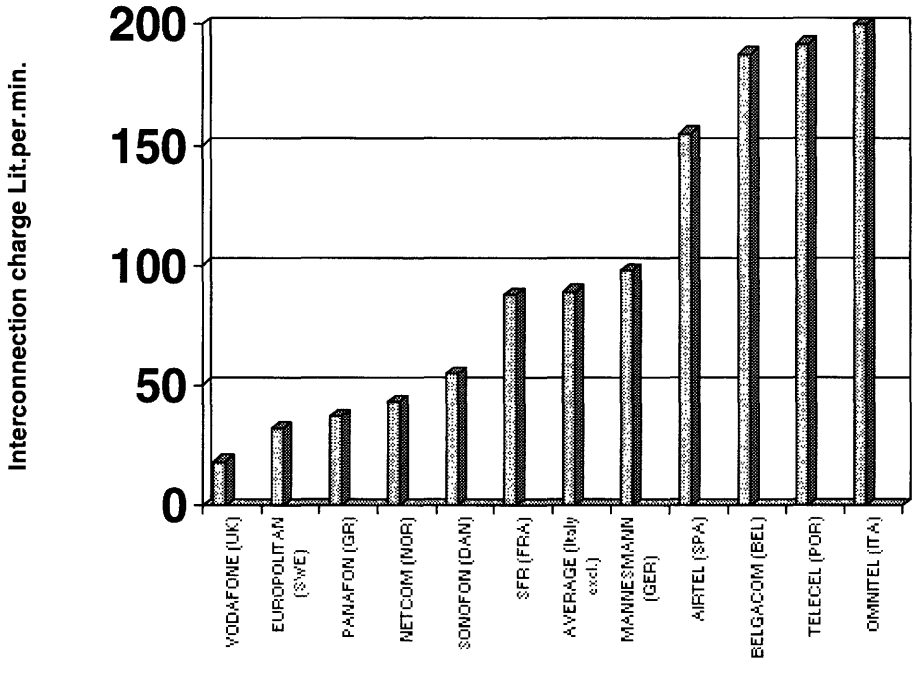
Germany has opted for a formula whereby interconnection prices must be oriented towards the cost of providing efficient service. Costing should be based on LRAIC plus an appropriate mark-up for "common costs" (as far as these costs are necessary for the service provision) and a reasonable return on investment. Interconnection services will not be covered by a price cap before 1 January 2000.

Interconnection tariffs in *France* are based on the effective cost of using the network, plus a mark-up set by the French NRA, of 7.72% for 1998, and a return on capital of 11.75 % prescribed by the French NRA for interconnection with France Telecom. In addition, a system of Access Deficit Charges was adopted, the compatibility of which law may be the subject of challenge under Community law. As of 1999, interconnection tariffs must be based on the LRAIC formula. The ART is currently working on the conditions and implementation of this new cost-based formula.

In *The Netherlands,* an express distinction has been drawn between the pricing which should be used for interconnection (defined narrowly, in terms of termination of a communication on a network) and any other form of requested access to a network (understood as embracing all forms of "originating traffic" on the network of a third party). In the case of call termination, the Dutch authorities have taken the view that interconnection should be charged on the basis of a forward-looking cost formula. In the case of call origination, it is understood that tariffs will be the subject of commercial negotiation.

The variations in interconnection tariffs from Member State to Member State are clearly illustrated in Table VII overleaf, which compares interconnection tariffs terminating on fixed-line networks and originating from mobile networks for a number of commercial mobile operators in the European Union. A broader comparison of key regulatory aspects of interconnection and access policies in the telecoms sector can be found in Table VIII which follows immediately thereafter.

Table VII: Current European Interconnection Charges per minute.[290]



290 Table VII is reproduced with the permission of Airtouch. Tariffs are calculated in terms of Italian Lire per minute, taking into account the relative costs of living in each Member State.

Table VIII: Telecoms Interconnection Issues[291]

Member State	Are IC agreements subject to express regulation or individual negotiation?	Are there special rules for "dominant" operators or industry-wide rules?	Are there specific network locations where IC must take place?	Is there unbundled access to internal network functions?	Is there a preferred pricing formula for IC charges?	Are there rules on collocation?
Austria						
	Agreements are subject to individual negotiation by the parties. However, the Telecommunications Law of 1997 and a draft Decree contains specific rules on interconnection.	There are special rules for "dominant" operators.	No	No but the Ministry of Science & Transport must define by Decree a minimum range of unbundled network elements.	No	No
Belgium						
	Agreements are individually negotiated. A future Royal Decree, scheduled to apply as from 1 January 1998, will set forth the general terms of negotiation.	Currently covered only under general competition rules. A future Royal Decree, to apply as from 1 January 1998, will impose obligations on dominant telecoms operators.	To be agreed by contract.	Provided in the reference offer of the incumbent TO, but unlikely to be mandated.	There is a preferred pricing formula in the IC offer of the incumbent TO.	No

291 Interconnection = "IC".

Table VIII: Telecoms Interconnection Issues (cont.)

Member State	Are IC agreements subject to express regulation or individual negotiation?	Are there special rules for "dominant" operators or industry-wide rules?	Are there specific network locations where IC must take place?	Is there unbundled access to internal network functions?	Is there a preferred pricing formula for IC charges?	Are there rules on collocation?
Denmark						
	Individual negotiations, subject to specific principles found in the Act on Competitive Conditions and IC in the Telecommunications Sector of 12 June 1996, as amended on 10 June 1997.	There are special rules for "dominant" operators. However, in practice an expansive view is taken of "relevant markets" (which means that dominance is less likely).	No	No	Yes. From 1999, the pricing formula will be LRAIC.	Yes
Finland						
	Agreements are subject to individual negotiations, subject to specific rules.	Yes . A very broad view is taken of which parties have "significant market power" (currently over 50%).	No. Unbundling, however, is mandated down to the level of the local loop.	Yes, if reasonable.	TOs with significant market power must formulate a basis for calculating inter-connection charges. The Ministry has announced its intention to follow the LRAIC pricing formula.	No

Table VIII: Telecoms Interconnection Issues (cont.)

Member State	Are IC agreements subject to express regulation or individual negotiation?	Are there special rules for "dominant" operators or industry-wide rules?	Are there specific network locations where IC must take place?	Is there unbundled access to internal network functions?	Is there a preferred pricing formula for IC charges?	Are there rules on collocation?
France						
	Agreements are subject to individual negotiation by the parties. France Telecom's agreement has been approved by the regulatory authorities. A Decree on interconnection has been adopted.	"Dominant" operators have additional interconnection obligations.	Yes. It must occur down to the level of a local switch if technically feasible. France Telecom's agreement also contains rules on the network location where interconnection must take place.	Yes	There exists a three-tiered pricing test: (i) negotiations between ART and France Telecom regarding what constitutes legitimate "historical" costs - (as of 1998); (ii) LRAIC cost model from 1999; (iii) comparative models with other countries if previous options are unsuccessful.	Yes. In the terms specified in Decree on interconnection as interpreted by Avis No 97-9. Virtual collocation is available. France Telecom's offer agreement also contains rules on collocation.

Table VIII: Telecoms Interconnection Issues (cont.)

Member State	Are IC agreements subject to express regulation or individual negotiation?	Are there special rules for "dominant" operators or industry-wide rules?	Are there specific network locations where IC must take place?	Is there unbundled access to internal network functions?	Is there a preferred pricing formula for IC charges?	Are there rules on collocation?
Germany						
	Individual negotiation, subject to specific rules and regulatory review.	Yes. There are special obligations placed on "dominant" operators.	No, subject to principle of non-discrimination. Interconnection should in principle be offered wherever sought unless not technically feasible. Unbundling occurs down to the level of access to the local loop.	Yes, provided the unbundling is: 1) necessary; 2) technically possible; 3) no objective reasons for refusal on the basis of compliance with essential requirements; and 4) operator uses same functions internally.	Oriented towards LRAIC in long term.	Mandated for dominant carriers. Virtual collocation is available.

Table VIII: Telecoms Interconnection Issues (cont.)

Member State	Are IC agreements subject to express regulation or individual negotiation?	Are there special rules for "dominant" operators or industry-wide rules?	Are there specific network locations where IC must take place?	Is there unbundled access to internal network functions?	Is there a preferred pricing formula for IC charges?	Are there rules on collocation?
Greece						
	Individual negotiation, but subject to general principles set out in the law and "interconnection guidelines".	With the exception of domestic competition rules, industry-wide rules apply thus far (or at least to those parties with exclusive rights).	No	No	No, but interconnection charges must be "cost-based".	No
Ireland						
	Primarily a matter for agreement between the parties. The NRA will only intervene in circumstances where the parties have failed to reach agreement.	With the exception of competition rules as they apply to dominant companies, general rules can be deduced from ONP principles as they apply to companies with special or exclusive rights.	No	No	No. The general understanding is that prices should reflect costs.	No

Table VIII: Telecoms Interconnection Issues (cont.)

Member States	Are IC agreements subject to express regulation or individual negotiation?	Are there special rules for "dominant" operators or industry-wide rules?	Are there specific network locations where IC must take place?	Is there unbundled access to internal network functions?	Is there a preferred pricing formula for IC charges?	Are there rules on collocation?
Italy						
	Thus far, individual negotiations, subject to potential regulatory intervention. The Decree implementing the Full Competition Directive entered into force and regulates IC issues.	Yes. "Dominant" operators have specific obligations.	No	No, but there is a general obligation to offer interconnection in a sufficiently un-bundled form.	LRAIC-based costing approach will be introduced (however, pricing principles in the law are very general in nature).	No
Luxembourg						
	The 1997 Telecoms Law contains general rules on interconnection. The development of a specific regulatory framework for IC is in its preliminary stages.	Yes, in the future.	No. The 1997 Telecom Law provides that a Decree will be adopted establishing the point in the network at which interconnection will take place.	No	No	No

Table VIII: Telecoms Interconnection Issues (cont.)

Member State	Are IC agreements subject to express regulation or individual negotiation?	Are there special rules for "dominant" operators or industry-wide rules?	Are there specific network locations where IC must take place?	Is there unbundled access to internal network functions?	Is there a preferred pricing formula for IC charges?	Are there rules on collocation?
The Netherlands						
	Subject to individual negotiations. Since 1 July 1997, disputes are to be resolved by OPTA, the new independent regulator, which is already in operation. Interconnection guidelines were adopted in May 1997.	The current telecommunications law only contains general rules for the "dominant" operator. The draft Telecoms Act contains special rules for operators with "significant market power".	No, but the "interconnection guidelines" require TOs with significant market power to offer interconnection at the level of number exchanges (if reasonable).	No	No. The "interconnection guidelines" do not take a definitive position in this respect.	Collocation, if feasible, should be allowed by the "dominant" operator.
Portugal						
	Subject to individual agreement between operators, with intervention of the NRA where agreement cannot be reached.	Thus far, there are only industry-wide rules.	No	No	No. Practice relies on a historical costs model.	No
Spain						
	Subject to individual negotiations, subject to specific rules in the law (Ministerial Order of 18 March 1997).	There are special rules for "dominant" operators.	Yes	No	No. General principle of cost-orientation of charges, but not per a specific formula.	No

Table VIII: Telecoms Interconnection Issues (cont.)

Member State	Are IC agreements subject to express regulation or individual negotiation?	Are there special rules for "dominant" operators or industry-wide rules?	Are there specific network locations where IC must take place?	Is there unbundled access to internal network functions?	Is there a preferred pricing formula for IC charges?	Are there rules on collocation?
Sweden						
	Subject to individual negotiation, with the NRA being able to intervene where agreement is not forthcoming.	Yes	No, subject to negotiation. Operators with significant market power. However, "dominant" TOs must meet all reasonable demands for interconnection with their own networks.	No	Yes. Cost-based orientation tending to lean towards LRAIC formula. This principle extends expressly to mobile operators, as well as fixed line operators, since 1 July 1997.	No

Table VIII: Telecoms Interconnection Issues (cont.)

Member State	Are IC agreements subject to express regulation or individual negotiation?	Are there special rules for "dominant" operators or industry-wide rules?	Are there specific network locations where IC must take place?	Is there unbundled access to internal network functions?	Is there a preferred pricing formula for IC charges?	Are there rules on collocation?
United Kingdom						
	Subject to individual negotiation with the possibility of regulatory review.	The interconnection obligation is imposed on all operators, but licence conditions for dominant operator are more restrictive.	No. Interconnection must be at a point allowing consumers to choose carrier and allowing carrier to choose how message is routed throughout system (i.e., at a point in the network hierarchy below the regional switch).	No	Yes, cost-based, with a preference for a LRAIC model.	No, where there is an in-site or in-building location, BT will provide access. BT will not provide access to its own ducts or other facilities where this would jeopardise its network integrity.

3.3 THE CONCEPT OF "ACCESS" IN BROADCASTING

Unlike the telecoms sector, in which the concept of interconnection is directed towards ensuring any-to-any communications, the broadcasting sector deals with the issue of "access" only in so far as it reflects the public policy goals of universal availability, fair competition and pluralism. The concept of "interconnection" has been irrelevant in the broadcasting sector because broadcast networks have not been used to convey two-way communications between customers of different networks (cable TV networks which have already been granted the right to provide voice telephony services are the exception to this rule; however, they are likely to be licensed as telecoms service provides in order to be able to do so).

Broadcast regulations often include a variety of "access rights" for the benefit of the public at large. The principal argument in support of such access rights is that the public need to hear a representative range of opinions held by different groups, so that citizens can make sensible decisions regarding political and social issues. Most Member States guarantee certain access rights and have adopted specific legislation to afford certain groups such rights.

Given the essential role of broadcasting in the democratic and social fabric of today's society, it is often argued that the "freedom of speech" doctrine includes a constitutional right of access to broadcasting media. More usually, the case is made for a statutory right of access. Rights of reply also perform a similar function to access rights, by ensuring that audiences hear both sides of a given issue.

More recently, convergence has meant that traditional broadcasting networks are being seen by a range of new market actors as having the potential to provide them with access to consumers for both new types of media services and new information-based services. In this developing environment, access to broadcast networks is beginning to raise policy issues similar to those which have already been considered in the telecoms sector. Requests for such access are already being made by content and service providers. In addition, conditional access technology will mean that an ever-increasing number of broadcasters will in the future be seeking access to set-top boxes operated by what may be little more than a handful of digital delivery platforms. Access to set-top boxes for television broadcasting purposes is governed by the terms of the *Television Standards Directive* (discussed in Section 4 of Annex I).

Access to the content of broadcasters is possible where the content in question is tantamount to an "essential facility" for market actors. Access to content is governed primarily by the application of competition rules on a case-by-case basis and, in certain respects relating to events of particular public interest, by the terms of the *Television Without Frontiers Directive* (discussed in Section 4 of Annex I).

(i) Constitutional Access Rights

The question whether there exist constitutional access rights has arisen in a number of Member States. The nature of access rights has often been the subject of debate in Italy. In 1974, the Italian Constitutional Court held that RAI's public monopoly could only be justified if access were afforded to the political, religious and social groups representing the various strands of public opinion in society.[292] The Court confirmed clearly that the statutory provision of access was required by Article 21 of the Constitution, which guarantees the freedom of expression. The Court thus recognised that it was for Parliament to determine which groups should enjoy access and pursuant to what rules. In *Germany*, the Constitutional Court has interpreted broadcasting freedom to be a constitutional value, requiring in some circumstances positive action by the legislature.[293] The Court held that legislative rules should determine, inter alia, how much time should be allocated to access programmes, how long they should be, and which groups should be entitled to produce them.

(ii) Legislative Rules

In a number of Member States, legislative provisions have been adopted to provide statutory access rights.

In *Germany*, for example, the laws governing public and private broadcasting channels confer rights on the churches and some other denominations to appropriate time for the transmission of their services and other religious programmes. In *France*, a specific legislative provision provides that broadcast time should be given to churches, trade unions and professional bodies.[294]Also, in *Italy*, the Law of 1975 requires that the public broadcaster, RAI, reserve a certain amount of transmission time for the parties and groups represented in Parliament, trade unions, political and cultural associations and other socially relevant groups which request access.[295]

It is also arguable that the widespread obligation to allocate a minimum amount of total programme time to independent productions (refer to Table IX) is in part directed towards broadening the base of society which can have access to broadcasts. For example, in the *United Kingdom*, the 1990 Broadcasting Act places a legal obligation on the ITC to ensure that the Channel 3 licensee will allocate not less than 25% of total programme time to independent productions.[296] An equivalent obligation is imposed on the BBC.[297]

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292 Decision 225/1974[1974] Giur.cost.1775.

293 The *Third Television Case*, 57 BverfGE 295,319-21 (1981).

294 Article 56 of the 1986 Law.

295 Article 6 of Law 103 of 14 April 1975. At least, 5% of television time and 3% of radio time, must be reserved for such access.

296 Section 16(2)(h). The same requirement is imposed on Channels 4 and 5, and domestic satellite channels.

297 Section 186 of the 1990 Broadcasting Act.

(iii) Rights of Reply

Most Member States also provide individuals and organisations with rights of reply. The Television Without Frontiers Directive requires that all Member States provide a right of reply or equivalent remedies to any person whose interests have been damaged "by an assertion of incorrect facts".[298] Rights of reply provide the person concerned with an opportunity to place information before the public; these rights, like access rights, thus indirectly facilitate the expression of a variety of views.

Throughout the European Union, rights of reply are primarily exercised to respond to allegations of fact. Statutory provisions in *France*, *Germany*, and *Italy*, unlike those dealing with access in general, clearly confer legally enforceable rights of reply.

In *Germany*, rights of reply are regarded as protecting the constitutional rights of dignity and the free development of personality.[299] The contribution which their exercise may make to the goal of public discussion is of secondary importance. The provision in the ZDF Staatsvertrag is typical of the German rules; a person or body directly affected by a factual allegation may claim a right of reply.[300]

In Italy, the right of reply can only be successfully claimed against broadcasters when the allegation of fact is untrue.[301] In contrast, in *France*, and generally in *Germany*, it is sufficient for the complainant to allege that the broadcast was inaccurate. A right of reply must be provided unless the reply is known to be untrue.[302] If the broadcasting authority fails to grant a right of reply, or imposes unjustifiable restrictions on its exercise, the right can be enforced through the civil courts.

In the *United Kingdom*, there is no right of reply as such, but complaints of unfair treatment and invasion of privacy may be made to the Broadcasting Complaints Commission ("BCC"). The BCC may direct the broadcasting body to publish its findings, a sanction which bears some resemblance to the compelled publication of a reply.

A number of Member States have thus concluded that access rights are compatible with broadcasting freedom. The contribution which the exercise of such rights makes to informing the public is believed to outweigh the relative interference with the broadcasters'

298 Article 23 of *Council Directive of 3 October 1989 on the coordination of certain provisions laid down by law, regulations and administrative action in Member States concerning the pursuit of television broadcasting activities*, OJ 1989 L298/23.

299 ZDF Staatsvertrag, 122-3.

300 Section 9.

301 Article 10 of Law 223 of 6 August 1990 requires both public and private broadcasters to provide a right of reply in appropriate cases.

302 *The Sudwestfunk State Treaty* and the *Hesse Public Broadcasting Statute* are exceptions to this general rule.

programming freedom. Indeed, statutory access provisions are normally regarded as promoting, rather than restricting, broadcasting freedom.

(iv) "Must-carry" Rules and Access to Cable TV

Only recently in the evolution of the cable TV industry have issues relating to "access" involved the same economic arguments which underlie requests in the telecoms sector. Originally, however, access to cable TV had the hallmarks of a policy based on the preservation of plurality. In the *United States*, FCC rules issued in 1976 required all cable TV operators with over 3,500 subscribers to set aside four "access" channels (one for free public access, another for educational access, one for local government access and a final one for leased access). As the number of subscribers and/or channels grew, these access requirements increased accordingly.

In the European Union, access to cable TV has usually taken the form of so-called "must-carry" rules, which require the carriage of free-to-air television stations, often combined with a "minimum content" requirement for European productions. These "must carry" rules are summarised in Table IX below. In countries such as *Germany*, private broadcasting laws also make provision for the existence of an open channel (Offener Kanal) which can be used by anyone wishing to broadcast.

Access to cable TV networks has recently developed more "economic" connotations, as satellite broadcasters and others have developed an interest in obtaining access for their programming to the customers served by cable TV operators. For example, satellite DTH broadcasters argue that, because cable TV networks are currently the only broadband path to the home, cable TV operators should be required to "terminate" satellite broadcaster traffic. Further, they argue that termination charges should be calculated using the same principles that underlie those used for voice telephony.

The Member State in which this issue has arisen most often is *The Netherlands*, where recent precedent has clarified the extent to which cable TV operators are obliged to provide others with access to their networks under an ONP-style regime, which is otherwise usually associated with the telecoms sector.

In three decisions taken in late 1996, the Minister of Economic Affairs concluded:

- The right of access to cable networks must be considered within the context of Article 10 of the European Convention for Human Rights (freedom of speech) and of Community and national policies with respect to the liberalisation of telecoms infrastructures, telecoms services and media.

- An exclusivity clause which prohibits television producers from entering into other agreements with respect to the distribution of their television programmes is not permissible and is therefore null and void.

- An exclusivity clause which prohibits a cable TV company from allowing certain competitors access to the cable network is not permissible and is therefore null and void.

- Because access to a cable network is more or less the only way to reach consumers of (radio and) television programmes or related services, a cable television network operator may hold a position of market dominance.

- The existence of a dominant position may prevent a cable television operator from denying access to a television producer where the capacity of the cable network is not fully utilised.

- A cable operator may charge television producers a fee for access to its cable network. The existence of a dominant position, however, may prohibit a cable TV operator from charging discriminatory fees for access, unless it has objective reasons for doing so and such differentiation does not inhibit competition.[303]

Market interviews indicate, however, that the indiscriminate application of ONP-style rules derived from the telecoms sector should have a limited role to play in the context of one-way broadcast networks. For example, video is a one-to-many (or point-to-multipoint) service, not an any-to-any (or point-to-point) service. In contrast to voice telephony, there is no network externality involved, i.*e.*, the network does not get more valuable in economic terms to individual users as the number of users increases.[304] However, the ability of networks to carry both any-to-any and one-to-many services may further call in question any argument for the application of ONP-style rules in a future multimedia environment. Similarly, there is no overriding public interest argument supporting communications among citizens where mere entertainment services are provided.[305] Finally, there is no "essential facility" parallel with the networks of incumbent telecoms operators, because the programmer has multiple options to obtain access to customers, including building its own cable DTH satellite, accessing digital terrestrial networks, using telecoms networks (with xDSL technologies), or even getting to consumers through the use of video cassettes.[306]

303 Decisions of 17 December 1996, Staatscourant No. 247 of 20 December 1996.

304 It does, of course, get more valuable to the network operator which relies on advertising for revenues, or is attempting to spread fixed costs over a larger base.

305 The cultural interest which may be promoted by public broadcasters, for example, can be more than adequately served by existing "must carry" obligations on private broadcasters. In a truly competitive environment with access to multiple forms of content, it is arguable that "must carry" obligations may be unnecessary.

306 The final option is no less important from an economic perspective simply because it does not involve scheduled transmissions. Ultimately, the most valuable renewable resource available to a broadcaster is its subsisting copyright over a work, which can be realised just as effectively through the sale of a video cassette as through its direct broadcast.

Consequently, the application of European competition rules would appear to be sufficient to control the potential for abuse without the risks associated with the application of ONP rules to this industry. More recent events in *The Netherlands*, where the issue has arisen before the courts on a number of occasions (see above), suggest that such an approach may be the only realistic means of dealing with the issue of access in such a dynamic environment.

The Dutch government recently announced that the use of ONP-style regulations may not be efficient in dynamic environments such as multimedia. Therefore, it has decided that the issue of access to cable TV networks should be based exclusively on the Dutch competition rules. After 1 January 1998, access to cable networks, which has to date been overseen by the Supervisory Board for the Media, will be transferred to the new Dutch Competition Authority.[307]

3.4 DIFFERENTIATING BETWEEN "INTERCONNECTION" AND "ACCESS"

"Interconnection" is defined in Article 2(1) of the *Interconnection Directive* as:

> *"...the physical and logical linking of telecommunications networks used by the same or a different organisation in order to allow the users of one organisation to communicate with users of the same or another organisation, or to access services provided by another organisation. Services may be provided by the parties involved or other parties who have access to the network".*

"Access", on the other hand, is a broader concept which, although undefined in the *Directive* itself, is generally understood to embrace the full range of requests by market players for access to a network operator's assets (usually to be able to provide a service to the network operator's customers) or to its customers.[308] In doing so, a service provider might wish to incorporate some of the network operators' resources as part of its service to customers (*e.g.*, leased lines) or it may simply need to transit through a network to reach a customer (*e.g.*, a 'gateway' facility).

Empirical research indicates that the concept of "access" has become blurred both under existing Community law and especially under various Member States laws (*e.g.*, in *Germany* and in *Denmark*, where the concept of interconnection is treated as a form of access). This has created a significant degree of confusion for both regulators and market actors alike, given the different range of legal obligations which may apply depending on the regulatory characterisation of what is being provided. Market interviews further suggest that the issue is

307 Staatscourant of 27 January 1997.

308 The difference between the two concepts is implicit in the fact that Directorate-General IV (Competition) of the European Commission had two studies completed for it in 1995, namely: "Competition Aspects of Interconnection Agreements in the Telecommunications Sector" (Coudert, June 1995) and "Competition Aspects of Access by Service Providers to the Resources of Telecommunications Network Operators" (Wilmer Cutler & Pickering, 1995).

becoming more, rather than less, complex, in light of the fact that the regulatory status of a "service provider" and a "network operator" is becoming increasingly harder to draw in light of the different levels of network build-out and configuration adopted by market actors.

The onset of a multimedia environment will, in the view of the Study Team, exacerbate existing regulatory difficulties encountered in the delineation between the two concepts because of the greater range of market actors seeking interconnection and/or access and also the greater range of facilities and services to which interconnection and/or access is sought. Seen in this light, the existing regulatory environment needs to be adapted in such a way as to give effect to the following policy goals:

- on the assumption that the local loop is a contestable market, embrace an economic model of the concept of "access" which allows market actors to determine the price and terms of access on commercial terms free of regulatory review, subject to the application of the competition rules to prevent the abuse of market power (Article 86 of the EC Treaty);

- not undermine the investments of new operators of networks with broadband capabilities by establishing a regulatory model which allows service providers to take a "free ride" on their new investments; and

- identify the policy goal of supporting the provision of any-to-any communications as having overriding public interest, while acknowledging that most forms of one-way communications are less likely to require direct regulatory review because the dynamics of a 'network' in the latter case are not identical in the former.

Bearing these policy goals in mind, the Study Team sees the approach undertaken in *The Netherlands*, where the distinction between interconnection and access has been drawn on the basis of whether calls are being terminated on a network by either a network operator or a service provider ("interconnection") or are being originated on a network in order to provide a service or to reach a customer on another network ("access"), as providing the key elements for workable model for a multimedia environment. What is required, however, is that careful consideration be given in a consultation process as to which elements of service in a multimedia environment are akin to the respective functions of "termination" or "origination" in a telecoms world.

Table IX: "Must-Carry" and Other Programming Obligations in the Audiovisual Sector

Member States	Description of Nature of Obligations or Restrictions on Programming/Access to Programming
Austria	Cable TV operators must carry ORF. ORF is subject, under the broadcasting laws, to the requirement to include a sufficient amount of time for programmes on different subjects, educational programmes, arts, science, family entertainment and sports. Pursuant to a ruling of the Austrian Constitutional Court on 27 September 1995, cable TV operators were able to produce or commission their own programming and broadcast programming on their own networks as of 31 July 1996. Following this ruling, a regulation has been adopted which liberalises the cable TV and satellite sectors. A regulation to liberalise the terrestrial television sector is currently subject to consultation.
Belgium	French Speaking Community: a cable TV operator must carry: a) the public broadcasting service of the French Community (RTBF1 and Tele 21); b) programmes of international broadcasters as specified by the Executive; c) one or more programmes of the public broadcasting service of the Flemish and German Community insofar as a similar obligation is imposed on the authorised cable network operators in the respective Community; d) programmes of authorised pay TV operators (Canal Plus); and e) programmes of local TV channels. Flemish Speaking Community: Flemish cable TV operators must carry the two Dutch language public channels (BRT1 and TV 2); VTM (which operates VTM and Kanaal 2); private broadcasters as authorised by the Executive; and French public channels on a reciprocal basis. French and Flemish communities have prevented cable TV networks from controlling programme services or generating their own programming. The role of networks has been restricted to retransmissions. In Flanders, however, the Decree of the Flemish Community of 20 December 1995 has empowered the municipalities providing cable TV services to participate in companies which operate interactive communications services.
Denmark	If the cable TV operator carries more than eight channels, it must carry the two national public service channels and one local channel. There is no obligation to provide access to the cable network to third parties.
Finland	A cable TV operator must retransmit the public television broadcasts intended for national reception (YLE 1, YLE2 and MTV3) and the broadcasts of YLE which are intended for reception in that operator's area. If several cable TV operators use the same network, they may jointly comply with this obligation. There are a variety of obligations to provide access to third parties.
France	A cable TV operator must carry the terrestrial television services broadcast in its area. There is no obligation to provide access to the network to third parties. There are no restrictions preventing cable TV operators from producing or providing their own programming. Cable TV service providers which broadcast cinematographic or audiovisual works must spend 10% of their turnover on European works from independent programmers (as per the Television Without Frontiers Directive).
Germany	Terrestrial, cable TV and satellite operators must carry the programmes of the two public broadcasters, ARD and ZDF. They must also carry programmes prescribed in the individual

Member States	Description of Nature of Obligations or Restrictions on Programming/Access to Programming
	Länder as being for the general public. Broadcasters must also keep programmes in the ranking order determined by the Landesmedienanstalten. The Länder are planning to build into the National Convention on Broadcasting a "must carry" requirement for channels which already have a terrestrial licence and wish to extend their reach through cable TV networks.
Greece	There is no specific requirement under Greek law for the carriage of other channels.
Ireland	Cable TV operators must carry the RTE radio and television programmes, and it is likely that they will have to carry the new commercial station.
Italy	There are no "must carry" obligations.
Luxembourg	There are no "must carry" obligations nor any "local content" or "independent content" obligations imposed on cable TV operators (other than those set forth in the Television Without Frontiers Directive).
The Netherlands	The "must carry" obligations on cable TV companies require them to carry: a) the three national terrestrial channels; b) the two Dutch language channels from Flanders in areas of "national overspill"; c) local and regional channels; and d) European television programmes aimed at the Dutch public. The Dutch Competition Authorities have been considering whether to apply ONP-type rules to cable TV companies. Until 1997 amendments in the law reversed the policy, cable TV networks could not produce their own programming.
Portugal	There is an obligation to provide access to the cable TV network to third parties based on an access regime. Cable TV operators must also carry the public service channels.
Spain	Must-carry obligation on cable TV operators in the nature of a 40% independent programming requirement. Restrictions on broadcasting of certain sports events on Pay-TV.
Sweden	Cable TV operators are legally obliged to transmit the national public service channels (Kanal 1 and TV2), as well as the commercial channel (TV4). Cable TV operators must also keep one channel available for a local television station if this has been authorised by the municipality in question by the Radio and Television Authority.
United Kingdom	Cable TV operators licensed under the 1984 Broadcasting Act have a "must carry" obligation with respect to the three public broadcasting terrestrial TV channels, namely, BBC1, BBC2 and Channel 4. That obligation does not apply to cable TV operators licensed under the 1990 Broadcasting Act. The 1996 Broadcasting Act, however, reimposes a must carry obligation on cable TV operators and digital broadcasters. There are no formal programming restrictions imposed on cable TV operators aside from the commitment to require 10% of their programming from independent producers (25% of European origin). On the contrary, the general policy is to encourage such activity in programming (although reliance on the programming of BSkyB is seen as restricting their ability in practice to engage in the production of content for use over their own cable TV networks).

Implications for Multimedia

Our review of the existing legal regimes at both the Community and Member State level suggests some confusion regarding the scope of the concepts of interconnection and access. The Study Team therefore suggests that the existing telecoms regulatory framework be adapted as set forth below to render it sufficiently flexible in a multimedia environment:

⇒ *The concept of "access" should embrace all requests by an operator or service provider for access to the resources or customers of other network operators and/or service providers (this would include the origination of the full range of communications on someone else's network). Requests for access should be assessed in the context of European competition rules, especially in terms of Article 86 of the EC Treaty or its national equivalents (i.e., abuse of market power). Measures designed to increase transparency will assist regulators in detecting abusive pricing practices.*

⇒ *The concept of "interconnection" should be restricted to the termination of communications on the network of an operator. Unlike the concept of "access", the availability of which should in principle reflect a competitive marketplace (i.e., a contestable market), there is an overriding public policy in mandating that interconnection be provided at cost in order to ensure "any-to-any" communications. To this end, Community legislation could prescribe that termination to a bottleneck be provided at prices that reflect cost (preferably under a LRAIC formula). In the view of the Study Team, a designated number or address may constitute a bottleneck where the initial caller has no option other than to terminate its communications on that particular designated number or address.* [309]

⇒ *The use of Article 86 to determine the terms and conditions pursuant to which access will be granted may, in the long term, require a determination as to what constitutes an "essential" or "bottleneck" facility for access purposes. It may be necessary, in the longer term, to adopt a statutory definition of such facilities in order to enhance enforcement (as has been done recently in Australia). It would be premature to do so, however, before the multimedia market has been given an opportunity to mature.*

⇒ *Until the multimedia market develops further, it would also be premature to apply ONP principles beyond the scope of access to traditional voice services. For example, in the context of the cable TV industry, the application of ONP rules to the benefit of content providers or service providers seeking access to cable TV networks would probably have a negative impact on the investment decisions of cable TV operators (i.e., it is a low margin business which is subject to competition from a variety of sources, and it is not characterised by a significant degree of vertical integration in the multimedia value chain).*

309 The calculation of "costs" in the context of termination on a mobile network, however, should take into account the fact mobile communications are still offered in most Member States under different competitive conditions when compared to voice services over fixed networks (*e.g.*, mobile services are usually premium price services, there is no existing network infrastructure in place, handsets are often subsidised, and so on). Moreover, if a caller makes an informed decision to forego termination on a fixed network for the premium service offering of termination on a mobile network, the mobile terminating number need not have the character of a n enduring bottleneck.

Moreover, the application of ONP rules is, to date, premised on the existence of a vertically integrated monopoly network provider and, in a liberalised environment, on the enduring nature of market power held by that former monopolist.

⇒ *Any attempt to apply ONP-style rules to the broadcast industry should give due regard to the fact that the structure of this industry differs from that of telecoms market (with infrastructure markets dominated by an incumbent monopolist or, even after the introduction of competition, by a relatively small number of players).*

⇒ *Today, programmers can choose to obtain capacity from a variety of transmission providers such as cable TV operators or terrestrial broadcasters. Some of these players have a global scope of operations, as in the case of satellite providers. In addition, imposing a general obligation on providers of broadcasters to grant access to their networks at standard cost-based rates may result in these operators loosing control of their main competitive advantage, i.e., the offer of quality content packages to their subscribers. They would, presumably, become mere providers of "dumb channels" for content providers; this would have an unpredictable impact on the structure of the value chain in this industry. This would, in turn, provide the wrong investment signals to the market, possibly discouraging investments in broadband transmission infrastructure and delaying (or even preventing) the full development of new interactive services in the Community.*

⇒ *Aside from the application of Article 86 on a case-by-case basis, mandated access to content should be avoided in the absence of strong public policy reasons justifying intervention. Although access on fair and reasonable terms may be appropriate in certain circumstances for programmes which are "perishable" (i.e., of short commercial life, such as large sporting events), the ability of Member States under the revised Television Without Frontiers Directive of 30 June 1997 to prevent broadcasters from obtaining exclusive access to events of "major importance to society" appears to provide adequate protection against the abuse of market power. Where content providers are vertically integrated, analogies with telecoms legislation suggest that they be compelled to provide access to third parties, on conditions no less favourable than those applied to their own services arms or affiliates (refer to discussion in Section 4 of Annex I).*

⇒ *In a mature multimedia market, "must carry" obligations may no longer be necessary. An abundance of content may mean that such obligations no longer serve the social goals they once sought to satisfy. Moreover, in a world of excess digital capacity, carrying other channels may become an economic, rather than a legal, necessity.*

4. Access to Scarce Resources

The Regulatory Issues

Liberalisation measures, having created a regulatory environment conducive to the provision of a wide variety of digitalised services by new market entrants, must be complemented by a commitment on the part of the Member States to promote the more intensive use of public resources such as rights-of-way, spectrum and numbering plans. Because public resources are not infinitely elastic, they need to be managed efficiently in order to accommodate new competitors.

Similarly, individual market actors may, in a multimedia environment, control certain types of tangible or intangible assets to which competitors require access in order to compete in some or all levels of the multimedia value chain. In certain circumstances, these private assets may be tantamount to a "resource" whose relative importance to the market is no less significant than **public resources**. Usually, the existence of such **private resources** flows from the existence of proprietary rights over technology or certain types of information. A notable example of a private resource in the digital era is a conditional access system (or so-called set-top box) which is used in the decoding of digital broadcasting signals and potentially all types of digital interactive services.

The manner in which both public and private resources are managed in a multimedia environment will inevitably affect the evolving structure of the market because of the market signals given to potential new entrants. For example, the market value of access to certain types of scarce public resources may be so high as to erect significant entry barriers to all parties other than those which can "pay and play". Conversely, the sharing of limited public resources at little or no economic cost may result in the "spillover" of cooperation between competitors into other areas which may be inimical to competition. In the case of private resources, competition rules should be applied in a way which realistically opens the market while at the same time differentiating between those private assets acquired by skill (in which case they may be protected by legal rights under intellectual property laws) or by mere circumstance (usually resulting from a "first mover" advantage in the marketplace).

This Section focuses on the ways in which the Member States of the European Union are addressing the management of both public and private resources and the possible ways in which regulation can foster the efficient use of those resources in a multimedia environment, while at the same time encouraging greater competition. The regulatory challenge is to ensure that public resources are available to all on fair and non-discriminatory terms that reflect the value of the resource. The issue for private resources

is to determine the level of regulation necessary to avoid the abuse of bottlenecks, whilst ensuring that regulation does not inhibit market development and innovation.

4.1 PUBLIC RESOURCES

The regulatory traditions of the telecoms and broadcasting sectors are ill-suited to promoting the efficient use of public resources. This is because the resources in question have either been dedicated to the use of an entity operating what was perceived to be a natural monopoly (telecoms) or by an entity or limited range of entities with a public service mission (broadcasting). As such, public resources were neither sold nor leased to those entities at market value, even though these resources conferred significant economic value.

Access to the following types of public resources is examined below:

- the allocation of frequencies;
- access to rights-of-way;
- access to adequate numbers and other numbering resources such as Internet addresses (domain names).

Frequencies for telecoms purposes have until recently been allocated by national authorities throughout the European Union using methods that do not value the spectrum and do not take account of market forces. In the broadcasting sector, the scarcity of available spectrum has been a key regulatory driver and is reflected in the relatively small number of market actors, operating in each national Member State (excluding retransmitted broadcasts). Although clearly a finite resource to which many new market actors seek access, as the Member States have used spectrum to limit the number of market actors providing particular services or services via particular technologies. In addition, spectrum has been artificially limited by Member State allocations for military and governmental purposes. Such allocations have been a major cause of much of the existing cellular telephony frequency congestion.

Many of the inefficiencies of current frequency allocation methods are being overcome by the onset of digitalisation, which is facilitating the more efficient use of spectrum. Nevertheless, the high penetration of wireless services throughout the European Union and the expansion of new communications applications will create pressure on regulators to make even more efficient use of spectrum, minimise congestion and promote market entry through the proper market signals.

Although access to **rights-of-way** is a condition precedent for any new entrant to invest in infrastructure, there are few policies in place throughout the European Union that are designed to facilitate the use of alternative infrastructure already benefiting from access to existing rights-of-way, and even less defined policies regarding access to rights-of-way for new entrants wishing to build their own infrastructure.

Access to adequate numbers was historically the prerogative of the incumbent national telecommunications operator. It has only been relatively recently that **numbering policy** has fallen within the competence of national regulators. The increase in competition has meant that numbering, rather than being a mere technical issue, is now a key competitive resource which must be readily available to new market entrants. Particular numbering issues which need to be addressed include matters such as equal access (or so-called dialling parity) and number portability. Most recently, the broader issue of addressing has arisen within the context of the Internet and raises a new generation of numbering-related problems; some of these arise from the fact that Internet Domain Names have thus far not been allocated by a public entity or regulator, but by an informal private body or bodies.

By way of contrast, the publishing and information technology sectors have thus far not been hampered by the scarcity of any relevant resources in the public domain. The only "scarcity" issue that might arise in the information technology sector would result from the abuse of proprietary standards to restrict the access of competitors to new technologies, services or customers.

4.1.1 Spectrum Allocation

(i) International Methods of Allocation and Regulatory Systems

Spectrum exploitation has a clear international dimension, since the propagation characteristics of some frequencies are such that a signal can cross the globe, let alone national borders (*e.g.*, long wave transmissions). Accordingly, frequency management often involves the interplay of a number of regulatory bodies:

- at an international level, the ITU;
- at a regional level, CEPT; and
- at a national level, the regulatory authorities of the Member States.

(a) The ITU

The International Telecommunications Union ("ITU") is an international body responsible, *inter alia*, for managing frequency spectrum. At its World Radiocommunications Conferences ("WRC"), held every four years, the ITU revises the *Radio Communications Regulations*, divides frequencies between services and establishes co-ordination procedures for bands that are shared by a number of services. The Table of Attribution of Frequency Bands sets the bands and allocates them to particular services. Services are divided into three regulatory categories: "primary status" (*i.e.*, with priority over other services); "secondary status" (*i.e.*, must not interfere with primary services); and "permitted" (*i.e.*, secondary status rights, except at the planning stage).

The ITU's International Frequency Registration Board and its International Radio Consultative Committee are its two major permanent bodies. The former registers frequencies and orbital positions notified by member countries, maintains the international frequency file, deals with interference complaints and ensures that international regulations are respected. The ITU has recently reviewed its operating procedures. The 1989 Plenipotentiary Conference set up a voluntary group of experts to review the methods of frequency allocation, including the definitions of service categories, and to consider ways to simplify the Radio Regulations. In addition, a high-level Committee was established to reassess the structure and role of the ITU, its spectrum management and regulation system, and the role of its permanent bodies.

At WRC-97, held in October 1997, a number of initiatives were approved for the development of a new generation of satellite systems to supply broadband communications services to consumers.

(b) The CEPT

The European Conference of Postal and Telecommunications Administrations ("CEPT") represents the postal and telecommunications administrations of EC countries and most EFTA members. CEPT coordinates the use of frequencies in member countries and establishes joint positions at ITU conferences. Through its European Radiocommunications Office ("ERO") in Copenhagen, the CEPT has a specialised radio communications centre responsible for research related to long-term planning for the use of spectrum in Europe.

(c) Member State Regulatory Authorities

The explosion in the use of spectrum for transmissions over shorter and shorter distances has led to increasing amounts of frequency allocation and use that fall within the control of individual Member States. Historically, the major role of national frequency regulators was to prevent interference, so that services would not be impaired. To ensure the "equitable" distribution of resources, all frequencies, regardless of their propagation characteristics, were treated as falling within the national public domain. Allocations were essentially free (other than for a management or administrative fee), were made on a "first-come, first-served" basis and were subject only to technical conditions. When existing regulatory mechanisms were put under pressure by new services, increasing numbers of users, or new technologies, regulators responded by addressing each new situation individually by modifying the existing rules.

The explosion of demand for spectrum and the difficulty of meeting that demand through incremental changes in existing allocation and management systems have forced regulatory authorities to fundamentally reconsider frequency allocation. Where spectrum cannot accommodate significant increases in the number of service providers, it may act as a brake on the broader attempt to introduce competition into the market.

The United Kingdom

The national government is responsible for spectrum regulation. General coordination of telecommunications policies is undertaken by an inter-ministerial committee, which has several specialised working groups. The National Frequency Planning Group formulates policy for allocating national frequencies, and the International Frequency Planning Group considers the requirements of different spectrum users in preparing for WRCs. Frequency assignments are made by the Radiocommunications Agency ("RA"), the Home Office, the Ministry of Defence ("MoD") and a number of other bodies. The RA issues licences to almost all civil users, except broadcasters (whose licences are issued by the Home Office through the ITC). Many government bodies are allowed to broadcast on an unlicensed basis on bands reserved for their specific use. Some major users (*e.g.*, the BBC, BT and Mercury) are licensed to broadcast on very broad bands, make their own assignments within these bands, and choose their own transmitter sites. A frequency assignment is registered in the national table of frequency allocations. The RA attempts to accommodate all spectrum uses that have no alternative means of transmission, and its assignment policy contains a set of detailed rules tailored to specific applications and user groups.

Licence fees were traditionally tied to the RA's costs. This prejudiced its ability to meet demand for spectrum and was generally considered to distort the market. As a result, the Government has introduced legislation allowing fees to reflect more closely the economic value of spectrum, provide selective financial assistance to accelerate changes in spectrum

usage and enhance a licensee's security of tenure. Further reforms allowing auctioning and administrative pricing are under consideration. Regulatory powers over anti-competitive practices have been retained, and the RA is committed to developing competition and maintaining diversity in spectrum use.

The RA only manages civilian spectrum. The MoD retains control of military spectrum. Spectrum sharing between civil and military users has been introduced to address the spectrum needs of new and expanding civil systems. Whilst the MoD must provide sufficient capacity for increasingly sophisticated military systems (which are also demanding greater bandwidth), retain access to spectrum to meet its training needs, and ensure reliable and secure means of control of service personnel, it recognises the importance of civil uses to the national interest, and supports sharing. The MoD is also vacating some parts of the spectrum, to the extent that its equipment allows. However, migration that would render entire generations of equipment obsolete is precluded by the short-term budgetary considerations.

France

The initial division of the national spectrum is made at the Comité de Coordination des Telecommunications ("CCT") level. The CCT is an *ad hoc* inter-ministerial body, reporting to the Prime Minister, composed of administrations that use spectrum. It has several committees and working groups which co-ordinate between areas. The three key groups are discussed below.

The Commission des Conferences Radioélectriques ("CCR") produces statements of the French position in, and determines the composition of delegations to, ITU Conferences. The Commission d'Etude de la Répartition Géographique des Stations Radioélectriques is responsible for the siting of radio stations. It addresses some scarcity issues, encourages the grouping of stations, provides safeguards and designates a coordinator amongst site users. The Commission Mixte des Fréquences ("CMF") divides the spectrum in accordance with international regulations and is responsible for maintaining the national table of frequency allocations. The Commission Executive d'Assignation des Fréquences ("CAF") makes specific assignments where bands are shared between several services, and records them in the national frequency allocation file.

The *Law of 30 September 1986* established the Commission Nationale de la Communication et des Libertés, which was superceded by the Conseil supérieur de l'Audiovisuel ("CSA") under the *Law of 19 January 1989*. In addition, the Direction de la Règlementation Générale ("DRG") was established, as an independent regulatory body. Administrations belonging to the CCT may use their frequencies without seeking prior authorisation. However, other users must obtain an operating licence from the DRG or the CSA (in the case of broadcasters).

The CSA has full authority over the frequencies assigned to it; the CSA can authorise, set the conditions of, and oversee their use, and can prescribe measures designed to ensure adequate service quality. It also has a consultative role in the assignment of spectrum to the CCT administrations and in the preparation by the Ministry of Posts & Telecommunications of draft standards on telecommunications equipment and techniques.

The DRG coordinates relations with the ITU and foreign administrations, deals with interference complaints and notifies frequency assignments. It also authorises the use of equipment other than that owned by the State or used in broadcasting, specifies and publishes the standards and procedures of approval for terminal equipment, and processes licence applications and prior notifications. With the CCT, it prepares the allocations of spectrum to different services and assigns frequencies allocated by the Ministry of Posts & Telecommunications.

Germany

Only the Federal government has the right to install and operate telecoms equipment, including radiocommunications systems. It does so through the Ministry of Posts & Telecommunications and the Ministry of Defence. There is a clear distinction between civil and military applications. Historically, spectrum organisation was the result of investment and policy decisions by Deutsche Bundespost. It incorporated frequency management into the organisational and executive structure of its telecoms services. The role of Deutsche Bundespost as both operator and spectrum manager led to frequency allocation becoming subordinated to its operational interests. Indeed, all revenues from user fees were part of Deutsche Bundespost's consolidated income.

In 1989, the roles of operator and regulator were separated. Policy goals are set by consultative committees representing all interested parties. Various allocation procedures are used: Deutche Telekom ("DT") frequencies are assigned through official notification; as regards other operators which operate in relatively wide bands, the Ministry awards concessions for which operating fees are charged. Other users are allocated individual, collective or general permits for relatively narrow frequency bands. Individual permits are issued by regional branches of the Ministry for a fee. Collective and general permits are generally free.

The 28 ten-year trunk system concessions and the second fifteen year GSM concession were awarded through an open tender procedure. The GSM concessionaires paid approximately 2,270,000 ECU, and pay an annual fee of 27,240 ECU. Trunk system concessions cost around 28,148 ECU with an annual fee of almost 3,632 ECU per channel. A fee of 8,145 ECU is charged for individual permits, which are awarded on a "first-come, first-served" basis.

Italy

The Ministry of Posts & Telecommunications is responsible for managing civil frequencies, and the Ministry of Defence is responsible for frequencies assigned to the armed forces. Within the Ministry of Posts & Telecommunications, the Direzione Centrale deit Servici Radioelettrici allocates frequencies. The Ministry itself represents Italy in international organisations and notifies frequency allocations.

Licences for radiocommunication services are granted primarily on the basis of technical criteria. Other criteria include the area served by the operator and transmission power. A two-part procedure is used for allocation: spectrum planning, followed by assignment on a "first-come, first-served" basis. Allocation on a "first-come, first-served" basis is generally used for "new" resources, as an essentially temporary expedient. However, once regulations are in place they are difficult to change, and may remain in force indefinitely (albeit in an amended form).

Denmark

Danish frequency management policy has two objectives: to ensure the efficient use of frequency through active administration; and to contribute to the framework for competition. In keeping with the liberalisation goal of providing consumers with the best and cheapest telephony, frequencies are offered free of charge (other than administrative fees based on actual administration costs). Every two years, the Minister of Research & Information Technology establishes the usage and priorities for the following five year period. The National Telecoms Agency ("NTA") is responsible for day-to-day frequency administration, and makes a submission to the Minister for the five year plans.

To foster the most flexible frequency planning, the following range of administrative methods are used:

- public tendering;
- administrative redistribution;
- requirements for migration to more effective uses or technology;
- administrative withdrawal;
- increased fees; and
- increased administrative pricing.

The Minister specifies which method is to be used and ensures that the method adopted is no more radical than necessary, given frequency scarcity. He or she may prescribe the method for an individual component of the frequency plan or geographic area. The military are allocated certain parts of the spectrum. If the military requires more frequencies, it must apply to the NTA. The Ministry, NTA and broadcasters agree annually on the frequencies to be allocated for broadcasting purposes.

(ii) Technical and Economic Issues

The economic characteristics of spectrum as a scarce resource reinforce its heterogeneity and finite capacity. Technical progress, coupled with rapidly escalating demand and regulation, have led to both a spectrum shortage and demand-driven pricing. The development of "scarcity" pricing for spectrum, in the absence of specific and explicit pricing principles, raises the risk of poor resource management; the State has no mechanism to protect consumer interests and users have no incentive to allocate the resource in the most efficient or effective way.

The propagation characteristics of different frequencies mean that there are two types of heterogeneity that cannot be fully overcome by technical means. The higher the frequency, the less it will propagate beyond obstacles and the greater the separation that must be allowed between channels. Access to the "best" frequencies minimises equipment costs. Technical progress has made it possible to modify the ways in which spectrum can be used by expanding the spectrum that can be exploited (*i.e.*, higher and higher frequencies), by reducing the separation required, and by reducing the cost and size of equipment.

The most striking feature in spectrum allocation has become scarcity, and the increasing competition to use particular parts of the spectrum. This scarcity is neither general nor homogeneous, since it is confined to certain frequency bands. In addition to technical development and increasing demand, the effects of deregulation have highlighted the scarcity of particular frequency bands. For example, a recent study reviewed the amount of unused frequency in the two GSM bands. The distribution analysis showed that 80% of the

930-960 MHz band and over half of the 960-3000 MHz band are allocated to broadcast and government use.[310]

The evolution of regulatory frameworks reflects the changing political environment, favouring market mechanisms and competition, and making it possible to accelerate the development of innovation and achieve a better correlation between supply and demand. In addition to opening access to spectrum, there is a clear trend towards liberalising its use (*e.g.*, the elimination of public broadcasting monopolies). For example, a number of Member States now have regulatory systems that either allow or actively encourage wireless local loops, as a means of breaking traditional local loop monopolies, to encourage advanced telecoms services and to reduce the cost of universal service. Access to spectrum is vital to the success of wireless local loop, since spectrum will determine the range and capacity of the system, and, to some extent, the applications which can be provided (*i.e.*, broadband).

Despite the significant market changes in spectrum use, the principles governing resource allocation and management have remained relatively stable. It is almost as though the mechanisms to introduce competition were created without consideration of the potential for bottlenecks resulting from spectrum scarcity. The problem has arisen because spectrum management rules were developed in an environment of relative abundance, and were more concerned with controlling already-allocated frequencies than providing a cohesive approach to allocation. There are, accordingly, serious questions about the compatibility of competitive market-style frequency allocations and management rules established to manage public activities in a multi-operator environment.

The existing frequency allocation processes operating across the Member States do not appear to lead to the most efficient resource allocations. If spectrum is free, there are no price signals indicating its intrinsic value to users. Wastage, in the circumstances, seems inevitable. For example, radio wave systems will always be preferred to cable if the transmission medium is free. Frequency will be more heavily used whether or not it has a positive monetary value. However, a lack of value tends to slow the development of technology that intensifies the use of the resource (particularly since technology making the most efficient and effective use of spectrum tends to be more expensive). Users with adequate available frequencies have little incentive to use efficient (and expensive) technology. Conversely, those with insufficient spectrum will put greater effort into developing efficient systems to make the best use of their available resources. In all Member States, first-comers remain particularly favoured by the existing regime of access without payment. Late-comers have to be satisfied with limited access to "holes" of spectrum still remaining in allocation plans.

In its 1993 paper on The Economics of Radio Frequency Allocation, the OECD concluded that regulation (at least at the international level) is necessary to avoid interference, and

310 OECD publication, "The Economics of Radio Frequency Allocation", 1993.

favoured the standardisation of equipment and harmonised national frequency plans. It found that regulation that establishes a zero price for spectrum is incompatible with innovation and the increasingly efficient use of spectrum.[311]

(iii) Spectrum Policy

As the momentum of liberalisation and competition in the provision of multimedia services grows and demand increases exponentially, resource management issues become central. In a multimedia environment, spectrum management has the capacity to either inhibit or facilitate development and change. Despite digitalisation, and the spread of other spectrum-efficient technology, the pressure on spectrum is maintained by multimedia applications that are increasingly spectrum-intensive. Clearly, the economic implications of spectrum allocation must be a central part of policy making, alongside traditional technical efficiency criteria.

Generally, the more spectrum made available, the lower the development and investment cost for its effective use and the cheaper the service provided to the customer. Current debate centres on determining the most appropriate mechanisms, whether market driven or otherwise, for the adoption of forward-looking spectrum allocation, migration and "refarming" policies. Recent reviews of spectrum allocation practices have, universally, accepted that the traditional "first-come, first-served" approach cannot be sustained in the face of increasingly heavy use of spectrum. However, there is little consensus regarding the appropriate approach to be adopted for the future. The approach taken has varied between Member States, although most have accepted that spectrum management must be part of overall communications policy, and cannot be treated as a purely technical issue. The pressure on scarce resources created by the spread of new digital services is focusing attention on the market value of spectrum. Where primary frequency allocation has been conducted competitively (*i.e.*, through auctions or competitive bids), there have been multiple applicants for each frequency. Similarly, where frequencies can be assigned or sold, a healthy secondary market has developed.

The first official acknowledgement of the need to alter policy to reflect this approach came in the opening address of the Secretary-General of the ITU 1992 World Administrative Radiocommunications Conference, where he stated:

> *"It is no longer in question that frequency spectrum is an important economic resource. In view of congestion and scarcity, there is increasing interest in apportioning frequency rights in accordance with economic value. Some economists hold that nothing short of a market system can reflect the economic value... and achieve most efficient use... little consideration has been given as to whether or how*

311 OECD publication, "The Economics of Radio Frequency Allocation", 1993 at p. 41.

a market or fee system might be helpful on an international scale. It will be interesting to see the results of national studies and trials."

(iv) Methods of Allocation

Competing demand for spectrum is most evident in the frequencies most suited to new uses, especially the high bandwidth usage associated with multimedia applications. Whilst the trend in spectrum planning is to allow sharing, it is not always possible. There is a clear distinction between exclusive frequency allocation systems and frequency sharing systems. The number of operators in exclusive systems must be fixed, since the bandwidth is divided into blocks. Systems with dynamic frequency sharing do not necessitate a set number of operators. However, to maintain quality of service it may be necessary to limit the number of operators. In exclusive systems, mechanisms are needed to identify the most appropriate use. Regulators are, increasingly, looking to market valuation methods when making these decisions.

There are at least six methods of allocating spectrum. The philosophical differences between them essentially hinge on the issue of who should benefit from the fees charged. Under a system based on selection on merit, the fees benefit the ultimate consumer. In the case of resale of licences, the benefits pass to the licence holders. In the case of lotteries, the rent is appropriated by the winner, as a form of windfall profit. In instances of "first-come, first-served", the benefit may be appropriated by the users of the spectrum. Finally, the rent derived from spectrum auctions should benefit the government. The four principle methods of spectrum allocation are discussed below.

1. "First-Come, First-Served"

Allocation on a "first-come, first-served" basis amounts to a "rationing through time" approach. The price charged is, in economic terms, a measure of the time spent "waiting" to be able to use the resource. There is no limit on the quantity that an individual may obtain. For this reason, quotas are normally imposed. Assignment on this basis favours applicants with the best access to information or who are able to wait. It is often linked to "qualification standards" that make it possible to limit the range of potential candidates and then select them on the basis of merit. Merit-based selection requires an evaluation of the requirements or qualifications of each applicant and implies distribution to as many applicants as the available supply allows. This method of allocation is widespread, with regulators often assigning frequencies to the "best qualified" first applicant.

There are many disadvantages to this approach, despite the fact that it has been widely used in the Member States. From an economic point of view, there is no guarantee that the first (qualified) applicant will make the best use of frequency. In addition, the process encourages applications to be lodged long before technically efficient equipment is developed, forcing the use of technological solutions that leave much to be desired from the point of view of spectral efficiency.

2. Tender

Call for tender procedures establish a market where the authorities define the specifications to be met and then award the licence to the bidder, which minimises costs and prices within the constraints prescribed. In this sense, calls for tender can be considered to be a process of selection on merit. This method of allocation has been widely used in many Member States, especially for the allocation of spectrum for GSM licences (including those for DCS-1800 systems). To distinguish between "directly competing" candidates (and assuming that objective criteria can be defined), selection on merit seems to be an effective method of allocation. Although costly, lengthy and not necessarily impartial, it seems to be the one most likely to meet predetermined objectives. In cases with multiple criteria, it is generally cheaper and easier to use selection through the market (*i.e.*, auction) or random selection (*i.e.*, lottery among eligible candidates that satisfy the qualification threshold). In general, auctions or lotteries seem to be more objective than attribution on merit even if neither of them is free of the risk of "corruption", since the choice of "eligible" candidates can always be made in a discretionary manner. However, the risk of corruption is the greatest in the final phase of selection if selection is based solely on merit.

There have been a number of instances where a user of spectrum agrees to transfer, generally without monetary award, part of its frequencies to one or more other users. Such agreements are usually between public entities. The body responsible for managing frequencies reserved for commercial use should negotiate the re-allocation of radio waves, and assign them to civil uses whose development has been hampered by a shortage of frequencies. This is particularly common for frequencies that have been assigned for military use. In *France*, the *United Kingdom* and *Italy,* bands of military frequency have been, or are in the process of being, re-allocated for use in public cellular networks. In most Member States, rights of use are granted for limited terms. The transferability of rights depends on the original method of allocation. Generally, where a right was attributed by lottery or auction, it may be sold. However, where allocation was on a "first-come, first-served" basis, rights of use are not generally transferable.

Where rights of use are allocated through a lottery, the government has to identify the lots, define the concession clauses and organise and conduct the draw. If renewal procedures are determined initially, the authorities need not intervene in transfers until the concession expires. With a lottery procedure, the eligible candidates all have an equal chance of selection. The allocation of licences by lottery is being increasingly questioned throughout the world, because of the number of speculative applications filed and the speculation that accompanies the subsequent transactions.

3. Auction

Sale by auction theoretically maximises state revenue. However, some countries do not believe that the primary reason for "competitive bidding" should be revenue maximisation. This approach to allocation benefits those who are able and willing to pay the most. There are a number of different types of auction that can be used, including the following:

- the traditional auction, where bids are oral, start low and increase until the highest bidder "wins" and pays the price at which the second highest bidder dropped out;
- second-bid auctions, where bids are written, each bidder states a price and the highest bidder pays a price equal to the second highest bid;
- a variation on the traditional auction, where the bids are written and the highest bidder "wins" at the price he has stated; or
- "Dutch auctions", where the auctioneer announces a (high) starting price and then reduces it until at bidder accepts the price.

The *United Kingdom* used a "hybrid" procedure for the allocation of the ITV television channels and Channel 5 (both frequencies and operating licences). It was something between a request for tender and an auction sale. A number of Member States are considering making greater use of the auctioning process in particular circumstances. For example, *The Netherlands* is using an auctioning process to allocate DCS-1800 numbers (as is likely to be the case in *Italy*). In both the *United Kingdom* and *Germany*, a number of market actors have long argued in favour of wider use of allocation procedures that introduce elements of market criteria. They argue that auctions have a number of undeniable advantages, since they are rapid, inexpensive, flexible and have a relatively small degree of uncertainty. They should also facilitate risk capital funding of the investment required for the development of new technologies.

However, there is debate over the suitability of auctioning as a general policy for frequency valuation, particularly in the context of broadcasting. The public interest issues arising from the fact that broadcasting involves the carriage of content, the diversity and quality of which must be protected or preserved, are difficult to reconcile with the economic justifications for auctioning. It is argued that there is also a risk that uses of spectrum with significant social value would be put under pressure by other uses with more easily calculable economic value. For example, it seems unlikely that financial and economic criteria will be introduced. These factors are clearly also going to be relevant to increasingly content-oriented multimedia applications.

Those opposed to the widespread use of an auction procedure argue that it would lead to appropriation of the greater part of the spectrum by very large enterprises, thus endangering competition. For example, in the UMTS debate, many industry participants are arguing that auctions tend to overprice spectrum, create uncertainty and undermine the development of a healthy industry. The majority of national users are opposed to auctions.

4. Administrative Pricing

Administrative pricing is most suited to circumstances in which demand exceeds supply and in which users or potential users have genuine technological alternatives which are available and transferable. The "comparative" basis of the approach means that regulators must make judgements about allocation, rather than apply precise objective criteria. Value will vary significantly depending on the availability and prices of alternatives. Generally, technological alternatives from which marginal values can be derived are likely to be most evident in congested areas (*i.e.*, where administrative pricing is required). However, the rapid evolution of much technology suggests that marginal values are likely to be highly unstable.

The current approach to telecom spectrum allocation in the *United Kingdom* is based on the administrative pricing model. Operators argue that administrative pricing is most suited to circumstances where new spectrum is made available for new purposes, since this is the context in which alternative choices are likely to be meaningful. However, an administrative pricing mechanism is likely to fail when different users, confronting different choices in a non-competitive way, seek access to the same spectrum.

(v) Trends in Resource Allocation

Whilst all of the spectrum management reviews that are either underway or have been completed by the Member States have a common goal of maximising efficiency, the approaches that have been (or are to be) adopted vary significantly. There appears to be much common ground at the level of general principle, insofar as all Member States acknowledge the need for greater flexibility in allocation procedures so that rights can be reallocated speedily without jeopardising planning objectives. By and large, it is universally recognised that spectrum has an economic value, and that it must be taken into account in its allocation.[312] However, differences of opinion are most pronounced on the following three issues:

- the type of mechanism that should be used to make users aware of the value of spectrum (*i.e.*, lump-sum tax payments or quasi-commercial systems, like auctions);
- whether spectrum should be paid for by all those who use it; and
- whether the same rules should be applied to all end-users (*i.e.*, those who have alternative means of transmission and those who do not).

312 *Denmark* is a notable exception to this rule, showing no indication that it is willing to depart from its policy of charging only administrative fees for spectrum use.

The differences in approach to these issues have highlighted the fact that changes in spectrum allocation procedures will require examination of the relationship between the regulator and users. It may well lead to a change in the nature of the property rights enjoyed by users.

1. Factors Emerging From Recent and Current Reviews

Pressure on spectrum availability has now reached the point that "traditional" methods of allocation are widely perceived to be wholly inadequate for a multimedia environment. Objective and transparent procedures for assessing requirements and demand are essential. This transparency also needs to prioritise "use" (*i.e.*, service type) rather than "user" (*e.g.*, many spectrum allocations to public broadcasters are linked to the identity of the broadcaster rather than the provision of the services). Long-term planning must take account of technological change, and especially emerging multimedia services. There is general consensus that the new procedures must not become a means simply to generate additional tax revenue. However, it should be noted that most spectrum reviews and proposed new valuation systems require the State to recover rent from the exploitation of spectrum.

Identification of a single selection criterion has proved to be virtually impossible. The factors that have to be considered include:

- priorities for spectrum use;
- principles relating to resource use;
- socio-economic factors;
- possibilities of using resources other than spectrum;
- economy and efficiency of spectrum; and
- the potential for spectrum sharing and transfer and migration.

There is also an important policy issue in identifying the "efficiencies" intended to be maximised. Economic efficiency means guiding resources to their highest valued use at the lowest cost, using the best technologies, to maximise customer satisfaction. However, it is often interpreted to be little more than the technical criterion used by engineers, which is a poor indicator of both social utility and the economic interests of users. In the *United Kingdom,* the policy focus is on supporting the introduction of spectrally efficient systems, technical innovation and greater spectrum sharing, the shutdown of obsolescent products and services and the re-farming of associated spectrum.

The proposals for spectrum "pricing", thereby eliminating free access, generally have two levels (*i.e.*, administrative costs and the value of a scarce and useful resource). The former, aimed at ensuring that each user covers this administrative cost, has been seriously discussed in *Germany*, as a first "tier" of charges. Alongside this, auctions have been considered to represent the best way in which to determine the value of frequencies (*i.e.*, representing either the intrinsic value of a frequency or the opportunity cost of using

alternatives). The favoured approach in *Germany* is to operate three allocation systems together: auctions (to establish market prices to be used as benchmarks for non-commercial use); consultative fee setting (the price being essentially a compromise, more than a real market price); and administrative pricing.

There is general consensus that spectrum licences should be granted for fixed terms, should be transferable and should be issued separately from other authorisations (*e.g.*, authorisations to supply telecommunications services). This would allow frequencies to be licensed for shorter periods, so the fees could be adjusted during the longer term of the other authorisation to reflect the state of the market.

2. Transfer of Spectrum and Migration

There is little doubt that some spectrum is currently being used inefficiently, that the introduction of market-driven pricing would encourage some incumbents to release spectrum, and that it could then be transferred to other users to be applied to more efficient ends.

This presupposes dynamic arrangements in which spectrum can be readily reallocated and transferred and that the transaction costs in doing so - financial and other - are small compared with the longer term efficiency gains which result. This is clearly true in some contexts, but not others. Transaction costs occur for a number of reasons. There may be substantial non-price barriers which restrict the ability of users to transfer spectrum, even if pricing signals tell them that this is the most efficient course of action.

Changes in ownership arrangements can be particularly disruptive in industries which are built on fixed assets, such as telecoms, or which have historically been structured in a way that makes the division of assets, including spectrum on which other commercial activities may depend, problematic. The whole structure of property rights in this area is unlikely to have been established so as to facilitate transfer transactions.

Such difficulties are not insurmountable, as the transfer of licences between terrestrial television broadcasters in the *United Kingdom*, whose principal assets consist of creativity, indicates.

However, there are often formidable difficulties associated with the transfer of spectrum between telecommunications companies, for example, whose principal assets are difficult, sometimes impossible, to replicate. The transfer of spectrum between wireless telecommunications providers presents social and technical challenges which are quite different from those associated with the transfer of spectrum between, for example, different PMR users.

There is also a significant policy difference between users for whom spectrum is a peripheral part of their business activities and those for whom spectrum is an integral part. The spectrum held by a Regional Electricity Company or taxi firm is peripheral to its core business, and can be readily separated from the other assets of the business. This is not the case for many public telecoms operators, for whom the transfer of spectrum means the sale of all assets and the winding up of their business. The transaction costs incurred in the latter situation are of a different order of magnitude and could involve the loss of the telephone service to many millions of users. The only means by which the Government could avoid such costs would be to require the licensee to transfer the assets of the business, or to exercise some form of compulsory purchase power. Since these options are unlikely to be politically or legally acceptable, certain types of spectrum are likely to be relatively difficult to transfer during the lifetime of the business using them. Opportunities may arise as assets are exhausted or made redundant.

Both the *United Kingdom* and *Denmark* have adopted refarming elements in their spectrum management policies. It provides both the means and the incentive for increasingly efficient use of spectrum. For example, the *United Kingdom* must decide on the timing for the closure of analogue television services (and the release of their frequencies) by the summer of 2002. These frequencies could be used for a variety of services, not only digital terrestrial television. The current MVDS trials will increase the pressure on broadcasting frequencies, as will broadband Interactive Multimedia Services.

Migration is proving to be a complex and potentially expensive process in all Member States. For this reason, regulators only migrate users from parts of the spectrum that are particularly congested. The spectrum for broadband and other multimedia applications is gradually being cleared. In the *United Kingdom*, the RA is attempting to balance the costs of migrating and congestion. For example, the cost of migration to vacate frequency for audio broadcasting was calculated to be about 29m GBP (19,168,014 ECU) and the cost of lost opportunities due to congestion of the frequencies used for fixed links was estimated at over 31m GBP (490,000 ECU)[313]. Much of the RA's planning focus is on relieving congestion. The four areas of heavy congestion are PBR (particularly in urban areas), mobile telephony, terrestrial broadcasting (new national services can only be digital) and fixed links (in telecommunications trunk networks). The congestion problem for mobile and trunk networks is particularly acute. In mobile services, the RA has introduced shared channels for low-traffic users, promoted the use of spectrum-efficient services, advanced the introduction of digital technology and assigned narrowband channels. In fixed services, the RA has moved users to less congested higher frequencies (when technology permits), encouraged the development of technology and has started to match required link lengths to bands

313 Radio Communications Agency, "UK Spectrum Strategy. Strategy for the Future Use of the Radio Spectrum in the UK", 1997 at p. 22.

As a result of their migration and transfer reviews, many Member States are considering the underlying bases on which they allocate commercial, governmental and military spectrum. Currently, many of the frequencies that are ideal for multimedia applications are being used by military organisations. The review recommendations range from frequency sharing to migration and "out-sourcing" of some military functions (as the *United Kingdom* is beginning to do). Similarly, the reviews have exposed the imbalance between the amount of spectrum allocated to broadcasting and telecoms uses. There is a clear trend amongst regulators to encourage analogue broadcasters to migrate to digital frequencies, freeing up the old frequencies for telecoms uses. This would re-balance the allocation.

An overview of the existing frequency allocations, based on a representative number of Member States, is found in Table X below. Table X breaks down existing frequency allocations in terms of their particular use (*i.e.*, telecoms, broadcasting or governmental), expressed as a percentage of the total spectrum allocated.

Table X: Spectrum Allocation Usage

Member States	Usage		
	Telecommunications	**Broadcasting**	**Government Functions**
Denmark	45-60%	30-40%	10-15% (military)
France	30/960 MHz band -- 15% 960-/3400 MHz band -- 10%	30/960 MHz band -- 40.9% 960/3400 MHz band -- 2.9%	30/960 MHz band -- 44.1% 960/3400 MHz band -- 87.1% (Defence, Home Affairs, Civil Aviation, etc.)
Germany	Of the 50% of the total available spectrum for civil use, 45% is used for mobile communications, 30% for fixed communications and the remaining 10% is used for other applications.	Of the 50% of the total available spectrum for civil use, 15% is used for broadcasting purposes.	Of the remaining 50% of the total available spectrum, 10 % is reserved exclusively for military usage, while the remaining 40 % of the total spectrum is for both military *and* civil uses.
Greece[314]	5-30 MHz; 905-915 MHz (GSM mobile stations); 950-960 MHz (GSM base stations); 1710-1785 MHz (DCS-1800); 1805-1880 MHz (DCS-1800) 1880-1900 MHz (DECT);Estimated 12% of total available spectrum.	21-66 MHz (UHF); 87,5-108 MHz (FM) 174=230 MHz (TV); 500-1600 MHz (MW) 1.5-2.0 GHz (plans for digital radio) Estimated 71% of total available spectrum.	5-30 MHz ;67-69 MHz;156-157,45 MHz (GMDSS) 160-162 MHz (GMDSS); 415-526 MHz (GMDSS) 1525-1559 MHz (INMARSAT); 1574,42-1576,42 MHz (INMARSAT); 1626,3-1660,5 MHz (INMARSAT); 1980-2025 MHz (INMARSAT-P) 2160-2200 MHz (INMARSAT-P) ; Estimated 17% of total available spectrum.

[314] The percentage figures for *Greece* may vary in practice because: (1) a number of frequencies assigned for relatively minor purposes (*e.g.*, radio links, paging radio navigation and so on) have not been included; (2) certain frequencies assigned for telecoms are used for broadcasting purposes and *vice versa*; (3) the common use of the 5-30 MHz frequency assigned to telecoms/government has been apportioned on a 50/50 basis; and (4) the percentage allocation above does not include plans for digital radio to cover 1.5-2.0 GHz and satellite communications in excess of 3.0 GHz.

3. Current Issues

There are a number of current frequency management issues that are having, and will continue to have, a significant impact on multimedia development, including:

- satellite broadcasting;
- wireless local loop; and
- UMTS.

Satellite Broadcasting

At the October 1997 WRC-97, steps were taken to improve the rules for Broadcast Satellite Service ("BSS") and the administrative practices for satellite registration. Each of the particular issues considered at WRC-97 is discussed below.

Non-Geosynchronous Satellite Systems

Perhaps the most contentious issue at WRC-97 was a proposal by Alcatel to launch SkyBridge, a non-geosynchronous ("NGSO") satellite system that would operate in the Ku band by protecting geosynchronous ("GSO") satellite and terrestrial systems. Prior to WRC-97, the *Radio Regulations* prohibited (or substantially restricted) NGSO operations in the Ku and Ka bands. *France*, with the support of CEPT, proposed to replace the restrictions with a schedule of power flux density ("pfd") limits on NGSO systems designed to protect GSO satellite and terrestrial systems. In the final days of the conference, WRC-97 adopted the changes. The exact pfd limits that will be imposed on NGSO systems are subject to further study and review by WRC-99.

While WRC-97 agreed to impose pfd limits on NGSO operations in the Ku and Ka bands, the conference made an exception for Teledesic, which is a NGSO system composed of 288 satellites that received approval at WRC-95 to operate in a section of the Ka band. Rather than requiring it to comply with pfd limits, the conference gave it priority over all future GSO systems in 500 MHz because it was one of the first systems to notify the ITU of its intent to operate in the band.[315]

[315] At the time that Teledesic notified the ITU of its intent to operate in the Ka band, Ka band GSO systems already existed in *Italy* and *Japan*. Teledesic is required to provide protection to these systems through a process of coordination.

Broadcast Satellite Service

Another extremely contentious issue at WRC-97 was a proposal to revise significantly the plan for the Broadcast Satellite Service ("BSS") in Regions 1 and 3 (all parts of the world except North and South America). BSS is unique among satellite services because its orbital positions and frequency assignments were allocated to countries and regions under the 1988 plan. It is widely accepted that the plan is out-of-date, due both to changes in technology and geo-political boundaries. At WRC-97, studies were called for to consider doubling the number of channels per country. If this proves to be feasible, a conference will be convened before the year 2001 to re-plan.

The conference addressed the highly political issue of BSS systems capable of serving multiple countries in a region. Some countries, mainly those of the Middle East, argued that sovereignty requires a country deploying a regional BSS system to have the express permission of all countries covered by the BSS signal before initiating a service (*i.e.*, for the purposes of general content control). Although the conference declined to adopt such mandatory language, a Resolution was approved indicating that countries deploying regional BSS systems should seek the permission of all countries covered.

Mobile-Satellite Service

The *United States* backed several proposals to increase the available global spectrum for the Mobile-Satellite Service ("MSS"). It faced substantial opposition to these proposals, but had some success. First, it managed to overcome opposition to its long-standing proposal to establish a "generic" allocation for MSS in the L-band (around 1.5 GHz) by eliminating existing sub-designations. Second, it won support for a proposal to make additional spectrum available (about 1-3 MHz) to narrowband MSS systems below 1 GHz (referred to as "Little LEO" systems). It was unsuccessful, however, in obtaining additional spectrum for MSS in the 2 GHz band, largely due to an international perception that an additional allocation would encroach excessively on existing and planned terrestrial systems in other countries.

While the *United States* supported additional MSS allocations in several bands, it strongly opposed a European proposal to permit MSS operations in a portion of the spectrum (1559-1567 MHz) used by satellite-based navigation systems, such as GPS. The International Civil Aviation Organisation and the International Maritime Organisation also opposed the proposal. As a compromise, an allocation for MSS in the GPS band was delayed until WRC-99, to allow sharing feasibility studies to be conducted. The compromise result raises serious concerns for defence and aeronautical communities because of the significant possibility that studies will indicate that limited MSS operations may be feasible in the GPS band (probably 4 MHz).

Discouraging "Paper Satellites"

Recently, the ITU has faced growing problems with "paper satellites" (*i.e.*, satellites that countries have notified the ITU they intend to construct (ensuring "reservation" of the orbital slots and spectrum, but which are unlikely to ever be launched). Countries often file these applications in order to speculate on orbital positions and guarantee availability for future use. Unfortunately, such filings make it difficult to identify orbital positions for genuine systems.

WRC-97 attempted to deal with the problem by adopting due diligence requirements. Countries must disclose implementation data for satellite systems (*i.e.*, the name of the spacecraft manufacturer, the date of delivery, the name of the launch provider and the launch date). WRC-97 also shortened the period for a county to bring a satellite system into use (from seven years to five). If a country fails to comply with any of these requirements, its filing may be discarded and the orbital positions made available to others. WRC-97 also considered, but did not implement, financial due diligence requirements such as annual registration fees, a refundable deposit system, and a financial ability test for operators. It is expected that the issue will be considered further at the next ITU Plenipotentiary Conference, scheduled for September 1998.

Wireless Local Loop

Historically, the use of radio to connect telephone subscribers has almost exclusively been reserved for locations which are either remote, difficult to access, or have a low telephone penetration rate. Today, the possibility of using radio links to replace the local loop is considered to be a key factor in the development of telecoms for at least the following reasons:

- it encourages the development of advanced telecommunications services;
- it is a way of stimulating the introduction of competition into the local loop;
- it can contribute to decreasing the cost of the universal service in some areas; and
- it is an important potential market, lending it a strategic character for network operators and manufacturers.

The frequencies used by a radio local loop determine the range and traffic capacity of the system. Accordingly, low frequencies allow for a wider coverage area due to better propagation. However, high frequencies require "line-of-sight" transmission and do not allow cellular coverage. The ERO has launched a study aimed at designating harmonised bands for the introduction of the radio local loop. Informal harmonisation on a pan-European basis also appears to be developing independently. Most Member States are introducing radio local loop on the same frequency bands.

UMTS

A regulatory framework for UMTS is currently under development. A key component of the framework is the certainty of frequency allocations. The industry has made it clear that lack of certainty on this issue will deter the investments required. Member States are supporting the ERC's work to find designated UMTS frequency bands. At the same time, a number of Member States (*e.g., France* and *Finland*) have suggested that the European Community should consider adopting a *Frequency Directive*, if the ERC mechanism fails.

There are two discrete UMTS spectrum issues that are particularly important:

- pricing; and
- the amount of spectrum that will be required.

There are fears that high pricing of spectrum would distort the market and damage the uptake of the service. In this context, there has been little support for spectrum auctioning. However, the majority of Member States have agreed that the pricing mechanism ultimately adopted should reflect the spectrum's economic value.

At the moment, two 40 MHz bands are designated for UMTS. The industry believes that a further 20 MHz is necessary in the start-up phase, and that it is likely that some 155 MHz will be required by the year 2005 and a further 185 MHz by the year 2010. The differences between the industry position and the current allocation are such that lobbying has begun to have the issue included on the WRC-99 agenda. The idea of sharing a common pool of spectrum has been broadly rejected by industry, arguing that it would be a disincentive to investment, and may not be technically feasible.

Implications for Multimedia

Member State proposals contain increasingly flexible allocation procedures to speed up adjustments and to promote and facilitate the development of new services and technology. Spectrum management policies entail three forms of optimisation goals:

- *technical optimisation -- allocating frequencies amongst uses and users to prevent interference and to maintain service quality;*
- *economic optimisation -- maximising the value of the resource at minimum cost; and*
- *management organisation – depending on the objectives set, ranging between total centralisation (heavy handed regulation) and market-based (light touch regulation).*

The issue is how to balance and prioritise these goals in a multimedia environment, so as to create a system that allows allocation, recovery and migration of frequencies as uses and technology require. Deregulation and liberalisation, with rapid technological development that makes it possible to design systems with short development cycles, create a complex frequency management situation. The pressure to accommodate short-term requirements is a real threat to the effectiveness of spectrum use. There is a real danger of implementing competing systems in conflicting ways.

Whilst digitalisation and increasingly efficient technology are overcoming many of the regulatory inefficiencies in existing frequency allocation systems, the large frequency demands of multimedia and broadband services will ensure that the pressure towards more efficient spectrum allocation and management is maintained. In this rapidly changing environment, spectrum regulation has the capacity to either stifle or encourage development. New mechanisms may therefore be needed to accommodate the increasing demands of multimedia services for spectrum.

The commercial pricing of radio spectrum can be used to promote its efficient use and to reduce competitive distortions between public and private entities. However, it may not be appropriate in all cases. It appears to be most appropriate where there are genuine technological alternatives, where demand exceeds supply and where new spectrum capacity is being made available for new applications.

4.1.2 Numbering and Addressing

The Regulatory Issues

It is widely accepted today that numbering is a key competitive resource which must be available to new market entrants and must be managed efficiently by an independent regulator or independent third party.

In addition, the pursuit of the goal of platform independence will be conditioned, to a certain extent, by the success of a system of number portability which allows customers to change service and network providers without incurring significant transactional costs or having to change their numbers. Number portability is defined, broadly, as a facility provided by one telephone operator to another which enables customers to retain their telephone numbers when switching their business between those operators. One of the biggest obstacles at present for commercial and residential customers wanting to take their business elsewhere is the necessity of changing their numbers when they do so.[316]

Another aspect of "platform independence" is the concept of equal access or carrier selection, as has been developed at the Community and Member State levels. Carrier selection is the facility that allows a user to choose a long-distance carrier independently of the local loop provider.[317]

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316 There are three types of portability:
- operator portability. This allows an end-user to retain his number when he/she changes operator. The emphasis is that the end-user's location remains fixed (*i.e.*, has not moved permanent location or rate centre);
- location portability. This allows the end-user to retain his number when he/she moves from one permanent physical location to another; and
- service portability (*i.e.*, POTS to ISDN). This allows the end-user to retain the number when changing services.

317 There are a number of ways to achieve carrier selection:
- pre-selection. The carrier is chosen at the time of subscription and is used unless call-by-call override is used;
- call-by-call selection. Typically, a prefix is inserted in front of the dialled number; or
- allowing the local loop provider to choose the carrier, on criteria such as market share.

Unlike telephone numbers, the short regulatory tradition of the Internet has been characterised by the existence of an addressing regime which is neither run by national government regulatory authorities nor by incumbent operators. It is arguable that the system of addressing on the Internet is not dynamic enough to accommodate the pressures of the growing Internet. Moreover, any future regulatory framework needs to consider the role which the European Union or its Member States will play in the management of the regime.

The deficiencies in the addressing system have become pronounced in conflicts between trade mark and domain name owners. There appear to be two approaches to resolving the issues arising from the rush to register domain names. One approach is that there is no law harmonising trademarks and the Internet and that domain name problems will be resolved when Internet Law develops *sui generis*.[318] The other approach is to treat trademark law as applying to protect domain names, with blame for the current problems faced by the industry being attributed to the structural flaws in the mechanisms used currently by domain name registrars.[319]

(i) Community Legal Framework for Numbering

In November 1996, the Commission adopted its *Green Paper on a Numbering Policy for Telecommunications Services in Europe ("Numbering Green Paper")*, which presented a number of alternative approaches to achieving its policy goals for numbering. Since a telephone number is the key interface of a user to his electronic communication, an appropriate numbering strategy facilitates competition in the local loop (including Internet access) and on long distance and international calls. In proposing the development of an EU-wide numbering policy, the following recommendations were made by the Commission in its *Numbering Green Paper*:

- **Carrier selection**. Member States should be required to have a carrier selection policy in place as of **1 January 1998**;

- **Portability**. Member States would be required to ensure that all technical restrictions preventing local loop portability be removed as soon as possible, and that number portability be available in major population centres, at least; and

- **Restructuring of national numbering schemes**. The Commission proposed to adopt a phased approach to restructuring national numbering plans to provide new entrants with "equal access" to numbering resources. Member States would be

318 Duecker, Kenneth Sutherlin, *"Trademark Law Lost in Cyberspace: Trademark Protection for Internet Addresses"* (1996) Harv.J. Law & Tec. 483

319 Brunel, Andre J., *Billions Registered, But No Rules: The Scope of Trademark Protection for Domain Names"*, March 1995, Proprietary Rights, 2.

required to start adapting their national numbering schemes according to the harmonised guidelines, and would need to complete this process by the **year 2000**.

The consultation process which followed the release of the *Numbering Green Paper* indicated that there was wide support for the proposals to introduce call-by-call carrier selection, carrier pre-selection and number portability. Briefly, the Commission's main policy conclusions at the end of the consultation process were:

- By 1 January 1998, call-by-call carrier pre-selection (with a default carrier and call-by-call override procedure) should be offered by all local access providers with significant market power; and

- By 1 January 2000, number portability should be offered by all fixed local access providers and all operators should offer portability for non-geographic special service numbers.

The Council confirmed both the Commission's policy approach and its proposals in its Resolution of 22 September 1997. The European Parliament also adopted a Resolution, and called on the Commission to make proposals for the introduction of carrier pre-selection and number portability by 1 January 2000.

In furtherance of these policy commitments, the Commission has proposed that amendments be made to the *Interconnection Directive* as follows:[320]

- acceleration of the date for the introduction of number portability to 1 January 2000; and

- addition of an obligation relating to carrier pre-selection, with NRAs being obliged to require the provision of carrier pre-selection by fixed network operators by 1 January 2000.

(ii) Internet Addressing

To establish World Wide Web sites and home pages on the Internet, organisations must receive an Internet Domain Name ("IDN"), which enables users to locate machines on the Internet by mapping between human-friendly mnemonic names and their underlying assigned Internet Protocol ("IP") numerical addresses (*e.g.*, the hypothetical IDN "skdy3.com" triggers the assigned IP address "5.13.20.15").

IDNs are assigned to organisations by Internet registrars which are the entities entrusted with the administration of the Internet naming system. At the international level and for the *United States*, Internet addresses are assigned by only one registrar, Network Solutions Inc.

320 Proposal of 1 October 1997 for a Directive of the European Parliament and of the Council amending Directive 97/33/EC with regard to operator number portability and carrier preselection; as published in OJ 1997 C330/19 (Agreement on a Common Position reached on 1 December 1997).

This entity is responsible for the administration of the very popular Generic Top Level Domain Name ("TLDs") ".com". In the European Union, Internet addresses are assigned by registrars located in the different Member States concerned (*e.g.*, in *Belgium*, managed by the University of Leuven, in *Greece*, managed by the University of Crete).

Generally speaking, Internet registrars assign Internet addresses without giving consideration to intellectual property issues which might arise from the use of any particular name.[321] Such registrars assign IDNs on a "first-come, first-served" basis and do not determine the legality of the Domain Name registration. In particular, they do not research whether the proposed IDN is already the registered trade mark of another entity. Moreover, registrars often do not perform any research to determine whether the proposed Domain Name is likely to be confused with another registered Domain Name.

In 1997, certain members of the Internet Society proposed the establishment of a new Internet naming system, partially under the auspices of the World Intellectual Property Organisation ("WIPO"). Under this new system,[322] the monopoly of Network Solutions notably on the TLD ".com" will be ended by creating the following additional TLDs: ".firm", ".store", ".web", ".arts", ".rec", ".info", and ".nom". These new TLDs would be administered by a number of Internet registrars located in different countries all around the world. In addition, a new mechanism for the resolution of disputes in relation to the registration of IDNs would be created.

Recently, a number of countries, including the *United States*, have expressed their general support for the new Internet naming system. There are, however, certain outstanding issues which could be viewed as critical to the success of this system. One of these issues is whether Network Solutions will release its database, which includes the ".com" TLD. Another issue is whether the new system is technically feasible in view of the current "tree structure" used for Internet addresses and the control exercised by the Internet Assigned Numbers Authority ("IANA"), under the chairmanship of Dr John Pastel (an American citizen), regarding certain aspects of the routing of Internet communications.

The new proposed system for Internet addresses also raises certain other regulatory issues. In particular, it appears that there is a need to ensure effective competition with respect to access to IDN resources. It is arguable that an artificial limit placed on the number of Internet registrars, without any appropriate justification, would run contrary to European competition rules.

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321 Although the Study does not cover intellectual property issues, the need to protect trade mark owners within the framework of the registration of IDNs is currently the subject of a wide debate. Refer to "The Internet Domain Name System and Trademarks", working document of the Commission Services (unpublished); "Internet Domain Names and Trade Marks", Jonathon Stoodley, [1997] 9 E.I.P.R. 509; "Internet Domain Names and Rights in Distinctive Marks: A German and Austrian Perspective", Reinhard Schanda, [1997] 5 C.T.L.R. 221; and "Trademarks Along the Infobahn: The Emerging Law of Cybermark", Dan Burk (unpublished).

322 Refer to Memorandum of Understanding (MoU) on the *Internet TLD Space of the Internet Domain Name System* on May 1, 1997. The two characters national TLDLs made of country codes are not subject to the MoU.

It is also necessary to examine closely whether the new proposed system sufficiently takes into consideration the need to protect the trade mark and other intellectual property rights of genuine holders.

Finally, it is necessary to address the issue of the role which Community institutions and the Member States will play in the management of the future Internet addressing system. Once a position is taken in this respect, it would be necessary to ensure that the European position is strongly advocated at the international level.

Implications for Multimedia

The transfer of numbering issues from the telecoms incumbent to an independent regulator has been an essential element in pursuing the policy goal of platform independence. It has also inhibited abusive behaviour with respect to access to a vital resource. The goal of platform independence has also been furthered by discrete number portability and carrier selection policies which have lowered the costs that would otherwise be incurred by consumers wishing to change network operators or service providers.

A new generation of "numbering" (i.e., addressing) issues are arising in the multimedia world. They are likely to require the application of competition rules to ensure that the allocation of addresses such as Internet Domain Names is not:

- *administered by organisations in a manner that would foreclosure potential market entrants; or*
- *a process in which an incumbent telecoms operators or a broadcaster with market power can become involved, thereby opening up the possibility for abusive behaviour (e;g., in the allocation of inappropriate addresses to end users who use a competing network or service provider.*

4.1.3 Rights-of-Way

The Regulatory Issues

The transmission of multimedia services to end users may involve a complex system of interoperable networks carrying each message to its final destination. Networks must often traverse federal, regional, municipal and private land. One of the fundamental issues underlying the success of liberalisation in the telecoms sector (and also to new entrants which postion htemselves in the market as broadcasters) is the means of access to rights-of-way over the public and private domain, and the costs to new market entrants of such access.

Rights-of-way are essentially the privileged use of public and private property for economic purposes. In the telecoms sector, rights-of-way are used to allow the laying of fibre optic cable or copper wire, the erection of poles and the location of radio antennae at suitable locations. The integrity of these facilities is preserved, even though their access or installation may require crossing public or private property. Their regulatory status is becoming increasingly complicated for a number of reasons:

- They are granted by a range of national, state, regional and local authorites. Often, jurisdiction is split between these entities. Jurisdictional conflicts between legal authorities have increased in the recent past, especially since charges for usch rights are often seen as a lucrative form of taxation. The number of jurisdictional conflicts can only increase in a multimedia environment in countries such as *Germany* and *Belgium* since jurisdiction for telecoms and broadcasting matters is split strictly along Federal:State lines.

- The legal regimes under which access to rights-of-way are granted traditionally presuppose the existence of "natural monopolies" for transport services (especially the railways), utility functions (gas, electricity, water and telecoms) and, in many parts of the European Union until recently, cable TV companies. Consequently, in the past governments invariably granted exclusive concessions to such entities either in perpetuity or for a lengthy period. In the past decade the economic belief that these services always need to be provided on a monopoly basis has been undermined.

- The services which benefited from rights-of-way were by and large considered to include a large element of "public service". In liberalised markets, it is often the case that market forces will provide public service or that the provision of public service will be more than offset by the business goodwill which accrues to it.

- The existence of exclusive rights-of-way has meant that network-wide planning could occur with little disruption to the environment. Increased competition, however, means that more pressure will be put on the environment. Insofar as these pressures can be offset by greater customer acceptance of wireless broadband services, access to frequencies may become congested.

- Governments have thus far to allocated rights-of-way at prices related to market value. Rather, they have sought either to confer such rights at nominal costs or at no cost (justified on the ground that public services are being performed). At most, rights-of-way have attracted fees expressed as a very small percentage of total revenues (*e.g.*, 2% of revenues).

The resolution of these policy issues will be of critical importance in determining the future shape of the competitive environment for the provision of multimedia services.

(i) Community Law

At present, the sum total of legislative involvement at the Community level regarding rights-of-way can be found in one provision of the *Full Competition Directive*,[323] which provides that:

"*Member States shall not* ***discriminate*** *between providers of public telecommunications networks with regards to the granting of rights of way for the provision of such networks.*

Where the granting of ***additional rights of way*** *to undertakings wishing to provide public telecommunications networks is not possible due to applicable* ***essential requirements,*** *Member States shall ensure access to existing facilities established under rights of way which may not be duplicated, at reasonable terms.*"[324] (emphasis added).

The limits of Community involvement in property issues is illustrated by the general statement of competition law principles outlined above. The application of the principle of subsidiarity is arguably nowhere better illustrated than with respect to differences in the regulatory treatment of rights-of-way, which are often administered by local authorities and which are subject to overlapping competences (e.g., roads, the environment, waterways). In

323 *Commission Directive 90/388/EEC* of 28 June 1990 on competition in the markets for telecommunications services.

324 *Ibid.*, Article 4(d).

this context, "reasonable" terms for access to rights-of-way may vary greatly from Member State to Member State, in accordance with national legislative traditions.

Finally, it should be noted that facilities sharing, of whatever kind, must always be monitored in a developing competitive environment. Whilst facility sharing may encourage entry by new market actors, it will inevitably put them in a position of cooperation with respect to key elements of network management; the potential spill-over of such cooperation in related and unrelated markets must be carefully policed.

(ii) Comparative Overview

An outline of the widely varying approaches to the regulation of rights-of-way in a number of Member States is set out below.

France

Operators of Public Networks are entitled to rights-of-way over public highways and private property. *Decree No. 97-683* (*"Decree"*) sets out the rules governing rights-of-way. Authorities responsible for managing public land (other than roads) may conclude agreements with operators for access, to the extent that the occupation is not incompatible with the purpose of the property or available capacity. There is no absolute legal obligation to grant access; however, any grants must be transparent and non-discriminatory.

Public Network Operators have a right to occupy public roads if the occupation is not incompatible with the purpose of the road. An authorisation may define installation and operating specifications designed to preserve the utility of roads. Sites may be shared if the parties can reach commercial agreement. The owner of the facilities is responsible for maintaining the infrastructure and equipment. The ART has the power to settle disputes over the sharing of infrastructure. The *Decree* makes detailed provision for the grant of rights over both public and private property. Rights-of-way over national roads are granted by the Prefect. Over secondary roads, they are granted by the President of the General Council, and local roads are dealt with by the local Mayor. They are awarded on a transparent and non-discriminatory basis, within two months of an application. If the issuing authority realises that the right can be secured using existing infrastructure, it will invite the parties to reach a shared use agreement.

Rights-of-way over private property allow the installation of infrastructure in communal parts of buildings and above and below the ground of un-built sites. The authorisation of the Mayor in the affected region is required, after the owners have been informed and invited to comment. The sharing of sites on private property is also encouraged. Easements over private property operate without prejudice to the owner's right to demolish, repair, alter or shut down the property, on giving three months notice of his or her intention to do so.

Requests for the grant of easements over private property are made to the Mayor of the area where the property is situated. The Mayor encourages the parties to make their own agreement. However, he or she has the power to grant an easement in the absence of

agreement. The easement expires automatically if works are not undertaken within 12 months of its grant.

Annual fees for rights-of-way may not exceed the following:

- 20,000 FF for mountain motorways, 10,000 FF for all other motorways (per kilometre);
- 150 FF for national, secondary and local roads (per kilometre);
- 1,000 FF for the establishment of a radio-electrical station (over twelve metres) and 2,000 FF for each pylon; or
- 100 FF for all other installations (per square metre).

Germany

The *German Telecommunications Act of 1996* (the "*TKG*") contains a series of provisions regulating access to rights-of-way in both the public and private domain. It authorises the federal government to allow the use of public roads for the provision of public telecoms networks to ensure the full coverage of telecoms services as required by Article 87(f) of the German Constitution. The government may not charge for this use so long as it does not constitute a lasting encroachment on the normal use of infrastructure. (The scope of this provision is the subject of an ongoing Federal government – Länder dispute). So that all enterprises providing telecoms network may compete on an equal footing, the Federal government allows all telecoms licensees to exercise this right. Telecoms transmission lines, however, must be laid so that they comply with existing safety laws, public policy, and technical requirements. Operators wishing to lay new lines or alter pre-existing lines must obtain the agreement of the authority responsible for constructing and maintaining public ways (Trager der Wegebaulast). An application to lay or modify transmission lines can only be refused on technical grounds.

Where transmission lines are laid above ground, the interests of the licensee, the infrastructure operator and the city planning authorities must all be balanced. Clearly, there is scope for conflicts between municipal authorities seeking to limit construction by network operators. This is exacerbated by the fact that the balancing of interests requirement does not apply to underground cables.

In cases where a licence holder is responsible for maintaining a public way, or if there is cross ownership of 25% or more between the operator and the landholder, the NRA stands in for the landholder where another licence holder seeks to use that pathway. In cases where an entity has a right to use traffic infrastructure, but where the construction or alteration of existing networks is either impossible or prohibitively expensive, the entity has a right to demand that the owner of the existing network allow concurrent use of its pathway. The proposed use must be reasonable and not require the pathway owner to perform additional construction. The intent of this section is to ensure that decisions to establish independent transmission lines, rather than use pre-existing lines, are market driven. Where additional construction is wastefully expensive, the parties should reach agreement for concurrent use.

Those using transmission infrastructure must avoid interfering with infrastructure maintenance and must minimise encroachment on the primary purpose of the infrastructure. Where use increases maintenance costs or damages existing infrastructure, the user must pay those additional costs. Moreover, a user performing construction work must return the infrastructure to its proper working order as quickly as possible, unless the entity responsible for maintaining the infrastructure chooses to make the repairs. A telecommunications line must be altered or removed if it substantially encroaches on the use of the traffic infrastructure, or when the path's purposes are impaired. When infrastructure is removed, the authorisation to use the path for telecoms purposes lapses. The licence holder may only demand that a special installation operator make changes to existing lines where the line otherwise could not be established, if the purposes of the original installation may still be fulfilled and when installation would not impose unreasonably high costs on the special installation operator. Conversely, where special installations are established after a transmission line is installed, they must not disturb the telecoms line. Where a line precedes the establishment of a special installation that is in the public interest, the telecoms user must pay the costs of any necessary alterations to or removal of its lines. The network operator must bear its own costs where the construction of a special installation requires protective upgrades to the transmission line.

Where an entity that maintains traffic infrastructure transfers its rights to a third party with no maintenance obligation, the transferring entity must reimburse a telecoms user for the added costs incurred, including changes to and added protection to the transmission line. Where an existing telecoms line is disturbed by the addition of a special installation not designated as being in the public interest, the telecoms provider is entitled to reimbursement for its costs.

An owner of property that is not a public road may not block the use or construction of, or improvements to, telecoms lines where the property is already used for telecoms purposes or where the added use does not materially impede the use of the property on a short-term basis. However, the landowner may demand compensation for costs resulting from the use of the property and loss of income. Moreover, for ongoing use of the property, one-off payments are available. These provisions are intended to assist new private telecoms enterprises to compete with public utilities which already possess rights-of-way. The underlying policy behind these provisions is that it would inhibit to competition if new entrants were required to pay market rates when public utilities obtained cost-free rights to lay cable across private land.

The Netherlands

Until recently, a tri-partite system of public domain regulation was used in the telecoms sector, largely reflecting the partial liberalisation of voice telephony prior to 1 January 1998. Different rules applied depending on whether the public domain was to be used:

- in the public interest;
- in cases where its use had to be tolerated; or
- for a commercial activity.

Only a very limited number of entities including public broadcasters could use the public domain in the "public interest" (category 1). Rights-of-way to the public domain which were acceptable (category 2) included the activities of the two new telecoms operators, Telfort and Enertel, in addition to the local telecoms incumbent ("KPN"). These entities were entitled to special "digging rights" over the public domain which local authorities were obliged to grant, without compensation.

All other new market entrants which entered the liberalised telecoms sector in *The Netherlands* (category 3) during its transitional phase incurred significant costs in their build-out of infrastructure over the public domain. At present, the Dutch authorities are proposing that access to the public domain be made subject to the payment of an annual fee based on the extent of the public domain crossed. It is unclear whether KPN will bear equivalent costs. New entrants are citing the *Full Competition Directive* in support of their objectives to avoid any 'discriminatory' treatment.

In its clearance of BT's Telfort joint venture (*i.e.*, with the Dutch railways), the European Commission's Merger Task Force was not required to consider any issues of network access arising from special rights over rights-of-way, since there was no exclusivity under the joint venture agreement.[325] However, subsequent to the Commission's Decision clearing the transaction, the Dutch authorities have proposed, in a draft law establishing the post-1998 regulatory environment, that railway tracks not be included within the concept of the "public domain".

The natural result of any such change in the legal definition of the public domain will be that new entrants seeking rights-of-way from the national railway company will be obliged to do so under the more onerous private property regime. Access to private property requires the permission of all property owners affected on commercially negotiated terms. The Study Team is aware that a complaint has been lodged with the European Commission, which asserts that the *Full Competition Directive* prevents the imposition of charges of such magnitude.

325 Prior notification of a concentration (Case IV/M.855 – *BT/NS/Telfort*).

Belgium

The division of Belgium into semi-autonomous regions complicates the governance of rights-of-way. For example, under a 1992 Decree, the Flemish government has the power to issue orders about the uses and charges for rights-of-way, to be amplified in greater detail in subsequent or subordinate laws. At present, a proposed annual fee structure for access to the public domain is under discussion, and may be raised by as much as 1000%. It is unclear whether these rates would apply to Belgacom's existing rights-of-way.

Similarly, at the time of writing, the Commune of Brussels was considering adopting a law regulating access to the public domain which would require that new market entrants such as MFSWorldcom/CODITEL deposit significant guarantees with the local authorities if repairs to the public domain are not effected adequately. In addition, it was proposed that operators would only be allowed to dig up roads for a limited period of time every two years. This narrow window of opportunity could cause significant delays to network rollout for new entrants. No fees have as yet been proposed.

Spain

Under a preliminary draft of the new *Spanish Telecommunications Law 1997*, operators licensed to provide public telecommunications networks with universal service obligations are entitled to request access to the public domain, subject to the approval of the competent local authority. These operators also have the right to request the expropriation of private property or the establishment of a right-of-way under an expedited procedure. In practical terms, these provisions may mean that only the incumbent telecoms operator, Telefonica, will be entitled to automatic access to rights-of-way.

When a request is made for access to the public domain or the expropriation of private property, the Minister has the discretion to invite other public network operators to express their interest in sharing the use of the property in question. Should any operator declare an interest within 20 days, the parties must negotiate conditions for shared use.

If an agreement is not reached within 20 days from the formal declaration of interest, the CNMT must take a reasoned decision about the obligation to share and set the conditions of use. This decision must take into account: (i) the economic viability of the proposed shared use; and (ii) whether significant works will be required in order to permit the sharing to occur. In addition, the operator benefiting from the shared use is obligated to pay reasonable financial compensation.

United Kingdom

Because the *United Kingdom's* telecoms regulatory regime is premised on infrastructure-based competition, regulation has favoured relatively simple access to rights-of-way by network operators with rights under section 8 of the *Telecommunications Act 1984*. This approach has resulted in a virtual commoditisation of the different elements of the public domain, with a "market" developing for the individual elements of rights-of-way access. This has meant that ducts, fibre and other elements are largely available as discrete items.

However, BT has no obligation to share much of its existing ducting, tunnel or on-site facilities. OFTEL decided, in 1996, that the economic benefit and effect on competition of shared access did not warrant regulation of rights-of-way. It decided to leave BT's system of self-regulation in place. Briefly, OFTEL's views on duct and site sharing are as follows:

- OFTEL has no immediate plans to force sharing of ducts and poles on public land;
- OFTEL does not intend to interfere with the informal trench sharing arrangements currently in place; and
- OFTEL is prepared to allow BT to continue to allow access to on-site and customer access on terms that have been developed by the industry.[326]

The application of different regulatory regimes to rights-of-way can create complications where services are provided across national boundaries. For example, under the Francemanche licence used by Eurotunnel, there is a right to establish a subsidiary providing telecoms services. Under French law, this subsidiary has the right to obtain dark fibre ("connectivité optique") from Francmanche on the same terms as other providers of public telecoms service (including their own telecoms subsidiaries). By way of contrast, there is no equivalent explicit obligation under the law of the *United Kingdom*; market interviews suggest that this application of two conflicting systems of law is creating a significant degree of regulatory uncertainty.

326 OFTEL Consultative Document, February 1996, *"Duct and Pole Sharing"*.

Implications for Multiemdia

The administration of rights-of-way displays widely diverging patterns of regulation between the Member States (and, in some cases, between regions of Member States). This diversity may result in the development of distinctively different patterns of local loop competition across the European Union. To overcome the difficulties inherent in developing a truly pan-European multimedia internal market in the absence of harmonised policies on rights-of-way (especially in light of the limited powers of the Community to take action in this regard), it would at least be advisable for the Member States to adopt consistent valuation policies. This would give potential network operators appropriate market entry signals within the context of a market-driven regulatory framework.

4.2 PRIVATE RESOURCES

The Regulatory Issues

The existence of proprietary rights in the hands of one or a small number of entities may result in their owners acting as "gatekeepers" for other industry participants. This gatekeeping function may, in certain circumstances, create what is tantamount to an "essential facility" or a "bottleneck"; this can result in the foreclosure of competitors unless access to private resources is administered in an objective, proportional and non-discriminatory manner. The anti-competitive potential of such gatekeeping functions is magnified as the degree of vertical integration by the "gatekeeper" increases along the length of the multimedia value chain. These types of issues can be regulated through the application of competition rules, whether on a case-by-case basis under Article 86 of the EC Treaty or its national equivalents, or under issue-specific legislation.

Particular types of "gatekeeping" functions which are likely to be key competitive elements of a multimedia regulatory framework include:

- the control of **conditional access systems** for digital services;
- **directory services** in the telecommunications field and, in the context of new digital services, **"navigation" systems**;
- the control of the **"inside wire"** in a home;
- the existence of a **dominant position for the provision and packaging of content**, where that market dominance is leveraged into other levels of the multimedia value chain; and
- private **proprietary standards** supported by strong intellectual property rights.

This list is not exhaustive, but represents the key types of foreclosure issues which may arise in a multimedia environment.

4.2.1 Conditional Access Systems

The Regulatory Issues

Conditional access systems are effectively "gateways" through which content pours. Where that gateway is dominated by a firm which is vertically integrated across most or all layers of the multimedia value chain, the systematic foreclosure of competitors and the preference given to the content provided by the operator of the conditional access system may result in enduring market power being enjoyed by that operator as a result of its "first mover" advantage. At the same time, there is widespread acknowledgement, at least in the broadcasting sector, that the number of entities that can achieve the minimum cost efficient scale of operation may inevitably lead to an oligopolistic market where there are few alternative routes to the customer. Moreover, it is claimed that consumers will be very reluctant to invest in a set-top box, unless subsidised by the conditional access operator. Whilst many acknowledge the need to "kick-start" this highly risky market by subsidising equipment, allowing such subsidisation runs the risk of further entrenching the market dominance of the "first mover".

The challenge for regulators in a fledgling multimedia market is to balance the interests of investors, who require an incentive to enter the market and some guarantee of a return, with the interests of consumers and other operators who need fair, open and non-discriminatory access and a choice of access and content suppliers. Achieving the correct regulatory balance is further complicated by the fact that the operator of a conditional access system may also operate other "gateway" equipment with intelligent functions, such as Internet search engines and Electronic Programme Guides.

At a minimum, a policy of partial openness, drawing on the traditional approach of European competition law to long-term contracts and exclusive relationships, should be implemented. In this context, the approach taken by the European Commission to resolve the SIM-card case in the mobile telecoms sector, thus preventing customers becoming "locked-in" to a single access supplier, may be instructive.

There are at least five significant regulatory issues associated with the introduction of conditional access systems:

- the ability of the first mover to exert gateway power over other content suppliers (and ultimately customers, thereby distorting the market and generating excessive profits);

- the potential anti-competitive restrictions inherent in the deployment of proprietary or delivery-specific standards (*i.e.*, limiting the ability of subscribers to receive programming from other broadcasters);

- the possibility that the first mover will undermine the financial viability of established broadcasters (in a context where established broadcasters are seen to play a particular public or social role), thus raising concerns over media pluralism and the fate of public broadcasting;

- the opportunity for the conditional access provider to use (and to abuse) its upstream and downstream market power (owners of exclusive programme rights could combine these gateway functions) to distort competition in the market and also to deprive a broad range of consumers with access to content; and

- the possible cross-subsidisation of conditional access equipment by an integrated entity involved in many levels of the multimedia value chain.

(i) Community Legal Framework

1. *Television Standards Directive*

According to the *Television Standards Directive* (the "*Directive*"),[327] conditional access rules for digital television services were to have been implemented at the Member State level by September 1997, regardless of the particular means of transmission used for such services.

The principal regulatory effect of the *Directive* of relevance to multimedia concerns "set-top" boxes which are required to receive and display digital signals. The *Directive* applies with equal force, regardless of whether the set-top box is used for the transmission of digital signals on cable, terrestrial or satellite television systems. Article 4 of the *Directive* is the key provision dealing with conditional access. It requires operators of conditional access systems to offer access to all broadcasters on fair, reasonable and non-discriminatory terms. Such systems must have the capacity for cost-effective trans-control at cable head-ends (to allow the possibility of full control of access by cable TV operators). Finally, licences of industrial property rights must be granted to conditional access systems and products on fair, reasonable and non-discriminatory terms; this presumes that a number of proprietary conditional access

327 *Directive* 95/47/EC of the European Parliament and of the Council of 24 October 1995 on the use of standards for the transmission of television signals.

systems may be developed over time. The *Directive* neither prohibits proprietary access systems nor mandates common interface set-top boxes. It does, however, mandate open access. It gives powers to cable operators to obtain trans-control and removes some of the possible barriers to the production of multi-system set-top boxes or receivers. The *Directive* envisages three levels of potential open access to facilitate the development of the digital television market:

- Use of a single box providing fair, reasonable and non-discriminatory access to all broadcasters:
    - capability of trans-control at cable head-ends; and
    - no deterrents to a common interface or secondary access capabilities;
- Interworking between individual boxes, based on contractual arrangements between broadcasters and programme suppliers;
- Use of a common interface which may include:
    - plug-in modules to a common port;
    - proprietary encryption; and
    - no regulation of players at the common interface; and
    - a system of "open architecture TV", possibly adapted for the future.

The *Directive* establishes a framework for open access, but leaves open the choice between a common interface and access to proprietary systems, where there are economic trade-offs (*i.e.,* it is not prescriptive, but permits what is economically viable).

There had been concerns expressed by a broad cross-section of industry that the conditional access regime proposed by the *Directive* could be interpreted sufficiently broadly to require that all delivery platforms to satisfy a "must carry" obligation for all programming. However, a Statement issued by the Council contemporaneously with the *Directive* indicates that there is no intention that the *Directive* should be interpreted in this way.

2. *Proposed Conditional Access Directive*

In addition to the access requirements set out in the *Television Standards Directive*, further harmonisation requirements at the Community level have been proposed for a future Directive that would address the broader issue of piracy of conditional access equipment, without regard to whether such equipment is used for "television broadcasting".[328] The proposed *Directive* would apply to broadcasting and "Information Society" services provided on a

328 In 1996 the Commission produced a Green Paper on the Legal Protection of Encrypted Services, and has proposed the adoption of a *Directive on the Legal Protection of Conditional Access Services*, as a follow-up to both the Green Paper and the European Parliament Resolution of 13 May 1997, OJ 1997 C314/7.

conditional access basis, without distinguishing between methods of delivery.[329] It aims at ensuring the legal protection of conditional access services against unauthorised reception and the free movement of these services within the Internal Market. Under the terms of the proposed *Directive*, Member States will have to provide appropriate sanctions and remedies against acts of commercial "piracy" (*e.g.*, the manufacture, marketing and sale of illicit devices and the installation, maintenance or replacement of such devices). Providers of conditional access services will be entitled to bring an action against infringers for damages, apply for injunctive relief or have the illicit devices seized.

The proposed *Directive*, once adopted, will constitute a clear instance of horizontal regulation across all industrial sectors affected by convergence. Consequently, it will extend the relevance of conditional access well beyond the traditional domain of broadcasting.

3. *Case Law: SIM-Lock Case*[330]

One of the principal competition law concerns stemming from the operation of conditional access systems is the potential for customers to be "locked in" to the programming of the broadcaster operating its conditional access system, to the exclusion of other broadcasters and service providers. By locking in a customer to the use of a particular proprietary system for a long period of time, the "gatekeeper" might take advantage of its first mover position in the market and seek to prevent entry by new competitors. An analogous situation was confronted by the European Commission in 1996 in the *SIM-Lock Case*.

On 30 May 1996, the Commission's Directorate-General for Competition (DG IV) wrote to GSM/DCS 1800 handset manufacturers and network operators in the EEA limiting the use of the "SIM Lock" feature in mobile phone handsets: the feature effectively tied the customer to one GSM operator or service provider. According to the Commission, it was important that the handset could be unlocked upon demand by the consumer. This would prevent the anti-competitive effects of the feature vis-à-vis existing or new operators, and avoid a reinforcement of the division of the mobile phone market along national lines. The Commission also wrote to ETSI, the European Telecommunications Standards Institute, which was proposing to standardise this feature as part of the GSM standard. It became clear that most operators did not feel it necessary to use the SIM Lock feature, and in certain countries, such as *France* and *Denmark*, the risk of anti-competitive uses of the feature had been foreseen and would be avoided by the establishment of special rules overseeing its use.

The investigation was settled after the Commission wrote to the manufacturers to ensure that they only supply SIM-locked handsets which could be unlocked by consumers themselves. The Commission also indicated to ETSI that this should be taken into account in determining how the SIM Lock feature should be standardised. Operators were also contacted in this regard, it being pointed out to them that SIM Lock should only be used if the handset can be

329 The definition of conditional access includes access to services such as pay-TV, video-on-demand, music-on-demand, electronic publishing and a wide range of on-line services, as well as the provision of conditional access as a service.

330 See Commission Press Release, IP/96/791 of 8 August 1996.

unlocked by the consumer on demand. In particular, the end-user should be made aware at the time of purchase of the handset whether that handset is locked to a particular network operator/service provider. According to the Commission, a form of SIM-locking device which allows the end-user to unlock the handset, on the basis of information provided by the network operator/service provider, should not be problematic from a competition law viewpoint.

Network operators or service providers were informed that they should inform end-users of the possibility of unlocking the handset, or provide the information necessary to unlock the handset to all end-users on request. Moreover, in circumstances where the sale of the handset is combined with the provision of a telephony service and the sale of the handset has been subsidised by the network operator/service provider, the existence and amount of any subsidy, and the conditions for repayment of all monies due under the contract, should be made clear to the end-user at the time of purchase.[331] The practical effect of this, in the view of the Commission, would be that consumers will no longer be charged what were often significant amounts of money for the privilege of linking their own handset to the services of another operator/service provider.

There are clear parallels between the types of foreclosure concerns voiced by the Commission in the context of the *SIM-Lock Case* and those which might arise in the context of conditional access systems. In addition, the inevitable subsidisation of conditional access equipment, as occurs widely in the mobile sector, will also raise concerns from new entrants who feel that the first mover advantage enjoyed by the first conditional access provider will become entrenched over time into a position of market dominance as the multimedia market develops.

(ii) Comparative Approach

Only a number of Member States have fully implemented the terms of the *Television Standards Directive*. For example, in *Germany* the Länder have introduced a requirement for equal and non-discriminatory access to services that control access to television-based services through decoders in Article 53 of the *AOB Agreement*. French legislation, drafted by the previous Government, is currently under review and the subject of a new series of bills which will address digital satellite, digital cable and digital terminal equipment respectively.

In the case of *Spain*, the Commission commenced the second stage of formal infringement proceedings regarding the terms of *Law 17/1997*, enacted to implement the *Directive*.[332] There were three elements of the Law that were of particular concern to the Commission:

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331 Network operators or service providers may need to withhold the relevant unlocking information from end-users until one billing cycle has been completed, thus ensuring that a subscription has been properly set up in respect of the handset. The handset need not be unlocked (and the information required to unlock it need not be provided) until the outstanding amount of the subsidy has been repaid by the end-user.

332 Commission Press Release, IP/97/680 of 23 July 1997.

- the imposition of specific technical solutions for conditional access systems (as a "technical rule" that should have been notified under *Directive 83/189*; as a restriction on the free movement of decoders, violating Article 30 of the EC Treaty; and as a restriction on the use of decoders to access services originating in other Member States, violating Article 59 of the EC Treaty);

- the requirement for prior certification of equipment (again, requiring notification under *Directive 83/189* and in violation of Articles 30 and 59 of the EC Treaty); and

- the implementation of powers granted by *Law 17/1997* to the regulator to fix tariffs for use of conditional access systems (which might be in breach of Article 4(c) of the *Directive*).

The key regulatory issue which arose in the context of the Spanish law was the fact that it sought to mandate the use of a fully open system (thereby preventing the use of proprietary systems) in the absence of an access agreement between the two major delivery platform operators. Since that time, the Spanish Government has amended its legislation to reflect the precise terms of the *Directive*. As regards the future details of the proposed conditional access regime in *Spain*, the Study Team understands that the regulatory model adopted in the *United Kingdom* is likely to be adopted (see below).

In the *United Kingdom*, OFTEL is the regulator with jurisdiction over all conditional access issues. Similarly, a number of other Member States have, or intend to, vest jurisdiction in their respective telecoms regulators (*i.e., Spain* and *The Netherlands*). OFTEL is responsible for enforcing both the *Access Services Class Licence* and the *Advanced Television Standards Regulations*. OFTEL has identified the following five objectives in its conditional access policy:

- to ensure that control of conditional access technology is not used to distort, restrict or prevent competition in television and other content services;
- to ensure that control of conditional access technology does not lead to the unreasonable constraint of consumer choice (in relation to equipment, range of services available and packages of services);
- to facilitate consumer access to services on more than one delivery mechanism (or switch between mechanisms without unnecessary additional expense);
- to facilitate consumer choice by ensuring ease of access to comprehensive information about the services available; and
- to ensure that control of conditional access technology is not exploited through excessive pricing for use of that technology.

To further these aims, the Class Licence contains a number of pro-competitive clauses. It has fair trading provisions, prohibitions of undue preference and discrimination and a prohibition against linked sales. The ITC and OFTEL have appreciated the very real potential for overlapping jurisdictional competence presented by conditional access regulation. Accordingly, OFTEL's regulatory guidelines clearly set out their co-operative procedures.

Implications for Multimedia

Competition rules must, as a priority, ensure that the "gatekeeping" function of conditional access systems is not, and cannot be abused. Conditional access should not be allowed to limit consumer choices. Care must be taken to ensure that the conduct of conditional access providers during the service start-up period is not discriminatory and does not force competitors (or potential competitors) out of the market.

4.2.2 Directory Services and Navigation Systems

The Regulatory Issues

Dominant market actors in the telecoms and broadcasting sectors have often sought to leverage their market power in their respective primary markets into ancillary markets. Leveraging into ancillary or secondary markets not only reinforces their dominance in the primary market, but also tends to create a dominant position in the ancillary or secondary market. This dual dominance reinforces the effects of foreclosure on new market entrants wishing to become full line service providers or niche market players. It also facilitates anti-competitive bundling or discriminatory pricing practices by a dominant operator.

In the telecoms sector, this leverage is best reflected in the attempts of incumbent telecoms operators to dominate the lucrative market for directory publications and services**333** by asserting that the provision of such services falls within their reserved monopoly until 1 January 1998. In moving from a regulatory environment in most Member States in which the incumbent telecoms operator for many years had the exclusive right to provide directory information and services, and therefore enjoys a critical "first mover" advantage in a liberalised environment, it is vital that the database information used to create those directories and services not be used or withheld abusively, nor should access to such information be provided on unreasonable terms. This undoubtedly requires the implementation of rules governing access to such databases on fair and equitable terms, because access to such data is tantamount to an "essential facility" for new operators.

In the **broadcasting** sector, the abusive behaviour of broadcasters with respect to advertising[334] or programme guides[335] has been the source of important case precedent under Article 86 of the EC Treaty. When broadcasters enter the multimedia field, the "directory" to which a customer turns will be much more complex because it will include a wealth of digitalised entertainment and information services.

333 Refer to Commission Press Release, IP/97/292 of 11 April 1997. Case T-111/96, *ITT Promedia v Commission*, OJ 1996 C269 p 27.

334 *Centre Belge d"Etudes du Marche-Telemarketing SA (CBEM) v Compagnie Luxembourgeoise de Telediffusion* [1985] E.C.R. 3261.

335 *Radio Telefis Eireann v Commission* [1991] E.C.R. 485.

The directories of the multimedia world, **navigation systems** and **electronic programme guides** ("EPG"), have the potential for serious anti-competitive abuse if operated by broadcasters or affiliated content providers. In both instances, alternative platform providers and content creators are likely to be severely disadvantaged unless the navigation system is operated in an open, transparent and non-discriminatory manner. A fundamental adaptation of the existing regulatory framework may therefore be required to address these potential information bottlenecks in a high-value part of the multimedia value chain. In the long term, many of the functions performed by telephone directories will be incorporated into more sophisticated navigation systems.

(i) Regulatory Framework for Directory Services and Information

The legal framework being developed for the regulation of directory services and the information contained in them consists of the following instruments:

The Commission's *Directory Services Communication* of 1995; [336]
The *Full Competition Directive* of 1996; [337]
The *ONP Voice Telephony Directive* of 1995; [338]
The *Database Directive* of 1996; [339]
The *Data Protection Framework Directive* 1995; [340] and
The proposed *Data Protection Telecommunications Directive.* [341]

Of the legal instruments listed above, the *Directory Services Communication* and the *Full Competition Directive* are of most direct regulatory significance.

In its September 1995 *Communication*, the Commission acknowledged the importance of extending EC competition law and telecommunications regulatory principles to directory and enquiry information services, including universal service principles. Directory services raise a variety of issues of concern to the Commission particularly in relation to the abolition of

336 *Communication* from the Commission to the Council and the European Parliament - Future development of the market in Directories and other Telecommunications Information Services in a Competitive Environment, COM (95)431.

337 *Directive* 90/388/EC of 28 June 1990 on competition in the markets for telecommunications services, OJ 1990 L192/10 (as amended).

338 *Directive* 95/62/EC of the European Parliament and of the Council of 13 December 1995 on the application of open network provision (ONP) to voice telephony, OJ 1995 L321/6.

339 *Directive* 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, OJ 1996 L 77/20.

340 *Directive* 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the Protection of Individuals with regard to the processing of Personal Data and on the free movement of such data. OJ 1995 L281/31.

341 Amended proposal for a Directive of the European Parliament and the Council concerning the processing of Personal Data and the Protection of Privacy in the Telecommunications Sector. COM(97)94.

special or exclusive rights,[342] conditions governing access to databases and marketing, and universal service obligations.

The *Directory Services Communication* takes the view that **special or exclusive rights** are contrary to the competition rules and that the extension of exclusive rights for basic telephony to directory services runs counter to Article 86 of the EC Treaty. As a consequence, the *Directory Services Communication* envisages the liberalisation of these services before **1 January 1998.** The Commission has otherwise indicated its readiness to use its enforcement powers under Article 90(3) of the EC Treaty in the form of individual decisions or directives (this view is also reflected in the terms of the *Full Competition Directive*).

The *Directory Services Communication* also states that access to raw consumer data must be guaranteed to new market entrants, in accordance with the application of the competition rules. In this regard, ONP rules may also apply in a wide variety of circumstances where access is sought to information on non-discriminatory or reciprocal terms.

The *Directory Services Communication* also takes the view that, in a competitive environment, all users of voice telephony services must have at their disposal at least one complete White Pages directory containing the particulars of subscribers to both fixed and mobile services, while having access to at least one information service at marginal cost. To this end, the *Revised ONP Voice Telephony Directive* imposes obligations on Member States to ensure that:

- subscribers have the right to an entry in publicly available directories, and to verify and (if necessary) correct or request the removal of that entry;
- directories of all subscribers who consent to be listed, including fixed and personal numbers, must be available to users in printed and, where appropriate, electronic form, and be updated regularly; and
- *directory enquiry services covering all listed subscriber numbers must be available to all users, including users of public pay-phones.*

The *Revised ONP Voice Telephony Directive* requires organisations which assign telephone numbers to make available, upon request, the relevant information in an agreed format on fair and non-discriminatory terms. Where no organisation is willing to make telephone directories publicly available or to provide enquiry services to all users, the net cost of providing these services may be shared amongst operators providing public basic telephony under a universal service financing scheme.

Clearly, the special quality of directory information as the means to access users raises particular sensitivities about exclusivity of rights and the abuse of dominant positions. The Commission's elimination of exclusive rights over this information seeks to promote the dynamic development of supply, while respecting the rules of competition and taking into

342 As a result of the protracted dispute between BELGACOM and ITT, *Belgium*, along with *Germany* and *France*, has opened up the directory services sector to competition, at least insofar as it relates to basic telephony.

account both market liberalisation and the anticipated development of trans-European networks and services. The key market importance of raw directory data, and the potential for abusive conduct in relation to that data by telecoms incumbents, has led a small number of Member States, including *France* and *Denmark*, to treat it akin to an essential facility. Accordingly, both of these Member States require that an independent third party be responsible for the management and dissemination of directory service data to all interested economic actors.

(ii) A Workable Regulatory Model for Navigation Systems

The regulatory concerns which are relevant to the administration of directory services and customer data apply, with even greater force, to the directory service which will prevail in a multimedia environment (*i.e.,* navigation systems or "EPGs"). In a multimedia environment, directories will become increasingly important as the means that enable users to identify and extract information from the increasing volumes of material available to them. EPGs and Internet search engines are mere tastes of what is to come. In the near future, home viewers will be able to access up to 500 channels of content. The average consumer will be able to interact with a set-top-box which, through a combination of pattern recognition technology and user inputs, will select a desirable line-up of content. This custom-tailored supply of information will draw from the entire world's resources of available content.

Foreclosure Concerns

Regulators would be concerned if the terms of access to such intelligent programme guides and search engines restricted the access of consumers to services, particularly those used most frequently. That concern is exacerbated if, by virtue of their links with content providers or their vertical integration, the operators of such guides favour their own sources of content to the detriment of other content and service providers. Consequently, the policy priority of maintaining fair and effective competition is closely linked with the goal of ensuring consumer choice through access to navigation systems that allow users to be both selective and intelligent.

Two scenarios are of particular concern, unless addressed by regulators. The development of multiple proprietary navigation systems would force the consumer who wished to access as much information as possible to use multiple pieces of hardware and subscribe to multiple services. The result would be the inefficient flow of information and the potential for anti-competitive practices; these concerns are particularly acute where first-mover advantages in the market result in enduring market dominance. Alternatively, the development of open technology navigation systems without some form of prescribed conditions of competitive access would allow the owner of the set-top-box to provide complementary information from other providers while blocking providers with similar product niches.

The potential concerns for competition are compounded when one considers the already well-established content providers who may become the creators and owners of navigation technology. The ideal scenario will be the establishment of a navigation system based on open

technology to which access will be granted according to market forces. This is ultimately beneficial for consumers because it promotes efficiency and transparency.

United Kingdom Experience

In view of the similarities between the role currently played by EPGs and the anticipated role of future generation navigation tools, it is worth considering the current regulatory position of EPGs at the Member State level. The only country that has dealt with the regulatory issues flowing from EPGs is the *United Kingdom.* There are four principles underlying the approach adopted in the *United Kingdom* by the ITC.[343] The ITC is attempting to establish an environment which encourages investment and which provides viewers with easy access. It intends that providers of EPGs be able to earn a return on investment in the development of their services and from the provision of these services to broadcasters. It is also concerned that broadcasters negotiate with EPG providers on a fair, reasonable and non-discriminatory basis, and that the broadcaster not face any unreasonable barriers in accessing a service where this would inhibit the provision of services to viewers. To this end the ITC has developed a *Code of Conduct on Electronic Programme Guides ("Code").*[344]

The ITC's *Code* prevents EPG providers from discriminating between free and pay TV services in selecting the services to be included on the EPG or in its operation. EPG providers must give due prominence to public service channels. If an EPG provider is also a broadcaster (or is connected to, or affiliated with, a broadcaster), any display must not give priority or prominence to its own (or affiliated) service. All agreements with broadcasters must be made on fair, reasonable and non-discriminatory terms. Agreements may not be conditioned on a broadcaster's accepting to refrain from using any other EPG service, nor may they include technical terms designed to achieve that end.

The approach to EPG regulation is a logical extension of the approach being taken to conditional access systems in the *United Kingdom.*

343 To the extent that EPGs can be considered to be conditional access systems, the ITC's regulatory authority is shared with OFTEL.

344 The ITC Code of Conduct on Electronic Programme Guides, June 1997.

Analogous Regulation

A case-by-case application of general competition rules, as in the context of the guidelines developed by the ITC, is arguably the least intrusive regulatory action which can address the potential for abusive behaviour arising from the operation of EPGs. In the longer term, however, evidence of market failure and the possibility of enduring abuse by powerful industry players may require more intrusive regulation. To this end, important parallels can, in the view of the Study Team, be drawn with the Commission's policy approach to computer reservation systems in the airline industry. The block exemption regulation concerning the development of computer reservation systems[345] contains guidelines that have been developed with a view to achieving the most competitive industry structure possible, in light of the obvious vertical integration which would favour the service elements of a particular provider at the expense of its competitors.

Article 85(1) of the EC Treaty prohibits any agreement between undertakings which prevents, restricts or distorts competition. This prohibition is subject to an Article 85(3) exemption being available when the Commission determines that the agreement, despite the existence of certain anti-competitive elements, allows an effective degree of workable competition to be maintained. In order to facilitate certain types of regularly occurring transactions, the Commission may also grant "block exemptions" under Article 85(3), which enable the contracting parties to execute their agreement without notifying the Commission when certain objective requirements are satisfied.

The underlying rationale behind the *CRS Block Exemption Regulation* is a recognition that, while the airline industry has oligopolistic characteristics, the capital intensive requirements of creating a CRS requires a degree of regulatory flexibility. Therefore, the block exemption permits four types of otherwise *prima facie* restrictive obligations:

- an obligation on any party not to engage in the development, marketing or operation of another CRS;
- an obligation on the system vendor (the undertaking running the CRS) to appoint parent carriers or participating carriers as distributors;
- an obligation on the system vendor to give distributors exclusive rights in a defined territory; and
- an obligation on the system vendor not to allow distributors to sell competing distribution facilities.

345 Refer to Commission Regulation 3652/93 of 22 December 1993 on the application of Article 85(3) of the Treaty to certain categories of agreements between undertakings relating to computer reservation systems for air transport services, OJ 1993 L333/37. The essential elements of the block exemption were drawn from the *London European/Sabena* decision. Sabena was fined 100,000 ECU for not allowing London European to register its flights on Sabena's CRS system ("Saphir"). Saphir had a market share of between 40 and 50% of the relevant market. Accordingly, the Commission considered that a listing on Saphir was critical for success on the relevant route. Sabena's refusal to list London European's flights reflected a desire to maintain high prices. Sabena also attempted to make listing conditional on entry into a contract for baggage handling (to recoup the lost revenue).

To benefit from this exemption, however, participating entities must:

- provide equal and non-discriminatory rights of access to and participation in the CRS for any air carrier;
- provide a principal display which presents all participating carriers' data in an accurate, comprehensive and non-discriminatory manner;
- ensure the comprehensive and accurate provision of data by air carriers and the equal treatment of the system vendor in loading and processing it;
- charge transparent, non-discriminatory fees which are reasonably cost-related;
- limit the distribution of information generated by the CRS;
- provide distribution facilities to subscribers on a non-exclusive, non-discriminatory basis with a right to withdraw; not tie CRS subscribers to the sale of their products or to encourage it by linked incentives; and
- not enter into any market-sharing arrangement between system vendors.[346]

The *CRS Block Exemption Regulation* provides a flexible legal framework designed to overcome bottlenecks and to prevent abusive behaviour such as discrimination, tying and cross-subsidisation by integrated providers. As such, it constitutes an effective and light-handed regulatory response to a situation that is analogous to that presented by integrated EPG providers.

The future multimedia environment will be made up of several key players. There will be navigation providers, service providers, and consumers. The service providers, who provide access to services through set-top boxes, will distinguish themselves on the quantity and quality of programming they make available and the ease with which consumers can access that programming. This future multimedia scenario has strong parallels with the way in which an airline's CRS system operates. A CRS system is desirable if many airlines and routes will be represented and if the mechanisms for viewing flight information and making reservations are uniform, assuring the ticket purchaser that all available route and price options have been accessed. Likewise, a navigation provider which provides competitive access to its platform enables the viewer to select from all available information at the most competitive price.

CRS information on flights and prices originates with airlines themselves. Similarly, in the multimedia environment, navigation providers disseminate content which originates with content providers. Therefore, while an airline ticket purchaser might forego a ticket on a name brand airline for a cheaper flight on a charter, the purchaser is unlikely to do so if the information on the charter is difficult to locate.

346 See discussion in Bellamy and Child, *Common Market Law of Competition,* 4th ed., Sweet & Maxwell, 1996.

Implications for Multimedia

Access to directory and customer information is likely to become increasingly important in a multimedia environment, as the shift from voice communication to combined forms of traffic continues. The key to maintaining a competitive environment will be to ensure that access to customer information does not perpetuate "control" over customers (thereby deterring market entry).

The competition law concerns of foreclosure are strongest where "navigation systems" and EPGs are operated by vertically integrated entities. It is important that such systems are operated in a neutral and non-discriminatory way. It is arguable that the competition rules, applied on a case-by-case basis, can provide an appropriate short-term response. It is important that the regulatory response is proportional to the potential for anti-competitive conduct, and that the developing market is not unnecessarily restricted. However, if there are long-term foreclosure concerns, more restrictive regulation may become necessary which is designed to promote a competitive structure for the industry and to ensure transparency in the relationships of the various entities in the multimedia value chain.

4.2.3 Inside Wire

In a significant number of Member States (*e.g., Spain, Belgium* and *Germany*), either by express legislative decree or by virtue of a legal presumption or trade practice, the incumbent telecoms operator "owns" the inside wire which runs through the property of the owner of the premises from the point of entry into the home. This prescription or presumption of ownership is premised on the existence of a monopoly situation. Clearly, this can no longer by justified in a liberalised, multi-operator environment. The Scandinavian countries and the *United Kingdom*, having liberalised their telecoms markets well ahead of the 1998 liberalisation timetable, have already addressed this issue.

In these latter countries, the transfer of ownership of the inside wire to the individual property owner has been acknowledged as facilitating the entry into the home of alternative local access providers *via* the same point of entry (because it is not necessary to obtain permission from the incumbent telecoms operator to use the wiring).

Implications for Multimedia

The build-out of competitive broadband networks may need to overcome the important practical impediment presented by the continuing ownership of inside wire by the incumbent telecoms operators in many Member States. In the absence of consumers being able to move freely from one network operator to another without incurring significant transaction costs or inconvenience, the ownership of inside wire by telecoms operators poses a threat to the overarching goal of a platform-independent multimedia environment.

4.2.4. Access to Content

The Regulatory Issues

In a multimedia environment, operators with exclusive access to content with a high market value will be in a particularly powerful position. Whilst it is generally true that the overall volume of content and the number of content producers is increasing exponentially, the qualitative divide between commercially valuable content and other types of content will continue to exist. This divide is illustrated by the relative importance attached to exclusive football broadcasting rights throughout the European Union, the "perishable" nature of which has led such programming to become a key driver of the Pay-Per-View market.

Where access to high value, perishable (*i.e.*, very short shelf life) content such as sporting events and first release films lies in the hands of a small number of operators, other market actors may consider that content to be an "essential facility" or "bottleneck" to which they should be provided access on fair and equitable terms. To the extent that these content providers are vertically integrated across the transmission and service provision levels of the multimedia value chain, there may be scope for applying some telecoms regulatory principles to the broadcasting sector. The policies designed to introduce greater transparency in the commercial dealings of integrated operators (*e.g.*, the principles of non-discrimination) and to address particular instances of abusive conduct (*e.g.*, bundling and excessive pricing) may be particularly relevant.

(i) Community Legal Framework

(a) Competition Rules

The potentially anti-competitive effects of exclusive and long-term arrangements for content distribution, particularly for content that is essential for subscriber take-up, have, to date, been dealt with at the Community and Member State level, pursuant to Articles 85 and 86 of the EC Treaty and their national equivalents.

Market Definition

It is generally accepted that a distinction should be drawn between "content" *per se*, channels, means of (or platforms for) delivery, and encrypted or free access signals. In addition, there is a large, and increasing, number of service and product markets in the multimedia sector. Although defining product markets by reference to programme content has proved to be difficult, the rapid increase in the number of specialised channels (brought about by digitalisation and the spread of cable TV) has opened the possibility of particularly narrow product markets being defined in terms of their limited substitutability with other programmes (*e.g.*, whether coverage of one sport is substitutable for another, or whether

international and national level competitions are substitutable).[347] Issues of market definition can only be settled on the facts of each case. However, there appears to be a general trend towards treating specialised services as less and less substitutable, as the industry develops and consumer expectations continue to rise. Already, the Commission has identified separate product markets for motor racing and football rights. On basis of such narrow market definitions, it appears that the Commission and the European Court of Justice are prepared to accept that access to certain types of content is a significant factor in shaping the competitive structure of the developing multimedia market.

In addition, there may exist different functional levels of the market for the same type of content. For example, the effects on competition may vary between wholesale and retail markets for content. In the case of wholesale markets, the relevant relationship is between the content provider and the broadcaster (*e.g.,* cable TV), whereas the retail market is the relationship between the content provider or broadcaster and the end user.[348]

The geographic markets for content appear to be largely national or regional, with linguistic factors, rather than geo-political issues, as the determining factor.

Exclusivity

Exclusivity *per se* is not contrary to the terms of Article 85(1) of the EC Treaty, which prohibits anti-competitive agreements and practices. Justifications for exclusive broadcasting rights are frequently made in the context of the existence of "perishable" content (*e.g.*, sports and new release feature films). It is often contended that exclusivity with respect to these forms of content is necessary for the major investments needed to launch a new service (be it digital television, conditional access or a pay-per-view service); accordingly, Article 85(1) does not apply in those cases where the investment would not have been made at all in the absence of a grant of exclusivity. The case-law accepts that, in extreme cases, no rational investor would accept the risks of the investment without obtaining substantial exclusive rights in return.[349] The test to determine whether exclusivity is justifiable is made on the basis of objective, not subjective, factors. In some cases, exclusive rights may be necessary, at least for an initial start-up period in order to penetrate new markets. However, any rights extending beyond the basic minimum required are likely to fall within the Article 85(1) prohibition. Similarly, the cumulative effects of a series of agreements may also trigger Article 85(1). Exclusivity must, in any event, be reasonable, in terms of its duration and scope. Both of these factors are assessed on a case-by-case basis, depending on the market power exerted by the respective parties to the exclusive agreement. The existence of a sub-licensing policy will also be helpful in limiting the harmful effects of any exclusivity granted.

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347 See *EBU-Eurovision System*, OJ 1993 L179/23 (annulled in Case T-528/83).

348 See Commission Notice on the definition of the relevant market for the purposes of Community competition law, OJ 1997 C372/5.

349 Case 258/78, *Nungesser v Commission*, 1982 ECR 2015; Case 262/82, *Coditel v Cine-Vog Films*, 1982 ECR 3381.

The nature of the content itself may also affect the treatment to be afforded to particular instances of exclusivity. For example, the right to broadcast a sports event live acquires greater value if it is exclusive. By contrast, exclusivity is not necessary to put a value on rights to films (unless they are "new releases"). Similarly, the rights to a sporting event or a connected series of events may be difficult to split up satisfactorily or easily (*e.g.*, the Olympics are more marketable as a whole, rather than by each discipline), while there is no reason to deal with a film studio's catalogue or output as a whole. In addition, the greater the number of forms of exclusive distribution enjoyed by the same product, the less the anti-competitive effect of such exclusive arrangement (*i.e.*, exclusivity regarding the same event or film for terrestrial TV, satellite TV, Pay-Per-View, etc.)

If there is a risk that Article 85(1) will apply, the question becomes whether the conditions of exemption under Article 85(3) are satisfied, and, if so, the period of time for which an exemption should be given. This issue should be addressed on the facts at the time that the agreement is made, because the Commission cannot "wait-and-see" how the market will develop, since that would essentially compel it to take a position on future developments.

In addition to the calculation of market share, market power for purposes of Article 86 can be measured by a variety of other factors. A content provider's dominance may be based on the ownership or acquisition of exclusive rights over large volumes of commercially valuable content (*e.g.*, new release feature films, sports or a well-known news service). The effect of these rights as barriers to entry are likely to be more serious in new, already concentrated markets than in long-established markets.[350]

(b) Public Interest Legislation

In addition to the competition rules, legislation has been adopted at the Community level to ensure consumer access to content of significant public interest.

To this end, the revised *Television Without Frontiers Directive*[351] reflects the adoption of a light-touch regulatory regime which ensures that market power does not extend to key sporting and cultural events (identified on a individual Member State basis). It requires a Member State to ensure that broadcasters under its jurisdiction do not exclusively broadcast events, which the State regards as being of major importance for society, in a way that deprives a substantial proportion of the public of the ability to receive the event via live or deferred coverage, free to air. The Member State must draw up lists of national and non-national events which it considers to be of major importance for society.[352]

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350 Some sectors of the media are said to exhibit a "flow on" effect which is important in assessing the effects of exclusivity. Essentially, this occurs when one company obtains market share substantially greater than its competitors, and this itself attracts further customers. The risk of a "flow on" effect is cited by some commentators as a strong reason for authorising exclusivity only for limited periods of time, so as to reduce the risk of creating or entrenching a dominant position.

351 *Directive* 97/36/EC of 30 June 1997 amending Council Directive 89/552/EEC on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities. OJ 1997. L202/60.

352 Refer to list of specified events in individual Member States reports at Annex II of this Study.

(c) Analogies from Other Forms of Regulation

The increasingly complex relationships developing between content, service and platform providers, and the growing number of vertically integrated multimedia operators may mean that a certain degree of direct regulatory intervention is required where access to key forms of content is tantamount to the ownership or control of an essential facility or bottleneck. Existing case-law and administrative practice illustrates that intangible rights can display the characteristics of an essential facility (*e.g.*, copyright), in the same way as tangible rights (*e.g.*, access to infrastructure). Seen in this light, more intrusive regulation that ensures fair, non-discriminatory and transparent access to "essential" content could well be justifiable in a future multimedia environment (*i.e.,* on terms similar to those in the *Interconnection Directive* which prohibit operators from discriminating in favour of their own service arms as compared to third parties) where the content is subject to the ownership or control of entities which is vertically integrated across many layers of the multimedia value chain.[353]

In considering whether to mandate stricter content control rules for vertically integrated or concentrated multimedia operators, the approach taken in the *United States* may be instructive. According to *United States* law, programme access rules have four key elements:

- **Unfair practices.** The rules prohibit unfair methods of competition and unfair or deceptive acts or practices with the purpose or effect of significantly hindering the supply of programming to consumers.

- **Exclusive contracts.** The rules prevent cable operators from using vertical integration to deprive competitors of essential programming.

- **Vendor discrimination.** The rules prohibit the use of vertical integration to disadvantage competitors through discriminatory terms of programme access.

- **Undue or improper influence.** The rules prohibit operators from improperly influencing an affiliated content provider's decision whether (and on what terms) to supply programming to an unaffiliated distributor.

(ii) Comparative Overview

The issue whether access to specific forms of content should be mandated has arisen in a number of Member State jurisdictions. In each case, access to football broadcasting rights on an exclusive basis has been the subject of legal challenge.

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353 *Directive* 90/387/EEC on the establishment of the internal market for telecommunications services through the implementation of open network provision, OJ 1990, L 192/1.

Spain

Law 21/1997 regulates television and radio broadcasting of particular sporting events (including national level professional competitions, national teams and events of special importance). No agreement (whether exclusive or otherwise) can prevent access to coverage of these events in general news programmes (free, for up to three minutes of coverage per event). The owner of the broadcast rights must authorise transmission of specialised sports programmes. The Council of Sport Broadcasting prepares a catalogue of events of "general interest" at the beginning of each season. These events must be broadcast live, unencrypted and over the whole of *Spain*.

Licences of sporting rights have been examined by the Spanish authorities and the European Commission on three notable occasions:

- A joint venture agreement to pool football television rights for the Spanish League and Cup Championships for a five year period was notified to the Commission on 12 March 1997. Pay-per-view rights to the pool are to be exclusively sub-licensed to a subsidiary of one of the joint venturers. The joint venture is still under review.
- The Spanish Competition Tribunal held, in 1993, that the National League of Professional Football held a dominant position on the market for the television broadcasting of football.
- In early 1997, the Spanish Competition Service requested details of the agreements with football clubs from the joint venturers referred to above. Although as yet not resolved, it is clear that the acquisition of exclusive rights to Spanish football matches is the subject of great controversy.

The Netherlands

The key role of particular kinds of content, and the power to be derived from access to it, have been considered in two contexts recently:

- **Dutch Football Rights.** The Dutch Football Association, which had sold its rights to public broadcasters, became a partner in a commercial sports channel (and offered it exclusive rights to all matches in the Dutch league). Although the commercial channel collapsed, and the public broadcasters were given access to matches, the Competition Authority ruled that the rights of the Football Association to all football matches should not be used to exclude public broadcasters. Essentially, no broadcaster can exercise exclusive rights unless those rights have been offered to all other broadcasters (who have declined to broadcast the events).

- **Holland Media Group.**[354] The Commission's Merger Task Force refused to grant clearance to the Holland Media Group concentrative joint venture (HMG) between the largest Dutch TV producer and a number of independent TV channels. The Merger Task Force concluded that HMG would occupy a dominant position in the Dutch market for advertising and that the producer's existing dominance in the market for independent TV production would be strengthened, on the following grounds:

    - the independent broadcasters, combined, would give HMG a high audience share in advertising;
    - the broadcasters would be able to coordinate their schedules to attract a greater number of viewers and to target the most attractive groups for advertisers;
    - the "combined mass" of the HMG broadcasters would be able to match (or better) the programming of competing channels and new entrants;
    - HMG would have advertising market share of at least 60%; and
    - the structural link to the largest Dutch independent producer would give HMG preferential access to some very successful productions.

The HMG case illustrates the fact that the existence of structural links between broadcasters and content provision is capable of distorting content markets because of the natural tendency of the vertically integrated broadcaster to provide preferential access to its own content at the expense of other independent broadcasters.

United Kingdom

Much of the *United Kingdom* experience in relation to access to content centers on the activities of, and investigations into, the practices of BSkyB (the dominant satellite broadcaster). There are currently a number of separate reviews, both before the Commission and the *United Kingdom* authorities, that involve BSkyB's practices. For example:

- British Interactive Broadcasting ("BiB") notified a joint venture agreement to the Commission in August 1997.[355] BSkyB and BT are two of the parties to the agreement. The Commission is still reviewing the notified agreement. However, press reports suggest that the Commission has "fundamental concerns" about a digital broadcasting venture involving BSkyB and BT, since both hold dominant positions in their traditional market sectors. The Commission is also apparently concerned that BSkyB and BT might use BiB to cross-subsidise other parts of their respective businesses, and that BT

354 *Decision* of 20 September 1995 relating to a proceeding pursuant to Council Regulation (EEC) No 4064/89 (IV/M.553 – *RTL/Veronica/Endemol*) OJ 1996 L134/32.

355 *British Interactive Broadcasting-BiB*, OJ 1997 C259/3 (Case No. IV/36.539).

would have little incentive to improve its own network if it were to be involved in BiB.

- The Commission is examining the ways in which BSkyB supplies programming to the *United Kingdom* cable TV industry. Both OFTEL and the DTI have been assisting in the collection of information about BSkyB's conduct, particularly in relation to its setting of prices. According to the press, the cable companies in the *United Kingdom* are alleging that the charges in BSkyB's rate card (cleared by the OFT in 1996) have forced subscription cost increases, and have consequently deterred customer subscriptions. In addition, concerns have been expressed that BSkyB's access to a large portfolio of content (*e.g.*, new release film library and sporting rights) provides it with both the opportunity and incentive to bundle its programming on a wholesale basis to cable TV operators. BSkyB's practices relating to content are also the subject of ongoing proceedings before the *United Kingdom*'s Restrictive Trade Practices Court.

Prior to these current proceedings, BSkyB's proposed participation in a consortium in 1996 (together with two terrestrial analogue broadcasters) bidding for a digital terrestrial television licence ("BDB") was also the subject of review. In those proceedings, the ITC sought the advice of the European Commission, realising that BSkyB's presence in the consortium raised Article 85 and 86 issues. On the strength of the Commission's recommendation, the ITC informed the joint venture that no licence could be issued unless BSkyB ceased to be a shareholder. Again, the reasons cited included BSkyB's dominance in the analogue satellite broadcasting market and its extensive content portfolio. BSkyB withdrew, selling its shares to the other shareholders.

Implications for Multimedia

In the absence of overriding public reasons justifying regulatory intervention, it would be premature to mandate access to content, except in a limited range of circumstances. Case law and administrative practice under European competition rules are sufficiently well developed to deal with situations where exclusive rights to key content packages raise barriers to entry for competitors or foreclose content providers from distributing their content to delivery platforms.

The list of events designated in the Television Without Frontiers Directive constitutes a proportional response by the Member States to the issue of which types of "perishable" content (particularly sporting events) cannot be the subject of exclusive broadcast rights. Coupled with this, the practice of the Commission has been to define relevant product markets in terms of sporting events in very narrow terms (e.g., "Formula One Racing", "Pay-TV Football Rights"), allowing it to determine that parties may be "dominant" with respect to a variety of sporting rights and raising the possibility of compulsory licensing to ensure that access is available to such content in appropriate circumstances .

By analogy with the regulatory treatment of interconnection in the telecoms sector, it is arguable that vertically integrated entities with access to key elements of content (e.g., exclusive rights to sporting events) might be required to provide access to such content on fair and equitable terms. They should offer terms that are comparable to those pursuant to which it supplies its service arm or connected or affiliated service providers. Conceptually, there is no regulatory rationale why an intangible right such as "content" cannot be an "essential facility" if the legal elements satisfying that categorisation are otherwise satisfied.

4.2.5 Proprietary Standards[356]

The Regulatory Issues

Private proprietary standards, particularly those supported by strong intellectual property rights, can serve a gatekeeping function, and have the potential to be key competitive factors in a multimedia environment. They also have the potential to affect a broad range of areas, ranging from equipment standards, to software protocols, to access to content (*i.e.*, conditional access systems). Solutions exist for nearly all of the interoperability problems at an infrastructure level. The focus of future standardisation practices in a multimedia environment will be at the level of service creation and conditional access to delivery platforms. In the converging multimedia environment, there are a number of lessons which can be learnt from the computer and IT sectors, which have already experienced the potential of proprietary standards to either foreclose or facilitate market entry. The existing spread of proprietary standards for conditional access systems in the broadcasting sector might also benefit from the experiences of the IT sector.

(i) Standardisation and Competition Rules

There are two clear benefits of standardisation in a multimedia environment:

- **Market integration.** Since *Cassis de Dijon,*[357] it has been clear that Member States may impose product specifications to protect mandatory requirements (*e.g.*, safety and consumer protection). If national standards differ or are incompatible, the effect may be the creation of technical trade barriers between Member States. European standards may be the mechanism to combat this problem. The current European approach increasingly seems to be to establish essential requirements and then confer power on one or more regulatory bodies to develop or design standards or specifications to meet the requirements. For example, telecoms equipment standards to ensure interoperability have been established in this way.

- **Efficiencies.** It is widely recognised that standardisation can lead to rationalisation of production, economies of scale and increased efficiency for research and development.

Despite these positive effects of standarisation, there is a wealth of administrative practice which suggests that standards, if abused by individual companies or groups of companies, can foreclose competition and stifle innovation. The effect on competition of standard-setting

356 Article 1 of *Council Directive 83/189* provides that:

"Standard shall mean a technical specification approved by a recognised standardising body for repeated and continuous application, compliance with which is in principle not compulsory."

357 *Rewe-Zentral AG v Bundesmonopolverwaltung fr Branntwein* 1979 E.C.R. 649.

bodies is, in many respects, dependent on the identity of the parties involved in the standard-setting process. For example, single firm *de facto* standards, as the IBM and Microsoft experiences demonstrate, have the potential to create a significant bottleneck effect. Multi-firm commercial standards have a somewhat less restrictive effect, while formal commercial standards and government standards are generally the least detrimental to competition.[358] Standardisation in the multimedia environment is becoming increasingly dominated by multilateral and formal commercial standards. This is particularly the case in areas relating to content and service packaging, which tend to be characterised by innovation and high risk (but with low sunk costs).

The competition issues that stem from multilateral standardisation, as reflected in the Commission's existing administrative practice,[359] can be broadly grouped as follows:

- **Access to the standardisation process**. Generally, the greater the competitive advantage to be derived from participation in the standardisation process, the more open a standards-setting group should be. As a general rule, standards groups should be as inclusive as possible. Current cooperation between ETSI and the DVB group suggests that, at least in the European Union, as broad a group as possible is actively involved in the standardisation process.[360] Accordingly, no obligations to share technology should be imposed as a condition for membership. Standard licence agreements should be on fair and reasonable terms.

- **Spill-over effects**. Standards should be avoided unless they are necessary for legitimate objectives. In addition, the selection of standards should be based on objective, relevant, qualitative and verifiable criteria. Testing must be conducted in a fair, open and verifiable manner by someone with no direct interest in the outcome, with the possibility of appeal to an independent body. Information exchange should be limited to the extent necessary for actual standards development.

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358 The main standard-setting authorities at the European level are:

- CEN (European Committee for Standardisation);
- CENELEC (European Committee for Electro-technical Standardisation); and
- ETSI (European Telecommunications Standards Institute).

359 Communication from the Commission to the Council and the European Parliament on "Standardisation and the Global Information Society: European Approach, COM (96) 359 final; cf. 1992 Commission Communication on "Intellectual Property Rights and Standardisation", COM/92/445 final. Decision 87/69, *X/Open Group*, OJ 1987 L35/36, February 6; 1987. Notification of *ETSI IPR Policy*, OJ 1995. C76/5, 28 March, 1995 *IGR Stereo TV/Salora*, 11th Comp. Rep. 1982 ; 14th Comp. Rep. 1984; Decision 75/570, *Bronbemaling/Heidemij*, OJ 1975. L249/27, 25 September1975; *Philips/Matsushita DCC*, OJ 1992 C333/8, 17 December 1992.

360 The DVB Consortium has set standards for terrestrial, cable and satellite based digital broadcasting systems (DVB-T, DVB-C and DVB-S). The Consortium's standard-setting exercise focussed on defining compression standards that would be economically viable in light of the microprocessor and compression technology available at the time and its objective to increase the variety of channels (rather than improve the quality of signals). Accordingly, it chose the cheapest available standard.

- **Access to standards**. The results of standardisation arrangements should be available on fair, reasonable and non-discriminatory terms and conditions to participants and outsiders, as soon as reasonably possible.

- **Reduction of product differentiation and over-standardisation**. Standardisation should not be exclusive nor should it prevent the use of additional technology, particularly in the case of *de facto* or *de jure* mandatory standards or where the standard-setter has a large market share. In addition, to maintain maximum competition on the basis of quality and product differentiation, the level of standardisation should be limited to that which is indispensable (to achieve the standard's objective).

- **Access to technology required to comply with standards**. There are a number of key issues which arise in the context of the compulsory licensing of intellectual property rights, namely:

    - whether a refusal to license limits products or markets to the prejudice of consumers;
    - whether a refusal to license can be justified (*e.g.*, on the grounds of insufficient capacity);
    - whether the party seeking access has a legitimate interest in access to the rights; and
    - whether competition is excluded by the licensing process.

(ii) Standardisation in a Converging Environment

Digital broadcasting provides one of the clearest illustrations of the role of standardisation in industry development. The European Community is a leader in terms of digital broadcast services. Its advantage is largely due to the industry-driven open standards (for terrestrial, cable and satellite systems) that have been adopted as ETSI standards. There is no basis for separating audiovisual signals and other forms of data streams, and it is difficult to predict which hardware platforms will be accepted. Accordingly, the industry has developed open standards that are aimed at ensuring that new media forms are compatible with a range of hardware platforms (whether PC-based multi-purpose platforms, dedicated platforms with a lower level of interactivity or something else).

The adoption of a compression standard that distinguishes between platforms would, for example, have significantly delayed convergence of technologies. Standards that perpetuate the separation of computers and "entertainment hardware" would make it difficult to overcome consumer resistance (due largely to uncertainty and unfamiliarity) and would retard the development of the relevant software and hardware industries. Broadcasting is essentially only one of several competing distribution media for data, voice and video services. Digitalisation will allow the simultaneous carriage of services over a variety of distribution networks. Broadcasting signals should be interoperable with other distribution forms (particularly those using switched or routed networks). Regulators throughout the

European Union should therefore continue to develop or allow open, platform-neutral standards.

The issues that have arisen in the digital broadcasting standard-setting process are common to most parts of the converging environment. A similar attitude to open standards can be seen in the experience of the IT industry over the past few decades. Early systems were proprietary and, for that reason, exhibited significant interoperability problems. AT&T's Unix system and IBM's introduction of DOS were the first hardware independent systems. By way of contrast, the TCP/IP (Internet working protocol) is the most recent step towards an "open" system. When the *United States* government removed the restrictions on the use of the Internet for commercial purposes, it "exploded" almost overnight into one of the most successful IT standards ever developed. In turn, the industry worked to develop open standards to support the free flow of information, and to prevent the Internet from becoming a proprietary system. It has subsequently summarily rejected all attempts by hardware manufacturers to create closed (and proprietary) standards for client servers.

In a "traditional" telecoms context, it is worth noting the approach currently being taken to the development of an appropriate UMTS standard.[361] Agreement has been reached with respect to extending coverage, higher bit rates, better spectral efficiency and greater flexibility for the consumer. It similarly appears to be accepted that backbone infrastructure will continue to evolve to support UMTS applications, and that multi-mode terminals (for global roaming) are likely to be required, since the development of different regional systems that will support different air-interfaces appears to be virtually inevitable. At this point, the standard is likely to be no more prescriptive than requiring the support of certain elements.

361 Communication from the Commission to the European Parliament and the Council, the Economic and Social Committee and the Committee of the Regions, Strategy and Policy Orientations with regard to the further development of Mobile and Wireless Communications (UMTS). COM(97)513 of 15 October 1997.

Implications for Multimedia

- *Standardisation based on open standards is an important means of ensuring platform independence.*
- *The creation of a fully converged environment should be characterised by interoperable distribution media, particularly between broadcasting and switched or routed systems.*
- *Proprietary systems should not be developed in a way that will inhibit integration and interoperability of systems.*
- *Despite very real competition issues, regulators must be sensitive to the commercial need to recoup the massive investments required to launch new multimedia services (which are usually based on proprietary standards).*

5. Regulatory Authorities for Multimedia

The Regulatory Issues

In a multimedia environment, the effective implementation and enforcement of fundamental policies on market entry (*e.g.*, licensing) and market operation (*e.g.*, interconnection and access) will depend on the existence of regulatory bodies with enforcement charters that are both broad and flexible enough to deal adequately with new issues.

Unfortunately, the different regulatory traditions which underpin the telecoms, broadcasting and publishing sectors are still reflected in the fundamentally different regulatory bodies responsible for these vertically separated sectors. Until recently, regulators have been able to operate within these vertical boundaries. However, our interviews suggest that vertically segregated regulation is increasingly creating difficulties for regulators and market players alike, as evolving multimedia services often fall within the jurisdiction of multiple regulators (*e.g.*, conditional access systems). The boundaries between jurisdictions are thus becoming artificial, uncertain and difficult to enforce.

The pressure of convergence has led some jurisdictions to review their traditional regulatory structures, and to contemplate a shift towards horizontally defined jurisdictional competence.

5.1 EXISTING REGULATORY STRUCTURES

5.1.1 Telecoms

(i) Community Legal Framework

Community law imposes a number of legal obligations on Member States in relation to the structure and responsibilities of their regulatory authorities in the telecoms sector. The key legislative instruments are:

Terminal Equipment Directive[362]
Services Directive[363]
Interconnection Directive[364]
Revised ONP Framework Directive[365]

For example, Member States are obliged under both the *Terminal Equipment Directive* and the *Services Directive* to draw a clear distinction between the regulatory functions of regulatory authorities and the operations of incumbent telecoms operators. Since 1991, as a result of these directives, the powers to grant operating licences, to control type approvals and mandatory technical specifications, to allocate frequencies and numbers and to monitor usage conditions, have been vested in bodies independent of the incumbent telecoms operators.

The *Interconnection Directive,* while confirming that the telecoms national regulatory authorities ("NRAs") should be legally distinct from and functionally independent of the telecoms incumbents, requires that additional regulatory functions be vested in the NRAs. In particular, the NRAs must be able to eliminate prohibitions on cross-border interconnection and be able to arbitrate interconnection disputes among operators.

Finally, under the *Revised ONP Framework Directive,* Member States are subject to the following notable additional obligations:

- In order to guarantee the independence of the NRA, Member States that retain ownership or a significant degree of control of telecoms incumbents must ensure effective structural separation of the regulatory function from activities associated with their ownership or control of the incumbent.

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362 Council Directive of 29 April 1991 on the approximation of the laws of the Member States concerning telecommunications terminal equipment, including the mutual recognition of their conformity, OJ 1991 L128/23.

363 Commission Directive of 28 June 1990 on competition in the markets for telecommunications services, OJ 1990 L192/10.

364 Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP), OJ 1997 L199/32.

365 Informal consolidated text of the ONP Framework Directive (Directive 90/387/EEC revised) - European Commission DG XIII, of 10 June 1997.

- Suitable mechanisms must exist at the national level to enable a party affected by a decision of the NRA to appeal to a body independent of the parties involved.

- The functions of the NRA must be made public and transparent.

Notwithstanding these requirements regarding the independence of NRAs, Community law is without prejudice to the institutional autonomy and constitutional obligations of the respective NRAs of the Member States. Consequently, Community law is neutral with regard to the public or private status of NRAs, the issue of whether NRAs must be independent of the Ministry responsible for telecoms, and the exact composition of NRAs. In addition, Member States are relatively free to determine the precise regulatory functions of their NRAs in the telecoms sector.

(ii) Telecoms Regulatory Authorities

In the light of full liberalisation, all Member States will have established a telecoms NRA by 1 January 1998. At the time of writing, Member States such as *Belgium*, *Denmark*, *France, Finland, Greece*, *The Netherlands*, *Portugal*, *Spain*, *Sweden*, and the *United Kingdom*, have fully operational telecoms NRAs. For instance, in *France*, the *Autorité de Régulation des Télécommunications* ("ART") has been operational since 1 January 1997, whilst OPTA in *The Netherlands*, the Institute Luxembourgeois de Télécommunications in *Luxembourg*, and the Office of the Director of Telecommunications Regulation in *Ireland* have been in place since the summer of 1997. OFTEL, in the *United Kingdom*, has been fully operational since 1984.

In other Member States (*i.e., Austria*, *Germany*, and *Italy*), the legislative decision to establish an NRA must still be implemented through further regulatory action. The *German* NRA is scheduled to begin to operate and assume its responsibilities by 1 January 1998.[366]

In almost all Member States, the NRA shares or will share its competence in the telecoms sector with the relevant Minister responsible for telecoms matters. *Sweden* provides a notable exception to this rule; the National Post and Telecoms Agency ("NPTA") performs all the regulatory functions in the telecoms sector (*i.e.,* there is no Ministerial involvement in the day-to-day regulation of the sector, nor in the granting of licences). Of course, there are numerous instances of telecoms NRAs seeking to expand the scope of their existing jurisdiction under national laws (*e.g., Belgium*).[367]

It is usual for the Ministry to be responsible for the granting of licences and the formulation of general regulatory policy. The NRA, on the other hand, is usually assigned the task of regulating market behaviour in a competitive market. This involves an important dispute

366 In fact, as of mid-October 1997, the German NRA had not received Parliamentary approval of its operating budget for 1998.

367 Refer to the 1996 Annual Report of the BIPT.

resolution function, plus the responsibility for overseeing policies on the equitable distribution of operating resources such as numbers, frequencies, and rights-of-way.[368]

In addition, certain Member States have created separate bodies to advise the telecoms Minister or to supervise compliance with various telecoms regulations. For example, the Regulatory Council in *Germany* provides advice on telecoms matters and the Independent Decision-Making Chambers, (*Beschlußkammer*), supervise compliance with telecoms laws. Finally, it should be noted that in Federal States, such as *Belgium* and *Germany* (and, to a lesser extent, *Spain*), telecoms is primarily a matter which falls within the powers of the Federal government (with the States or provinces being responsible for broadcasting matters and/or audiovisual policy).

(iii) Composition of the Telecoms Regulatory Authorities

The efficiency of an NRA in a liberalised market will depend in large measure on its degree of "independence", both from the telecoms incumbent and, to the extent that the government continues to be an influential shareholder in the telecoms incumbent, from the Ministry traditionally responsible for the regulation of the telecoms sector.

The composition of the telecoms NRA varies from one Member State to another. However, it is possible to group the Member States into three broad categories, based on the general approach taken in establishing their respective NRAs:

1. In *Austria*, *Germany* and *Italy,* the composition of the NRA is still in the process of being finally determined. The telecoms NRAs in this group are currently comprised of civil servants appointed, in a competitive process, by the Minister responsible for telecoms. A small number of experts may be appointed for a limited time under "expert" individual contracts.

2. In *Belgium*, *Denmark*, *France*, *Portugal, Ireland, Spain, Sweden* and the *United Kingdom*, the NRA is not fully independent from the government and is essentially composed of civil servants which are appointed by the Minister responsible for telecoms matters. In *France,* the members of the ART are appointed by the French Parliament. The *Irish* Director of Telecommunications Regulation is a civil servant directly answerable to the Irish Parliament. In *Spain*, the members of a special Council of the telecoms regulator, the CMT, are appointed by Parliament. In *Sweden*, the National Posts & Telecoms Agency (the "PST") is chaired by a Director General who is appointed by the Government (the Ministry of Transport & Communications) and is assisted by a Board of eight members which are also appointed by the Government.

3. In contrast, Member States such as *Finland* and *The Netherlands* have decided that the NRA must have a significant degree of independence from the government, and that

368 With respect to the latter, it is usually only general policy guidelines which are developed. It is usually up to local authorities to develop detailed policies regarding rights-of-way.

some of its members must also represent other broader industry interests. For example, some members of the Telecommunications Administration Center ("TAC") in *Finland* represent equipment manufacturers and users.

Telecoms NRAs are usually financed through the collection of licence fees and fees for the type-approval functions which they may perform, coupled with frequency fees which may be imposed. In the more liberalised countries such as *Denmark* and *Finland*, where most telecoms-related activities are not subject to licence fees, the telecoms NRA is financed primarily by the fees collected for frequency usage. In *The Netherlands*, the shortfall in fees which arise from the fact that few services require a licence is counterbalanced by a system whereby the telecoms NRA charges companies professional fees (charged on an hourly basis) for its services in acting as an arbitrator in "disputes" between market players;[369] a similar approach had been adopted by the telecoms NRA in the *United Kingdom* in the early 1980s (*i.e.*, OFTEL), but was soon abandoned.

5.1.2 Broadcasting

(i) Background

In contrast to the situation in the telecoms sector, Community law does not impose any institutional obligations on Member States in the broadcasting sector with regard to the nature and composition of NRAs.[370] Indeed, the *Amsterdam Protocol* of 1997 confirms the freedom of Member States to organise the regulation of the broadcasting sector.[371] Consequently, the relationship between the government and a broadcasting NRA tends to vary significantly from Member State to Member State.

In all of the Member States, a licence to broadcast must be obtained from the relevant regulatory authority. This authority is normally the body that combines the licensing function with supervisory and regulatory powers over programme standards and compliance with permit conditions. Typically, these regulatory authorities enjoy considerable discretion in the exercise of their licensing powers and in the formulation and enforcement of programme standards. They may also have some responsibility for enforcing competition rules in the interests of media pluralism. These powers are often shared with the national competition authorities.

369 Some new market entrants have argued that this procedure raises entry costs for them, as it encourages the incumbent telecoms operator to characterise many interpretations of the law as a "dispute".

370 The *Television Without Frontiers Directive*, for example, sets forth a series of harmonised standards for the quality of television broadcasts, but simply places obligations on Member States to apply these.

371 Protocol on the System of Public Broadcasting in the Member States.

(ii) Broadcasting Regulatory Authorities

The regulatory authorities in the broadcasting sector differ significantly as between Member States, creating a fragmented pattern of regulation for that sector in the European Union. However, it is possible to distinguish broadly between those Member States where broadcasting is under the direct responsibility of the national government, those Member States where broadcasting is regulated by national bodies that are relatively independent of the government, and those Member States where broadcasting is primarily the responsibility of regional (State) authorities.

1. Ministerial Responsibility

In the Member States where broadcasting is the responsibility of the Federal government, regulatory power is vested in either the Prime Minister or another Minister with a more specific portfolio.

In *Austria, Finland*, *France*, *Luxembourg*, and *Portugal*, broadcasting is primarily the direct responsibility of the Prime Minister. However, in *Austria*, the Authority on Regional Radio and Cable Broadcasting (*Regionalradio und Kabelrundfunkbehorde)* has some broadcasting regulatory powers. In *Luxembourg*, the Minister of Communications is responsible for the broadcasting infrastructure. In *Finland*, the Council of State is primarily responsible for the regulation of the broadcasting sector, both in terms of its drafting of the broadcasting regulations and its granting of broadcasting licences. Other Ministries also share responsibility for this sector (the Ministry of Transport & Communications, the Ministry of Education & Culture, and the Ministry of Commerce & Industry).

In countries such as *Belgium*, *Denmark* and *Ireland*, broadcasting is primarily the responsibility of the Minister responsible for cultural matters. In *Spain*, the Minister of Development has certain responsibilities in the broadcasting sector; responsibility for broadcasting is shared between this Minister and the regional and local authorities. In *Belgium*, the powers of the Minister of Culture and Social Affairs are shared with the *Conseil supérieur de l'Audiovisuel* for the French Community and the Media Council for the Flemish Community. In *Denmark*, certain technical questions fall within the scope of the powers of the Ministry of Research and Information Technology and the National Telecom Agency.

In *Italy*, broadcasting is the responsibility of the Ministry of Post & Telecommunications (to be renamed the Ministry of Communications). In *Italy*, until the recent creation of a Communications Authority for both the telecoms and the broadcasting sectors, the situation was complicated by the fact that public broadcasting was regulated differently to private broadcasting. The regulatory authority for public broadcasting was a joint committee of the two chambers of the Italian Parliament, the *Commissione parlementare per l'indirizzo generale e la viligenza dei servizi televisi*. In addition, certain regulatory powers were also vested in one senior officer, the

Garante per la radiodiffusione e l'editoria. The *Garante per la radiodiffusione e l'editoria*'s powers included supervisory and enforcement powers over both public and private broadcasting. Its principal functions were to keep a national register of broadcasting companies (and the press), to examine the accounts of broadcasting companies, programme producers and distributors and advertising agents, to monitor the rating systems and to apply a range of administrative sanctions for breach by the broadcasters of their programming duties. It also had powers to enforce rights of reply, which are shared with the ordinary civil courts.

Reflecting their relative importance in the cultural life of many Member States, a number of national regulatory structures include the voluntary regulations established by the major national public broadcasters (*e.g.*, the BBC in the *United Kingdom*, the ARD and ZDF in *Germany,* and RTE in *Ireland*).

2. Independent NRAs

In *France*, *Greece*, *Italy*, *The Netherlands*, *Portugal*, *Sweden* and the *United Kingdom*, the regulation of broadcasting is primarily the responsibility of NRAs that are relatively independent of the government. For example, the Commission for the Media and the National Broadcasting Organisation in *The Netherlands*, the Institute for the Media in *Portugal*, the Radio and Television Authority and the Broadcasting Commission in *Sweden*, the Independent Television Commission ("ITC") in the *United Kingdom* and, most recently, by the new Communications Authority in *Italy*.

The scope of the powers of the *Conseil supérieur de l'Audiovisuel* (CSA) in *France* is unusual, insofar as it enjoys both supervisory and some administrative powers with regard to both public and private broadcasting. Its powers of programme control are much wider in the private sector, where it determines the terms of licensees' contracts. In relation to public broadcasting channels, it is obliged to guarantee the plurality of opinion. It also has the power to require the head of a public broadcasting company to remedy a serious breach of its programming obligations within a fixed time. It is also required to give published advice to the government on the public broadcasters' *cahier des charges* (the documents setting forth programme standards). However, it has no regulatory power regarding advertising or sponsorship matters on either public or private channels. Furthermore, it cannot ban particular programmes, and it has no control over the financing of public broadcasters. In certain respects, the CSA has less regulatory powers than its predecessor. It may only issue general rules in the context of election broadcasts, the right of reply to government announcements and access rights (see Section 3 of Annex I). In all other circumstances, rule-making power is vested in the government.

The *United Kingdom* has a complex regulatory structure, since regulatory authority over broadcasting is shared among a number of regulatory bodies (*i.e* over twenty separate bodies). The ITC has authority over programme standards, issues licences

and deals with some complaints in the private television broadcasting sector. The Radio Communications Agency is the licensing body for private radio broadcasting. The BBC (the public radio and television broadcaster) operates under a Charter, and produces its own programme standards and has a complaints body. The new Broadcasting Standards Commission ("BSC") deals with complaints in both the public and private television broadcasting sectors concerning issues relating to privacy infringement, programme standards and unfair treatment. The Monopolies & Mergers Commission ("MMC") and the Director-General for Fair Trading deal with a number of competition issues in the broadcasting market. By contrast, conditional access systems for digital broadcasting are licensed by the Telecoms NRA (OFTEL).

In *Sweden*, the regulation of non-content elements in the field of radio and television is the responsibility of the independent Radio & TV Authority (Radio-och TV-verket). The Authority grants licences for commercial local and community radio and also appoints non-commercial local cable TV stations. The Authority is also responsible for suggesting to the government which companies should be granted licences for digital broadcasting. Fees for all such licences are payable to the Authority.[372] By way of contrast, the Swedish Broadcasting Commission is a State authority which reviews and monitors radio and television programmes in *Sweden*, whether it be on a local, regional or national basis. However, the supervision of compliance with programme content rules is effected strictly on an *ex post facto* basis.[373] Failure to comply with such rules may lead to censure, fines, injunctions and the publication of censure decisions.

In *Italy*, a new law has been adopted to establish the Autorità Garante per le Communicazioni ("CA") as a body structured to operate in a converged environment. Accordingly, the CA has been established as an independent regulatory body with competence in a full range of both broadcasting and telecommunications matters. In the broadcasting sector, the CA will have, in particular, the power to: (1) grant private broadcasting licences; (2) draft the conditions relating to the public broadcasting concession; (3) determine the existence of a position of dominance in the radio and television broadcasting sectors, respectively; and (4) ensure compliance with legislation relating to issues such as advertising, distribution of audiovisual works, the protection of minors and minorities.

3. Regional Responsibility

Broadcasting regulation in *Germany* and *Belgium* is unlike that of any other Member State.

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372 In addition, the Authority is responsible for the registration of the names and addresses of broadcasters in *Sweden* and the designation of their programme services, as well as the registration of persons who are legally responsible for the content of the programme services.

373 For example, as occurs in the publishing sector in most Member States.

In *Germany*, it is essentially the States (the "Länder") which regulate broadcasting. However, there do exist some differences between the regulation of public and private broadcasters. Each public broadcaster within a Länder is a separate public corporation. These public corporations are broadly structured under two models -- the so-called "parliamentary" model and the "corporate" model (most public corporations are organised under the "corporate" model). Under this model, the corporation is governed by the Broadcasting Council (*Rundfunkrat*) which shares responsibility for the control of the corporation with two other institutional organs, the Administrative Board (*Verwaltungsrat*) and the Intendant (Director-General).

In contrast, private broadcasters are regulated by pluralistic public institutions, the *Landesmedienanstalten* (or *Landesrundfunkansalt* or *Landesmedieenzentrale*) which are independent regulatory and licensing authorities are not answerable to either the governments of the Länder or the Federal Government. The decisions of the *Landesmedienanstalten* are administrative acts and are therefore subject to judicial review by the administrative courts. Within the *Landesmedienanstalten,* the State Broadcasting Commission takes all major decisions, with a smaller Directorate dealing with financial and daily administrative matters.

Despite the above, all powers over the construction and operation of terrestrial and cable television stations, satellite earth station equipment, as well as the allocation and supervision of frequencies for broadcasting services, are vested in the Federal Government. On the other hand, the particular use of frequencies, is regulated by the Länder.

In *Belgium*, with the relatively narrow exception of national broadcasts generated by the Federal Government, all matters relating to content regulation fall within the legal competences of the regional governments which represent the major language groups of *Belgium* (French and Flemish).

In *Spain*, regional authorities have certain limited powers with respect to content controls, with the Federal Government exercising overall control of most aspects of regulation in the sector. In addition, recent legislation has provided that the regional governments each have the legislative power to grant concessions for the operation of new regional channels.

In *Austria*, the Authority on Regional Radio and Cable Broadcasting (*Regionalradio und Kabelrundfunkbehorde*) is responsible for the granting of licences for cable and satellite television broadcasting. In addition, the Ministry for Science & Transport is responsible for frequency allocation in the broadcasting sector, as well as for the approval of systems and devices used in the broadcasting sector; the Federal Chancellery is responsible for general sectoral policy (including shared responsibility for content issues) in the broadcasting sector.

(iii) Composition of the Broadcasting Regulatory Authorities

As mentioned above, some Member States have created national regulatory bodies that are relatively independent of the government. All of the Member States with such national bodies have also adopted organisational rules to ensure that their composition is broadly representative of major societal interests.

In *Portugal*, for example, the High Authority for the Media is composed of thirteen members (which cannot be removed from office) which serve for a four-year term. The membership is drawn from: a judge nominated by the Higher Council for the Magistracy, who also chairs the High Authority; five members elected by Parliament; three members nominated by the Government; four members representing public opinion, social, commercial and cultural interests. Members of the High Authority are subject to rules which are directed towards them not engaging in activities which might be incompatible with their roles on the High Authority.

Some Member States use these organisational rules to ensure that different political interests are represented. This reflects the need to safeguard the values of public service broadcasting and to avoid the domination of the media by the governing political party. Other Member States have gone a step further and have also taken steps to ensure the representation of economic, cultural and social interests in their national bodies. This reflects a desire not only to have a broad representation from industry, but also a desire to protect the cultural and social diversity of broadcasting.

1. Political Representation

Among the Member States with national regulatory bodies, *Austria*, *France* and the *United Kingdom* have taken steps to ensure the representation of different political interests in their national broadcasting regulatory bodies.

In *Austria*, the *Regionalradio und Kabelrundfunkbehorde* has twelve members. Six of them are proposed by political parties and three by the conference of the State governors. The remaining members are proposed by the union of communities, the union of towns and the State in which the licence is exercised.

The *Conseil supérieur de l'Audiovisuel* ("CSA") of *France* is composed of nine members, nominated in the same way as the *Conseil Constitutionnel* (*i.e.*, one-third by the President of the Republic, one-third by the President of the Assembly and one-third by the President of the Senate). The *Conseil Constitutionnel* has ruled that the independence of the CSA has not been compromised by its dependence on annual funding from the government.

Until the creation of the Communications Authority in *Italy*, the *Commissionne parlementare per l'indirizzo generale e la viligenza dei servizi televisi* had forty members, chosen by the Presidents of the two chambers, and representatives of all the Parliamentary groups. The *Garante per la radiodiffusione e l'editoria* was appointed for three years (renewable once) by

the State President, on the joint nomination of the Presidents of the Chamber of Deputies and the Senate. He had to be chosen from judges of the Constitutional Court, presiding judges of sections of the Court of Cassation, or similar figures from universities or the mass communications industries. On the other hand, the Communications Authority is made up of eight members elected by Parliament and a President appointed by the government. The Communications Authority is divided into two separate units, with the first dealing with infrastructure and network issues and the second dealing with services and products.

The Independent Television Commission ("ITC") of the *United Kingdom* is a statutory body established under the *Broadcasting Act*. It is composed of a Chairman, a Vice Chairman and eight to ten other members. The monopoly selection power of the Secretary of State for National Heritage has raised concerns in the past that appointees might have uniform political attitudes. The abolition of statutory advisory councils and committees and the views of important business and social groups and the general public they represented is regarded as having weakened the representative nature of the system. In addition, the British Broadcasting Standards Commission ("BSC"), a statutory authority responsible for content-related issues, also has members who are government appointees.

2. Broader "Pluralist" Representation

Belgium, *Germany*, *Greece* and *The Netherlands* have attempted to balance the representation of economic and social interests in their respective broadcasting NRAs.

The *Belgian Conseil supérieur de l'Audiovisuel* (for the French Community) is composed of forty-one members and eight permanent experts. It represents the interests of the different elements of the audiovisual sector. The Media Council (for the Flemish Community) has a staff of thirty-six, and represents different media organisations such as BRTN and SABAM.

The issue of balancing the composition of the broadcasting NRA has been felt most strongly in *Germany*. From the outset, the Länder statutes have provided for proportionate representation on the State Broadcasting Commission (the regulatory authority responsible for broadcasting within the *Landesmedienantalten* of the Länder). The State Broadcasting Commission has at least forty members, all of whom are chosen by specified organisations such as the Churches, trade unions, chambers of commerce and employers' bodies, sports, educational, cultural, and women's associations. Political parties may nominate a member, but members of the State or Federal Government are often deemed to be ineligible.

The National Council of Radio & Television in *Greece* has members from various professions related to the broadcasting sector generally, proposed on a *pro-rata* basis by the political parties.

The Commission for the Media in *The Netherlands* is nominally independent and is made up of civil servants and ex public broadcasting officials. Funding is obtained primarily from licence fees.

The maintenance of pluralism and diversity in the broadcasting sector also depends on the rules relating to the composition of the various public and private broadcasters (in this respect, the contrast between the positions of *Germany* and the *United Kingdom* is noteworthy).

3. The Independence of Public Broadcasters

Very precise and strict rules are aimed at ensuring the pluralism and diversity of public and private broadcasters in *Germany*. The Broadcasting Council (*Rundfunkrat*), which governs public broadcasters, is composed of representatives of important social groups such as the churches, the Jewish Community, women's organisations, unions, and Chambers of Commerce, as well as the government and political parties. The Administrative Board (*Verwaltungsrat*), which shares the responsibility of controlling public broadcasting with the *Rundfunkrat*, is a much smaller body composed typically of seven to nine members who are generally chosen by the Intendant (an officer appointed by the *Rundfunkrat)*.

In the *United Kingdom*, the BBC is constituted by Royal Charter which has a specific term (formerly 25, now 10 years), rather than by statute. As a result, the BBC is less secure than most continental European public broadcasters, since periodic "review" of the BBC is automatic upon each renewal of its Charter. The BBC is controlled by its twelve Governors. One is nominated as Chairman, another as Vice-Chairman, and three of the others are designated as the National Governors for Scotland, Wales and Northern Ireland. All Governors are appointed by the Prime Minister. Accordingly, the government, through the Prime Minister, has the sole power to appoint the members of the controlling body, which in theory puts at risk the impartiality of the BBC.

Whereas in other Member States there exists a clear allocation of powers between the governing elements of public broadcasters, in the *United Kingdom* there is little definition of the Governors' powers or their relationship with the Director-General and the BBC staff. The BBC's 1996 Charter, for the first time, enumerates the elements of the role of the Government, which relate essentially to consumer protection and standards-monitoring functions. The inclusion of these clauses in the Charter is an attempt to overcome uncertainties in the division of responsibilities which, together with weak conventions, was overridden on a number of occasions by the BBC's Governors. Despite these new clauses, there are few formal guarantees of the BBC's independence.

5.1.3 Publishing

The publishing sector is largely unregulated. Most of the regulations applicable are *ex post* regulations, dealing principally with content control issues.

In Member States such as *Austria* and *Denmark*, the Prime Minister has some residual regulatory powers. In *Finland*, the Minister of Justice has some powers that relate essentially to content control issues. In other Member States, content control issues are handled by separate regulatory bodies which can either be public, such as the Institute for the Media in *Portugal*, or private such as the *Dutch* tri-partite self-regulatory body for advertising content, or the Press Complaints Council ("PCC") in the *United Kingdom*. The PCC is a non-statutory body with no powers of sanction, with jurisdiction only over the press. In *Italy*, the new Communications Authority will also have authority over publishing matters.

Finally, in *Germany,* the Länder have the power to regulate all matters in the publishing sector, subject to the need to comply with the provisions of the German Constitution on the freedom of the press. Under the German Constitution, the Federal Government has the power to draft framework laws in the publishing sector. The Federal Government has not, to date, sought to use this power.

Table XI overleaf outlines the respective regulatory authorities which are responsible for telecoms and broadcasting matters at Member State level.

Table XI: Regulatory Authorities in the Areas of Telecommunications/Broadcasting

Member States	NRAs	
	Telecoms	**Broadcasting**
Austria	The Federal Ministry of Science & Transport. The Telecom - Control GmbH The Telecom Control Commission.	The Federal Chancellery. The Authority on Regional Radio and Cable Broadcasting. The Federal Ministry of Science & Transport. The Commission for the Application of Broadcasting Law. The Commission for the Application of the Law on Regional Broadcasting.
Belgium	The Federal Ministry of Communication. The Institute for Postal Services and Telecommunications ("BIPT").	The Ministries of the three language Communities. The Conseil supérieur de l'Audiovisuel ("CSA") (French Community). The Media Council (Flemish Community).
Denmark	The Ministry of Research & Information Technology. The National Telecom Agency ("NTA").	The Ministry of Culture. The Ministry of Research. The Satellite and Cable Board. The Local Radio and Television Boards. The Local Radio and Television Committees. The Radio and Television Advertising Boards. The National Telecom Agency.
Finland	The Ministry of Transport & Communications. The Telecommunications Administration Centre ("TAC").	The Council of State. The Ministry of Transport & Communications. The Telecommunications Administration Center ("TAC'). The Ministry of Education and Culture. The Ministry of Commerce & Industry.

Table XI: Regulatory Authorities in the Areas of Telecommunications/Broadcasting. (Cont.)

Member States	NRAs	
	Telecoms	**Broadcasting**
France	The Ministry of Post and Telecommunications. The Authorité de Régulation des Télécommunications ("ART").	The Prime Minister. The Conseil supérieur de l'Audiovisuel ("CSA"). The Conseil supérieur de la Télématique. Regional Authorities.
Germany	The Federal Ministry for Post & Telecommunications ("BMPT"). The Ministry for Economic Affairs (as of January 1998). The Regulatory Council. The Independent Decision-Making Chambers. The National Regulatory Authority (as of January 1998).	The States ("Länder"). The Federal Ministries.
Greece	The Ministry of Transport & Communications ("MTC"). The National Telecommunications Commission ("EET").	The Ministry of Press and Mass Media ("NPMM"). The National Council of Radio and Television ("NCRT").
Ireland	The Department of Public Enterprise. The Office of the Director of Telecommunications Regulation.	The Minister for Arts, Heritage, Gaeltacht & the Islands.
Italy	The Communications Authority (currently the Ministry of Posts & Telecommunications).	The Communications Authority (currently the Ministry of Posts & Telecommunications).
Luxembourg	The Ministry of Communications. The Institut Luxembourgois des Télécommunications ("ILT").	The Prime Minister. The Commission on Radio Broadcasting. The National Council for Programmes.
The Netherlands	The Ministry for Transport, Public Works & Water Management. The OPTA.	The Ministry of Education, Culture & Science. The Ministry for Transport, Public Works and Water Management. The OPTA. The Commission for the Media. The National Broadcasting Organisation. The Dutch Competition Authority.

Table XI: Regulatory Authorities in the Areas of Telecommunications/Broadcasting (Cont.)

Member States	NRAs	
	Telecoms	**Broadcasting**
Portugal	The Ministry for Equipment, Planning and Territorial Administration. The Institute of Communications ("ICP").	The Council of Ministers. The High Authority for the Media. The Institute of Communications ("ICP").
Spain	The Ministry of Development. The Telecommunications Market Commission ("CMT"). The Autonomous Communities.	The Ministry for Education and Cultural Affairs. The Autonomous Communities.
Sweden	The National Post and Telecoms Agency ("PST").	The Radio & TV Authority. The Broadcasting Commission.
United Kingdom	The Secretary of State for the Department of Trade & Industry ("DTI"). OFTEL. (Proposal that certain regulatory functions will be carried out in the future by a new regulatory body, OFCOM). The Director-General For Fair Trading. The NFPG. The Radio Communication Agency.	The Independent Television Commission ("ITC"). (Proposal that certain regulatory functions will be carried out in the future by "OFCOM"), dealing with infrastructure related issued and a new ITC dealing with all content issues. The Radio Communications Agency. The Broadcasting Standards Commission ("BSC"). The MMC. The DGFT.

5.2 OVERLAPPING COMPETENCES

In evaluating the extent to which the convergence of regulatory functions and policies is possible across the telecoms and broadcasting sectors, it is necessary to understand existing and developing areas of mutual or overlapping competence. To this end, Table XII compares the powers and functions of the respective NRAs in the telecoms and broadcasting sectors.

5.2.1 Licensing

The regulatory authorities responsible for granting **telecoms licences** vary from Member States to Member State. In the majority of Member States, telecoms licences are still granted by the relevant Minister responsible for telecoms matters. In countries such as *France, Germany*, *Luxembourg* and *The Netherlands*, a formal system has been established in order to ensure that the Minister makes his decision after discussion or consultation with the relevant NRA. In *Belgium*, *Denmark* and in *Sweden*, telecoms licences are granted exclusively by the NRA.

Broadcasting licences are granted by the Minister responsible for broadcasting in a majority of Member States (*e.g.*, *Denmark*, *Italy*, *Luxembourg*, and *Portugal*). However, the identity of the appropriate licensing authority varies in some Member States if the licence relates to broadcasting infrastructure as opposed to services, or if the broadcasts are national or local in character. For example, in *The Netherlands*, the Minister of Transport & Communications grants infrastructure licences (including cable TV licences) and the Minister of Education, Culture & Science grants service licences for public national broadcasters. In *Denmark*, the national television stations are licensed by the Ministry of Cultural Affairs, but licences for local radio and television are granted by the local councils. Transmission facilities in the broadcasting sector are often licensed separately from broadcast services (*e.g.*, the *United Kingdom*, *Spain*, *The Netherlands*, *France* and *Italy*). Unlike the telecoms sector, however, there is little competition in the provision of terrestrial broadcasting infrastructure.

In *France* and in the *United Kingdom*, broadcasting licences are granted by the national regulatory body. In *Austria*, *Belgium* and *Germany*, broadcasting licences are granted by the regional (local) authorities. The licensing of cable TV infrastructure (as opposed to services) is predominantly a function of telecoms NRAs, with the notable exception of *France* (where both cable TV infrastructure and services fall within the sphere of broadcasting).

Finally, a number of Member States ensure that the process of granting broadcasting licences requires the collaboration of both national and regional authorities (*i.e., Spain*) or the Minister and a national body (*i.e., Luxembourg*).

In the majority of Member States, the authorities responsible for the granting of telecoms service licences are different from those responsible for the granting of broadcasting service licences. In general, the telecoms NRAs which are currently being established by the Member States in compliance with telecoms liberalisation/harmonisation measures do not have responsibilities in both the telecoms and broadcasting sectors. Notable exceptions to this

general rule can be found in the regulatory structures of *Italy,* and to lesser degrees, *Finland, The Netherlands* and *Spain.*

In *Luxembourg*, the Ministry of Communications grants telecoms infrastructure licences and licences for the establishment of cable TV networks. In *The Netherlands*, the Minister of Transport & Communications grants all infrastructure licences, including licences for CATV networks. In *Spain*, telecoms licences to establish cable TV networks are granted by the Ministry of Development. In *Italy*, the new Communications Authority will be responsible for the granting of all relevant licences for infrastructure, services and "products" (which includes content), in addition to a broad range of other matters (including publishing). *Austria* has also indicated that the convergence of regulatory functions is envisaged for the future (albeit not specified expressly in recently enacted legislation).

Although vertical analysis continues to characterise licensing in the telecoms and broadcasting sectors, the consolidation of licensing along horizontal lines is increasingly being considered a viable policy option by a number of Member States. This regulatory convergence is particularly profound with respect to the licensing of infrastructure for both telecoms and broadcasting. The proliferation of cable TV networks throughout the European Union will increase the pressure for such a cross-sector licensing approach, and possibly even the consolidation of licensing functions in a single regulatory body except where a Federal division of powers precludes such an option, *e.g.*, *Germany*, *Belgium.*

5.2.2 Frequency Allocation

The regulatory authorities responsible for **frequency allocation in the telecoms sector** vary between Member States. In countries such as *Austria*, *Belgium*, *Luxembourg* and *The Netherlands*, spectrum allocation is still currently the responsibility of the Minister responsible for telecoms. In *Denmark*, *Finland*, *France*, *Greece*, *Ireland*, *Portugal* and *Sweden*, spectrum allocation for telecoms purposes is primarily the responsibility of the telecoms NRA. The NRA will also be responsible for spectrum allocation in the near future in *Germany* and *Italy*. In the *United Kingdom*, responsibility for spectrum allocation is split between a number of governmental agencies. The key institutions are the Radio Communications Agency and the National Frequency Planning Group (NFPG), which formulates long term frequency allocation policies. In the majority of Member States, the Ministers of Interior and Defence can intervene in the allocation of the frequencies to ensure that adequate spectrum is available for certain civil and military functions. No Member States vest responsibility for telecoms spectrum allocation in regional (local) authorities.

Similarly, **broadcasting frequency allocation** is either the responsibility of the Minister or the NRA. In *Greece*, *Italy*, *Ireland*, *Luxembourg*, *The Netherlands*, and *Spain*, it is primarily the responsibility of the Minister, who is also responsible for telecoms matters. In *Denmark*, *France* and *Portugal*, it is the responsibility of the NRA. In *Belgium* and *Germany*, spectrum allocation is the responsibility of regional (State) authorities, subject to certain overriding powers of the Federal government. In the *United Kingdom*, spectrum allocation is the responsibility of the Independent Television Commission (ITC) for television and the Radio

Authority for radio. In *France*, frequency allocation for broadcasting purposes is split between a number of authorities. It is also the case that the national Ministry for Defence plays a role in frequency allocation.

In sharp contrast to the fragmented number of licensing authorities among the Member States, the authorities responsible for frequency allocation in both the telecoms and broadcasting sectors are the same in a number of Member States. These Member States include *Austria*, *Belgium*, *Denmark*, *Luxembourg*, *The Netherlands*, *Portugal* and *Spain*. The management of frequency allocation across all sectors is centralised most completely in *Portugal*.[374]

Perhaps surprisingly, the legal requirement that Member States establish telecoms NRAs may have the short-term effect of splitting previously unified responsibility for spectrum allocation among a number of national authorities. For example, spectrum allocation for both telecoms and broadcasting in *Ireland* before June 1997 was controlled by the Minister. This is no longer the case now that responsibility in the telecoms sector has been vested in the newly created NRA.

5.2.3 Interconnection & Access

By and large, the regulatory authorities responsible for the resolution of interconnection disputes in the **telecoms sector** are the national NRAs. With the exception of *Greece*, all Member States appear to have established a stable regulatory framework which would allow their respective telecoms NRAs to play a key role in both the development of interconnection policy (including issues of access and so-called Special Network Access) and in the resolution of interconnection disputes (or have at least commenced that process with framework legislation *e.g.*, *Austria*, *Belgium*, *Ireland* and *Portugal*).

In the context of broadcasting, issues of access to the cable TV sector are dealt with in *The Netherlands* by the Competition Authority. Otherwise, access issues in the broadcasting sector are the responsibility of the broadcasting authorities (refer to Section 5.3. of Annex I).

Most recently, the issue has arisen as to which regulatory authorities should have jurisdictional responsibility for the implementation of conditional access policies (see discussion in Section 4 of Annex I), whether pursuant to the terms of the *Television Standards Directive* or otherwise. Of those Member States which have implemented the terms of the Directive, there appears to be a general disposition to assign responsibility to the telecoms NRA, rather than to the broadcasting NRA (*e.g.*, the *United Kingdom*, *The Netherlands*, *Spain*). In a number of other Member States, it is as yet uncertain as to the particular NRA which will be responsible for conditional access issues (*e.g.*, *France*). In *Germany*, the regulatory governance of conditional access issues rests with the Länder.

374 The ICP is responsible for all broadcasting, telecoms, radio, army, police and other services.

5.2.4 Price Controls

The regulatory authorities responsible for price controls in the **telecoms sector** vary from Member State to Member State. In *Austria*, *Belgium*, *Germany*, *Greece*, *Ireland*, *Italy*, *Luxembourg* and *Spain,* price controls are the responsibility of the relevant Minister. In *Denmark*, *The Netherlands*, *Portugal*, *Sweden* and the *United Kingdom*, responsibility rests with the NRA. A number of Member States will transfer responsibility for price controls to the NRA by 1 January 1998. In *France,* the Minister is responsible for retail tariffs for basic voice services which are the subject of universal service obligations, with the NRA having the power to give and publicise its (non-binding) views on such tariffs. Responsibility for price controls is never vested in regional (local) authorities.

In *Germany*, *Luxembourg*, *The Netherlands*, *Spain* and the *United Kingdom,* there is currently no regulatory framework for price controls in the **terrestrial broadcasting sector**.[375] In the Member States which have set up such a regulatory framework, price control generally vests in the responsible Minister. In the cable TV sector, price controls are rare, being found only in *Belgium* and in *Germany*, which are both characterised by Federal legal structures.

5.2.5 Regulation of Content

The majority of Member States have not adopted a specific framework for the regulation of "content" in the **telecoms sector**. Regulatory power in *Austria* is split between the Federal Ministry of Science & Transport and the Ministry of Justice. In the *United Kingdom*, to the extent that there are any content controls, they are the responsibility of OFTEL. In the telecoms sector, the issue of content control has arisen in the context of consumer protection issues regarding 'chatlines' and related services.

By way of sharp contrast, most Member States specifically regulate the content of audiovisual services in the **broadcasting sector.** The *Swedish* Minister of Culture has regulatory power in this respect, as does the *Italian* Minister of Telecommunications and the Italian Parliament. In most Member States, however, the regulation of content is the responsibility of separate agencies such as the *French Conseil supérieur de l'Audiovisuel*, the National Council for Programmes (in *Luxembourg*), and the *Portuguese* High Authority for Mass Communication (and, most recently, the Communications Authority in *Italy*).

In the *United Kingdom*, a number of bodies are responsible for content regulation. The BBC (the public broadcaster), the Independent Television Commission ("ITC") and the (new) Broadcasting Standards Commission ("BSC") all have authority over content issues; they develop and enforce programme standards, and have jurisdiction over complaints regarding unwarranted invasions of privacy, unfair reporting and breaches of programme standards. The Radio Authority and the BBC have similar powers and duties in relation to content control in radio broadcasting. In *The Netherlands*, the Media Commission is generally

375 With the exception of the setting of licence fees for public broadcasters, which is the responsibility of the government.

responsible for content issues, subject to the National Broadcasting Organisation's power to prescribe public broadcast programme content. In *Germany*, regulatory power over broadcasting content is vested in the respective Länder.

Of all the issue-specific matters dealt with by national regulatory structures, content regulation appears to be the least susceptible to any form of regulatory convergence from an institutional point of view across sectors. This is primarily due to the very broad range of public policy issues which have their own particular national (or indeed, regional) character.

5.2.6 Appeals from NRA Decisions

In general, appeals from decisions of the relevant Ministries or the respective NRAs in the telecoms and broadcasting sectors are made to the administrative courts of the Member States. There are two notable exceptions to this rule, namely, *The Netherlands* and the *United Kingdom*. In the former, the civil courts have been given express jurisdiction to deal with appeals from the NRAs consistent with other actions of a commercial nature. In the case of the latter, litigation brought by Mercury Communications against BT in 1994[376] confirmed that appeals may be made to the English commercial courts in disputes between market players, in addition to the usual powers of judicial review where the actions of OFTEL were challenged.[377]

The ability to appeal directly to the commercial courts greatly expedites judicial review and stimulates the growth and effectiveness of liberalisation measures.

376 *Mercury Communications Limited v. Director General of Telecommunications* [1996] 1 WLR 48.

377 The *Telecommunications Act* severely curtails the scope for administrative review of OFTEL's decisions, setting out very narrow grounds for review.

5.2.7 Numbering Issues

Recent Community developments will require the review of the current approach in the telecoms sector to numbering in most Member States. The timetable for equal access, number portability and the introduction of European numbers proposed in the Commission's Communication to the European Parliament, and subsequently included in a draft Directive,**378** will require a prompt regulatory response from the Member States. With the exception of those Member States which have received derogations, most Member States are able to satisfy Community legal requirements by conferring upon their telecoms NRAs (or the relevant Minister, as a transitional measure) the authority to administer numbering plans and requirements relating to the use and availability of numbers (for both mobile and fixed networks). Luxembourg does not currently have an independent numbering scheme, but proposes to introduce one in the near future, with the NRA being responsible for the allocation of numbers. In Portugal, the law foresees a national numbering plan to be established by the NRA, but this plan has yet to be fully implemented.

The relative importance of numbers as a key common 'resource' is illustrated in recent litigation in *Ireland*, where, on 28 November 1997, the High Court in Dublin ordered Telecom Eireann to restore 8 choice phonenames and to allocate a further 270 such numbers to the Zockall Group.

As regards Internet addressing, the existing process of self-regulation on both an international (*e.g.*, Network Solutions Inc.) and a national basis through private and public registrars is currently being re-assessed at a Community level, with a view to establishing a new Internet addressing system within a framework managed by the World Intellectual Property Organisation ("WIPO").[379] Thus far, the Member States have not shown a strong interest in asserting jurisdiction over addressing issues, either through their respective Ministries or through their telecoms NRAs. In order to defend the interests of the European Union, however, it is clear that the Community as a whole may need to become more involved in the future policy direction of Internet addressing in international organisations such as WIPO.

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[378] Proposal of 1 October 1997 for a Directive of the European Parliament and of the Council amending Directive 97/33/EC with regard to operator number portability and carrier preselection; as published in the Official Journal of 1 October 1997, OJ 1997 C330/19 (Agreement on a Common Position reached on 1 December 1997).

[379] Refer to Memorandum of Understanding for the Internet Council of Registrars, May 1997.

The role of certain national incumbent telecoms operators as administrators and registrars of their respective national Internet addressing regimes has also raised the possibility of abusive behaviour by those operators as regards the non-discriminatory allocation of Internet addresses between all telecoms operators on the market (comparable to the situation in which incumbent telecoms operators found themselves in the administration of numbering schemes). To date, this has not been the subject of a decision under competition rules.

Although numbering and addressing issues have not been relevant to the **broadcasting sector** thus far, the ability of broadcasters to provide interactive services via conditional access systems will increase the importance of these issues to broadcasters in the immediate future.

A common approach across sectors to addressing issues, administered by an independent NRA, may be necessary in a future multimedia environment.

5.3 ROLE OF COMPETITION AUTHORITIES

The roles and powers of the respective Competition Authorities in the various Member States vary in a number of respects. Generally speaking, however, the regulatory model adopted throughout the European Union is that of a national Competition Authority with powers similar to those exercised by the European Commission pursueant to Articles 85 and 86 of the EC Treaty. The recent creation of sector-specific rules and NRAs in some Member States has added a degree of uncertainty regarding the jurisdictional divide between national Competition Authorities and the NRAs in the **telecoms sector**.

Luxembourg does not have a Competition Authority. In contrast, the *United Kingdom's* telecoms NRA (OFTEL) exercises stronger competition powers than exist in other industrial sectors in the *United Kingdom*. This is achieved through the inclusion of so-called "Fair Trading" conditions, which impose even greater obligations than Articles 85 and 86 of the EC Treaty, in the licences of telecoms operators in the *United Kingdom*. The telecoms NRA in the *United Kingdom* also shares a number of the general powers with the Director General of Fair Trading. If the proposed *Competition Bill*,[380] is enacted, it will significantly bolster the non sector-specific competition powers of the national competition authorities (by mirroring Articles 85 and 86 of the EC Treaty). In *Finland* and *Spain* the powers of the respective NRAs are formally distinct from those of the Competition Authority, but are in practice applied in a manner which reflects a competition law-based approach. The dividing line between the powers of the NRA in *Greece* and the local Competition Authority is also difficult to discern at times.

Germany, *France*, *Italy*, *Spain*, *Austria*, *Belgium* and *Sweden* all exhibit regulatory structures which draw a clear dividing line between the powers of the NRA and the national Competition Authority, with powers of referral available to the NRA where the NRA is

380 *Draft Competition Bill of August 1997.*

initially seized with jurisdiction. In *France*, the NRA and the Competition Authority (*Conseil de la Concurence*) must cooperate within their respective fields of competence. The *1996 Telecommunications Act* requires that any instance of abuse of a dominant position or anti-competitive practice in the telecoms sector which is brought to the attention of the French NRA must be referred to the Competition Authority. In turn, the Competition Authority must refer to the NRA any matters brought to its attention which lie *prima facie* within the jurisdiction of the latter. In addition, the opinion of the NRA must be sought when an investigation takes place under French competition rules. In *Germany*, the Competition Authority (the *Bundeskartellamt,* or Federal Cartel Office) is an independent body with narrowly defined powers to deal with certain cartels, agreements and mergers. The basic competition law in *Germany* grants to the Federal Cartel Office exclusive jurisdiction over all cases involving the incumbent public telecoms operator.[381]

A number of cases decided over the past five years in *Italy*, *Spain*, *Germany* and, most recently, *France*, suggest that national competition authorities have the potential to play a very active role in the introduction of competition in national telecoms markets, especially where allegations of the abuse of a dominant position are involved (*e.g.*, price discrimination, refusal to deal, market foreclosure and so on).[382]

As regards **broadcasting**, the NRAs of *Ireland* and *United Kingdom* have limited authority to apply general and sector-specific competition laws to broadcasters (see also Section 1.6 of Annex I). Notably, however, they have relatively expansive powers to control ownership concentration and cross-media ownership (as do the broadcasting NRAs in *France*, *Italy*, and *Spain*). In *The Netherlands*, the non-sector specific Competition Authority has responsibility for determining access issues affecting cable TV networks.

381 Article 44(1)(e) of the "*Gesetz gegen Weltbewerbeschrankungen*".

382 For example, the Federal Cartel Office and the European Commission have recently decided independently that the essential elements of DT's discount scheme for corporate users of its telecoms services could be justified, but subject to the condition that certain aspects of the discount package had to be waived or postponed because of their exclusionary effect on competitors (see also Commission Press Release, IP/96/543 of 25 June 1996).

Table XII: Powers and Functions of the Regulatory Authorities

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Controls	Content Controls	Bodies to which Appeals are Lodged
Austria						
• Telecoms	The Telecom Control Commission.	The Telecom Control Commission.	The Telecom Control Commission.	The Telecom Control Commission.	The Federal Ministry of Science & Transport. The Ministry of Justice.	The Federal Constitutional Court and/or to the Supreme Administrative Court.
• Broadcasting	The Authorities on Regional Radio and Cable Broadcasting.	The Federal Ministry of Science & Transport.	N.A.	N.A.	The Commission for the Application of the Broadcasting Law. The Broadcasting Commission for the Application of the Law on Regional Broadcasting. The Ministry of Justice.	The Federal Constitutional Court and/or the Supreme Administrative Court.
Belgium						
• Telecoms	The BIPT.	The Federal Ministry of Communications. The BIPT.	The BIPT.[383]	The Federal Ministry of Communications.	N.A.	The Conseil d'Etat.

383 The BIPT in theory plays an advisory role by either: (i) approving an interconnection settlement *inter partes*; or (ii) by advising the Minister to impose a negotiating framework on the parties involved. Neither has occurred to date.

Table XII: Powers and Functions of the Regulatory Authorities (cont.)

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Controls	Content Controls	Bodies to which Appeals are Lodged
Belgium (con't)						
• Broadcasting	The competent body of the Community concerned.	The Communities within the frequency ranges prescribed by the Federal government.	N.A.	The Federal Ministry of Economic Affairs.	The competent body of the Community concerned. The Conseil supèrieur de l'Audiovisuel (French Community). The Media Council (Flemish Community). The Council for Local radio (Flemish Community). The Council for Advertising and Sponsoring.	The Conseil d'Etat.

Table XII: Powers and Functions of the Regulatory Authorities (cont.)

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Control	Content Controls	Bodies to which Appeals are Lodged
Denmark						
• Telecoms	The National Telecom Agency (NTA).	The NTA.	The NTA.	The NTA.	N.A.	The Telecommunications Complaints Board. The Telecommunications Consumer Board.
• Broadcasting	The Ministry of Culture. The Satellite and Cable Board (cable TV and satellite licences). The Local Radio and Television Board .	The National Telecom Agency.	N.A.	The Ministry of Culture.	The Radio and Television Advertisement Board.	The Ministry of Culture.[384]

384 For sponsorship issues, it is the channels which deal with any complaints.

Table XII: Powers and Functions of the Regulatory Authorities (cont.)

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Controls	Content Controls	Bodies to which Appeals are Lodged
Finland						
• Telecoms	The Ministry of Transport & Communications.	The Telecommunications Administration Center ("TAC").	The Ministry of Transport & Communications. The TAC.	N.A.	N.A.	The Supreme Administrative Court or the Ministry of Transport & Communications.
• Broadcasting	The Council of Ministers.	The TAC.	The Ministry of Transport & Communications.	The Ministry of Transport & Communications.	The Ministry of Transport & Communications. The Information Council. The National Agency for the Control of Health Products and Well-Being.	The Supreme Administrative Court or the Ministry of Transport & Communications. The Ombudsman.
France						
• Telecoms	The Ministry of Post & Telecommunications, upon instruction by the Autorité de Régulation des Télécommunications ("ART").	The ART.	The ART.	The Minister and the ART.[385]	The Ministry for Post & Telecommunications. The Conseil Supérieur de la Télématique.	The Tribunal Administratif for most ART decisions. [386]
• Broadcasting	The Conseil supérieur de l'Audiovisuel ("CSA").	The CSA.	N.A.	The CSA.	The CSA.	The Conseil d'Etat.

385 The Minister is responsible for retail tariffs for basic voice services which are "not subject to competition", but the ART has the power to give and to have published its (non-binding) views on the matter.

386 Interconnection dispute resolution. The latter are subject to an appeal to the Cour d'Appel de Paris (civil court).

Table XII: Powers and Functions of the Regulatory Authorities (cont.)

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Controls	Content Controls	Bodies to which Appeals are Lodged
Germany						
• Telecoms	The Federal Ministry for Post & Telecommunications ("BMPT"). The NRA (as of January 1998).	The NRA (as of January 1998).	The NRA (as of January 1998).	N.A.	N.A.	The administrative courts. The BMPT.
• Broadcasting	The States ("Länder").	The States (Länder) under the general framework prescribed by the MPT.	N.A.	N.A.	The States (Länder). The supervisory authorities of the broadcasters.	The administrative courts.
Greece						
• Telecoms	The Ministry of Transport & Communications (the Ministry), further to a proposal received from the National Telecommunications Commission ("EET").	The EET.	The EET.	The Ministry.	N.A.	The administrative courts.
• Broadcasting	The National Council of Radio and Television (NCRT).	The Ministry of Transport & Communications.	The EET.	The NCRT.	The NCRT.	The administrative courts.

Table XII: Powers and Functions of the Regulatory Authorities (cont.)

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Controls	Content Controls	Bodies to which Appeals are Lodged
Ireland						
• Telecoms	The Office of the Director of Tele-ommunications Regulations ("ODRT").	The ODRT.	The ODRT.	The ODRT.	N.A.	The Irish Courts. The District Court against decisions of the Department of Public Enterprise and the ODRT, with appeals to the High Court.
• Broadcasting	The Independent Radio and Television Commission. The Minster for Communications.	Telecommunications and Radio Divisions of the Department of Transport, Energy & Communications.	N.A.	N.A.	The Minister for of Arts, Heritage, Gaeltacht, and the Islands.	The District Court.
Italy						
• Telecoms	The Communications Authority.	The Communications Authority.	The Communications Authority.	The Communications Authority.	The Communications Authority.	The administrative courts.
• Broadcasting	The Communications Authority.	The Communication Authority.	The Communications Authority.	The Communications Authority.	The Communications Authority.	The administrative courts.

Table XII: Powers and Functions of the Regulatory Authorities (cont.)

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Controls	Content Controls	Bodies to which Appeals are Lodged
Luxembourg						
• Telecoms	The Ministry of Communications together with the Institut Luxembourgeois des Télécommunications ("ILT").	The Ministry of Communications together with the ILT.	The ILT.	The Ministry of Communications together with the ILT.	The Ministry of Communications together with the ILT.	The Ministry of Communications. The administrative courts.
• Broadcasting	The Ministry of Communications. The Prime Minister. The Commission on Radio Broadcasting.	The Ministry of Communications.	N.A.	N.A.	The National Council for Programmes.[388]	The administrative courts.
The Netherlands						
• Telecoms	The Independent Post & telecommunications Authority ("OPTA").	The Ministry for Transport, Public Works & Water Management. The Agency for Radio Frequencies. OPTA	OPTA.	N.A.	N.A.	The civil courts.

387 In the near future, the Institute will assist the Ministry in granting frequencies.

388 The National Council for Programmes advises the government on content of radio and TV programmes.

Table XII: Powers and Functions of the Regulatory Authorities (cont.)

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Controls	Content Controls	Bodies to which Appeals are Lodged
The Netherlands (con't)						
• Broadcasting	The Commission for the Media. The Ministry of Education, Culture & Science.[389]	The Ministry of Transport, Public Works & Water Management.	OPTA (with the Competition Authority to determine access issues relating to Cable TV).	N.A.	The Minister of Education, Culture and Science. The Commission for the Media. The National Broadcasting Organisation.[390]	The civil courts. The District Court of Rotterdam (against decision of the Ministry of Transport).
Portugal						
• Telecoms	The Ministry of Equipment, Planning and Territorial Administration. The Portuguese Institute of Communication ("ICP").	The ICP.	The ICP.	N.A.	N.A.	The administrative courts.
• Broadcasting	The Council of Ministers, after consultation of the High Authority for the Media.	The ICP.	N.A.	N.A.	The High Authority for the Media.	The administrative courts.

389 For terrestrial TV: (1) the Minister of Education, Culture and Science grants service licences for public national broadcasting organisations; and (2) the Media Commission awards airtime licences for the 7 major broadcasting companies.

390 The National Broadcasting Organisation is responsible for prescribing the content of public broadcasting organisations. The Dutch Competition Authority has already reviewed the possibility of applying ONP rules to cable TV operators as regards their programming.

Table XII: Powers and Functions of the Regulatory Authorities (cont.)

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Controls	Content Controls	Bodies to which Appeals are Lodged
Spain						
• Telecoms	The Telecommunications Market Commission ("CMT"), except where a licence is awarded by tender.	The Ministry of Development.	The CMT.	The Ministry of Development.	N.A.	The administrative courts.
• Broadcasting	The Ministry of Development, upon conferral with regional authorities.[391]	The Ministry of Development.	N.A.	The Ministry of Development until 1 January 1998.	N.A.	The administrative courts.
Sweden						
• Telecoms	The National Post and Telecoms Agency ("PTS").	The PTS.	The PTS.	The PST.	N.A.	The general administrative courts.

391 The CMT has competence to interpret cable TV licence provisions.

Table XII: Powers and Functions of the Regulatory Authorities (cont.)

Member States	Licences of Infrastructure & Service Provision	Spectrum Allocation	Interconnection	Pricing Controls	Content Controls	Bodies to which Appeals are Lodged
Sweden (con't)						
• Broadcasting	The Radio & Television Authority.	The PST.	N.A.	N.A.	The Broadcasting Commission. The Chancellor of Justice/Attorney General.	The general administrative courts. The Administrative Court of Appeal (against decision of the Broadcasting Commission).
United Kingdom						
• Telecoms	The Secretary of State for Trade & Industry ("DTI").	The Radio Communications Agency.	OFTEL.	OFTEL.	OFTEL.	Limited right of appeal from OFTEL Orders to the High Court. Possibility of appeal to the commercial courts.
• Broadcasting	The Independent Television Commission ("ITC").	The Secretary of State of Trade & Industry. The ITC. The Radiocommunications Agency.	N.A.	N.A.	The Broadcasting Standards Commission (BSC).	Right of appeal from the ITC decisions, generally before the High Court.

Implications for Multimedia

Resource allocation functions are currently undertaken in different Member States by a mixture of Government agencies, Ministerial Departments and independent NRAs, with a wide range of planning and strategic powers. This exacerbates the effects of sector-specific policies, and leads to fragmented regulation in virtually all Member States, especially in the broadcasting sector. In the United Kingdom, for example, there are in fact more than 20 regulatory authorities responsible for the broadcasting sector. Such an approach clearly does not provide the coherence or flexibility needed in a future multimedia environment.

In addition, the existing infrastructure licensing and regulatory systems in most Member States maintain the distinction between telecoms and broadcasting infrastructure. In an environment where infrastructure is increasingly used for both telecoms and broadcasting purposes, this split is becoming difficult both to justify and to administer. Converging technologies exacerbate this problem.

The differences in the regulation of telecoms and broadcasting services raise further regulatory issues. For example, the combined effect of heavy content regulation of broadcasters and light content regulation of telecoms operators may lead to imbalances in industry development.

There are a number of potential solutions to the problems raised by the current regulatory structures which are organised primarily along vertical, sectorally distinct lines.

Option 1

The most appropriate, but radical option, is to create a "content" regulator and an "infrastructure and resources" regulator. This approach has been suggested by the United Kingdom in its current reform plan. At the same time, the United Kingdom is currently moving towards out-sourcing some resource management functions (e.g., spectrum). There is clearly scope for the adoption of a similar approach with respect to all such resource management functions. Such a split of regulatory competence should not strain the regulatory definitions of "communications" and "broadcasting" put forward by the Study Team in Section 2 of Annex I. Under such a definitional framework, the significance of being classified as "broadcasting" (as opposed to "communications") would lie primarily in the fact that broadcasting would be subject to much heavier content regulatory oversight.

It is worth noting that in a country such as Australia all powers over infrastructure and competition have recently been vested in relation to telecoms in the general competition authority. Only technical regulatory and resource management functions have been retained by the sector-specific regulator. At this stage, countries such as Finland and The Netherlands display overlapping jurisdictional competences between the regulation of infrastructure and the administration of resources. Italy, on the other hand, has even gone so far as to include content regulation within the sphere of responsibility of its new Communication Authority; some would argue that the position taken in Italy might be more appropriate in a mature multimedia where the distinctions between telecoms and broadcasting may have lost much of their current relevance.

Option 2

An alternative approach, which would not involve an overhaul of the existing regulatory structure, would be to centralise resource management (e.g., create a single body for frequency or numbering management) whilst otherwise retaining sector-specific regulators. Such an approach, however, would be short-term in nature, since it does not address the full range of issues flowing from technological convergence. Procedures to address jurisdictional disputes would be necessary, and would need to be regularly revisited to reflect new developments. Such an approach, being reactive in nature, is open to the criticism that it is not sufficiently forward-looking.

Option 3

A further approach would be to leave the existing regulatory structure intact, and to centralise policy-making for certain key issues such as conditional access. Such an approach, however, would be unsatisfactory, since it does not address the regulatory problems created by convergence today, and would require a significant degree of ongoing policy overhaul in the not-too-distant future.

Option 4

The preferred approach of the Study Team would be to adopt the following structure:

- *Assist the process of technological and service convergence by facilitating common, or at least consistent, regulation across industry sectors. Common approaches are most readily achievable in areas of "economic" regulation such as the licensing of infrastructure and services and the management of scarce resources. Common approaches could also develop over time with regard to issues such as "interconnection" and "access", whether within the competence of the NRA or of a non-sector specific competition authority.*

- *Exclude issues of a predominantly "public policy" nature (i.e., content) from the convergence of regulatory functions. Insofar as "content" or "public policy" issues might be considered to play some role (albeit small) in the process of licensing and resource management, the treatment of such issues would be subject to the principle of proportionality as regards the manner and extent to which such issues would be dealt with on a 'converged' basis.*

- *Create independent regulators (or, indeed, a single independent regulator for certain issues) responsible for the governance of both the traditional telecoms and broadcasting sectors. Liberalisation brings with it the need to create independent regulators which can arbitrate and adjudicate between the competing claims of new market entrants to essential resources (e.g., numbers, Internet addresses, conditional access issues, frequency allocation and so forth).*

- *Consistent with the broader dynamics of convergence, vest responsibility for competition policy in a general competition body, rather than in a sector-specific regulator. In the absence of knowing whether or not a "multimedia" market will develop over time, it might be premature to invest a sector-specific regulator with a full range of competition powers. Moreover, the nature of convergence is such that other sectors such as IT and publishing may be affected by competition law intervention, in any given case. In such a situation, it would be counter-productive to confine the role of the competition authority to a specific sector whose limits are as yet undefined. In addition, an appropriate system of regulatory checks and balances arguably requires that regulatory powers not be overly centralised.*