



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 19.11.2003  
SEC(2003)1342

**COMMISSION STAFF WORKING PAPER**

**Technical Annexes of the**

**Ninth Report on the Implementation of the Telecommunications Regulatory Package**

**{COM(2003) 715 final}**

# **ANNEX 1**

## **MARKET OVERVIEW**



## TABLE OF CONTENTS

<b>1</b>	<b>PLAYERS IN THE FIXED MARKET .....</b>	<b>6</b>
1.1.	PLAYERS IN THE FIXED MARKET .....	6
1.2.	INCUMBENTS MARKET SHARE ON THE FIXED VOICE TELEPHONY MARKET .....	12
<b>2</b>	<b>CONSUMER'S CHOICE OF FIXED OPERATORS .....</b>	<b>16</b>
2.1.	PERCENTAGE OF SUBSCRIBERS ACTUALLY USING AN ALTERNATIVE PROVIDER OTHER THAN THE INCUMBENT .....	16
2.2.	FACILITIES USED BY NEW ENTRANTS FOR THE PROVISION OF VOICE TELEPHONY .....	19
<b>3</b>	<b>PUBLIC NETWORK INTERCONNECTION AND INTERCONNECTION CHARGES .....</b>	<b>22</b>
3.1.	FIXED-TO-FIXED INTERCONNECTION CHARGES .....	22
3.2.	FIXED-TO-MOBILE INTERCONNECTION CHARGES .....	25
3.3.	LEASED LINES INTERCONNECTION CHARGES .....	29
<b>4</b>	<b>MOBILE MARKET .....</b>	<b>36</b>
4.1.	MOBILE PENETRATION .....	36
4.2.	PLAYERS IN THE MOBILE MARKET .....	38
4.3.	OPERATORS' MARKET SHARES .....	40
4.4.	MOBILE BASKET .....	42
<b>5</b>	<b>BROADBAND ACCESS AND PRICING.....</b>	<b>46</b>
5.1.	BROADBAND ACCESS .....	46
5.2.	PRICES FOR UNBUNDLED LOCAL LOOP .....	59
<b>6</b>	<b>PUBLIC VOICE TELEPHONY TARIFFS.....</b>	<b>62</b>
6.1.	CHARGING SYSTEM .....	63
6.2.	MONTHLY RENTAL CHARGED BY THE INCUMBENT OPERATORS .....	65
6.3.	AVERAGE MONTHLY EXPENDITURE (COMPOSITE CALL BASKET) .....	67
6.4.	FIXED NATIONAL CALLS .....	68
6.5.	TREND OF THE BASKET FOR FIXED NATIONAL CALLS (NATIONAL BASKET).....	71
6.6.	ALTERNATIVE NATIONAL OPERATORS .....	72
6.7.	PRICE OF AN AVERAGE FIXED INTERNATIONAL CALL (INTERNATIONAL CALL BASKET) .....	74
6.8.	PRICE OF CALLS TO EU, JAPAN, USA .....	76
6.9.	ALTERNATIVE INTERNATIONAL OPERATORS .....	78
<b>7</b>	<b>LEASED LINES RETAIL TARIFFS.....</b>	<b>82</b>
7.1.	INCUMBENTS' NATIONAL LEASED LINES.....	82
7.2.	NATIONAL LEASED LINES PRICE TRENDS (1 AUGUST 1998 - 1 AUGUST 2003) .....	88
7.3.	INTERNATIONAL LEASED LINES PRICES .....	88
7.4.	INTERNATIONAL LEASED LINES PRICE TRENDS (1 AUGUST 1998 - 1 AUGUST 2003).....	94
<b>8</b>	<b>DIGITAL TELEVISION.....</b>	<b>96</b>
8.1.	EU DIGITAL TELEVISION MARKET PENETRATION .....	96
8.2.	OPERATORS AND INTERACTIVE TV SERVICES .....	105
8.3.	DTV EQUIPMENT .....	110
<b>9</b>	<b>EXCHANGE RATES .....</b>	<b>116</b>
9.1.	EXCHANGE RATE USED IN SECTION 6 ON INTERNET, SECTION 7 ON PUBLIC VOICE TELEPHONY TARIFFS AND SECTION 8 ON LEASED LINE TARIFFS.....	116
9.2.	EXCHANGE RATE USED IN SECTION 3 ON INTERCONNECTION AND SECTION 5.2 ON PRICES FOR LOCAL LOOP .....	116
<b>10</b>	<b>OECD TELECOMMUNICATIONS BASKET DEFINITIONS .....</b>	<b>117</b>
10.1.	NATIONAL PSTN BASKET .....	117
10.2.	INTERNATIONAL PSTN BASKET .....	118
10.3.	COMPOSITE NATIONAL – INTERNATIONAL BASKET .....	119
10.4.	NEW OECD MOBILE BASKETS .....	119



# 1 PLAYERS IN THE FIXED MARKET

## 1.1. PLAYERS IN THE FIXED MARKET

This section analyses the situation of the market players in the fixed telecommunications market (voice telephony and network services): the number of operators authorised to operate a network and to provide public fixed voice telephony, the number of players actually active in the market, incumbents' market shares on the fixed voice telephony market.

Data are based on the replies to the European Commission questionnaire, provided by the national regulatory authorities and give the situation as at August 2003.

The figures include a great variety of operators: fixed network operators, service providers, cable operators as well as wireless local loop, mobile and satellite operators (for the fixed part of their networks and services).

Depending on the national licensing scheme, for some countries data for both local and national operators are given.

*Local operators* are operators authorised to offer telecommunications services only to users located in specific areas (to whom they provide local as well as long-distance and international services through interconnection agreements with other operators).

*National operators* are operators authorised to offer telecommunications services without any geographical restriction. They may provide all types of telecom services (local, long-distance and international) to users located throughout the national territory.

Local operators exist in Germany, Spain, France, Italy, Finland, United Kingdom. This does not mean that in the other countries all operators are national, but only that the licensing scheme does not provide for a licence limited as to its geographical scope. The number of local operators is not strictly comparable between Member States, since it varies considerably between countries depending on the division of the national territory into local areas.

The figures in the following charts reflect the number of operators, rather than the number of licences, since some operators may have been granted several licences. This is particularly true for the large companies, whose subsidiaries can also have a separate licence.

After the massive entry into the market that characterised the first stage of liberalisation (+113% between 1998 and 2001), the number of operators authorised<sup>1</sup> to offer public fixed telecommunication services in Europe has started to decrease. In August 2003 there were in the EU a total of 1202 operators authorised to offer public voice telephony (269 local and 933 national operators) and 1484 public network operators (555 local and 929 national operators).

Since August 2002 the number of potential players has remained more or less stable (-2%) for the voice telephony market, while the number of public network operators has decreased by 6%<sup>2</sup>.

---

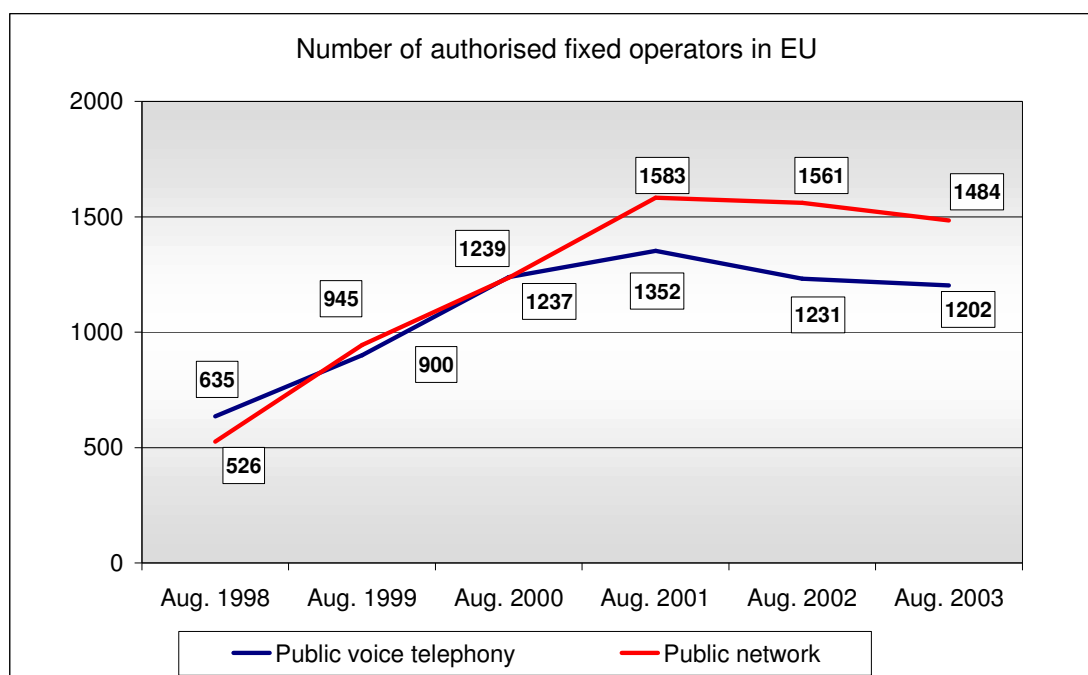
<sup>1</sup> In the sense that they have an individual licence/authorisation or they are subject to a notification/ registration procedure.

<sup>2</sup> The peak in the number of authorised operators was reached in 2001 with 1 352 operators authorised to provide voice telephony services and 1 583 public network operators.

Among the 1 202 operators legally authorised to provide voice telephony in the EU, less than half (around 500) have started operations, the majority only in some local areas or for business users. In particular, it should be noted that one third of operators effectively providing local calls are local operators only.

The total number of the major competing operators<sup>3</sup> in the EU is around 59 and in the great majority of EU countries there are no more than 4 real competing players (see Figure 5).

**Figure 1**



**PUBLIC FIXED NETWORK OPERATORS**

The following charts show the number of network operators with a public network licence and/or authorised to offer network services. *Public network operators* are defined as operators that install, manage and operate a telecommunications transmission network to provide public telephony services or public network services<sup>4</sup>.

Where applicable the distinction in the licence/authorisation between local and national public network operators concerns the geographical scope of the network, while the provision of network services could be subject to a different geographical limitation. In the following, “local operators” means operators whose authorisation for the deployment of the network does not cover the whole national territory, whatever the geographical scope of the service. Moreover, this does not exclude that in the other countries that do not impose any geographical distinction, national operators are not providing services only in local areas.

<sup>3</sup> See section 1.2 on incumbents’ market share for more details.

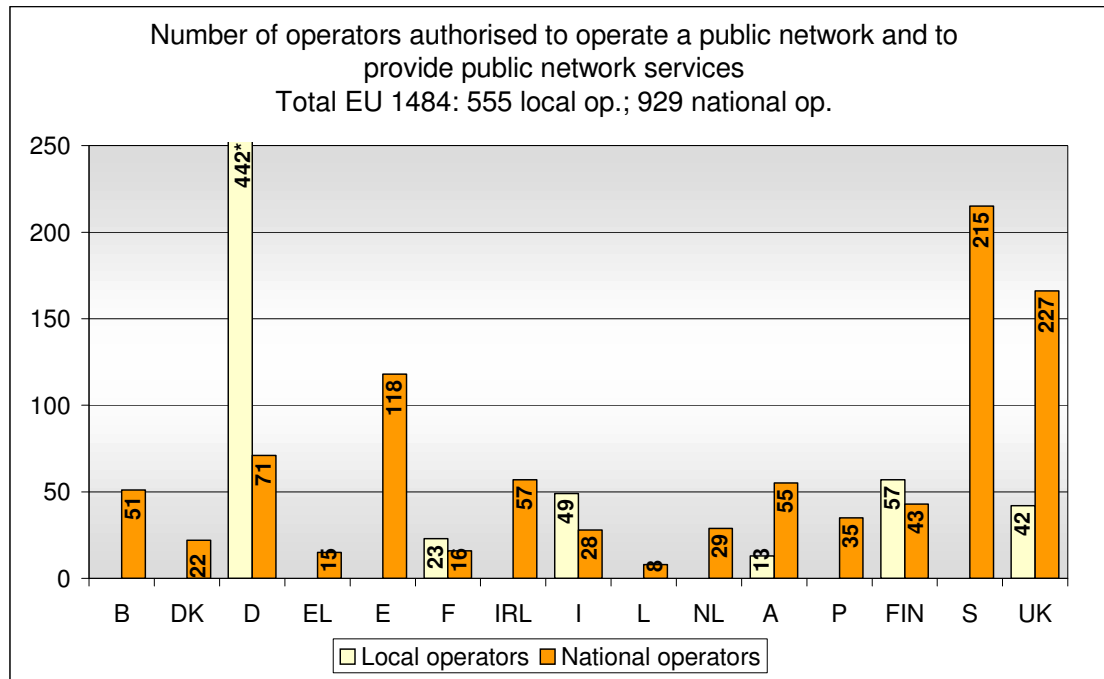
<sup>4</sup> Public fixed network services are defined as the conveyance of calls, messages and signals over a telecommunications network, including any necessary switching. They may be network interconnection services, which are provided to other network operators to enable calls and associated functions to be passed through interconnected networks, or basic retail network services, which are provided to customers such as end-users or service providers.

## Players in the fixed market

It should be noted that a licence to operate a local/regional public network does not necessarily imply the existence of local network access to customers.

The following chart shows that in the EU there are a total of 1484 authorised network operators, 63% of which are local operators. Only one third of the total authorised operators have effectively started commercial activities for local access (507 network operators, half of which are local operators) and only around 15% of the total authorised network operators are effectively active on the trunk-international network services market<sup>5</sup>.

**Figure 2**



\* Figure not to scale.

- The figure for Denmark is not strictly comparable with the others due to the fact that there is neither a licensing requirement nor a central register of operators and their activities (operators only apply for numbers). The data refer to the estimates of the network operators actually offering network services.
- The figure for Spain does not include 74 cable operators, that have transformed their provisional cable concession into a definitive public network licence.
- Data for Ireland include both basic and general licences.
- Due to a different reporting method applied by the NRA, data for the Netherlands is not comparable with the previous reports, and do not represent actual market development.
- In Finland, 39 of the 57 regional network operators are local incumbents and belong to the Finnet Group. 3 local and 4 national network operators belong to Elisa Group.
- Data for Sweden include both licensed and notified operators.
- In the United Kingdom, the local operators are 42 local cable franchise operators, owned by 2 companies<sup>6</sup>.

<sup>5</sup> In this case the number of local operators is negligible.

<sup>6</sup> In the UK the 42 local cable franchise operators, owned by 2 companies, must hold (inter alia) a standard PTO licence for the provision of cable TV which, in turn, also gives the right to provide public voice telephony/network service. How many of these cable operators are also providing public voice telephony/network services is unknown. From January 2001 the geographical restriction on cable companies ceased to exist and any cable licensee was free to operate outside the area laid down in its licence, but to maintain comparability with previous Reports we will continue to consider these operators as local. The big decrease in the number of local cable operators since 2001 (134 at that time) is due to intensive merger activities in the market.

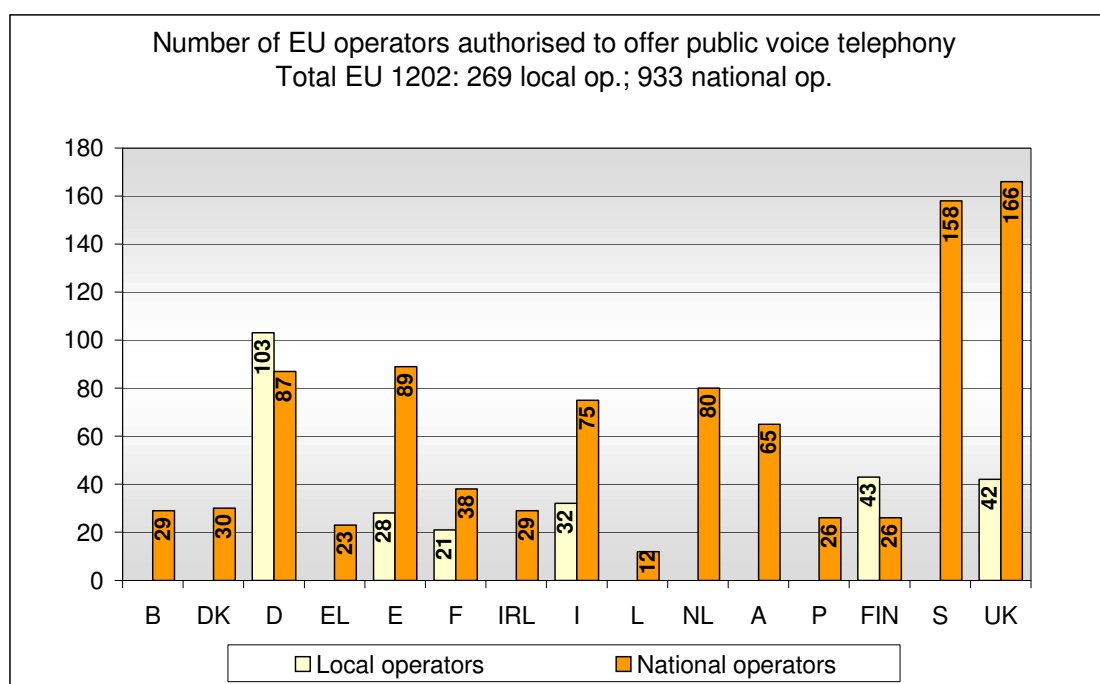


## PUBLIC FIXED VOICE TELEPHONY OPERATORS

Public fixed voice telephony is defined as a service available to the public for the direct transport on a commercial basis of real-time speech via the public switched network, such that any user can use equipment connected to a network termination point at a fixed location to communicate with another user of equipment connected to another termination point.

Voice telephone could be provided by the operators on an own self-operated network or on a leased network. In the first case, the operator provides voice telephony over a network fully controlled, operated and (wholly or partially) owned by him; in the second case the operator operates, controls and manages the transmission capacity which is leased from other operators<sup>7</sup>.

**Figure 3**



- The figure for Denmark is not strictly comparable with the others. Due to the registration system, the number of operators authorised to provide public fixed voice telephony figures for Denmark has been estimated using the number of operators that have been allocated geographical numbers and/or access codes.
- In Finland, 39 of the 43 regional operators are local incumbents and belong to the Finnet Group. 7 national operators belong to Elisa Group.
- Data for Sweden include both licensed and notified operators.
- Due to a different reporting method applied by the NRA, data for the Netherlands is not comparable with the previous reports, and do not represent actual market development.
- In the United Kingdom, the local operators are 42 local cable franchise operators, owned by 2 companies<sup>6</sup>.

The number of operators authorized to offer public fixed telecoms services indicates only the potential for competition in the market rather than the current level of competition. For this reason, where possible, an estimate is given of the number of operators actually active on the market.

<sup>7</sup> Simple call-back and calling card services and operators dealing only with marketing, billing, etc., are excluded. The definition of service provider may differ from that used in the national law of individual countries (in some countries non-self operated network operators engage exclusively in reselling activities).

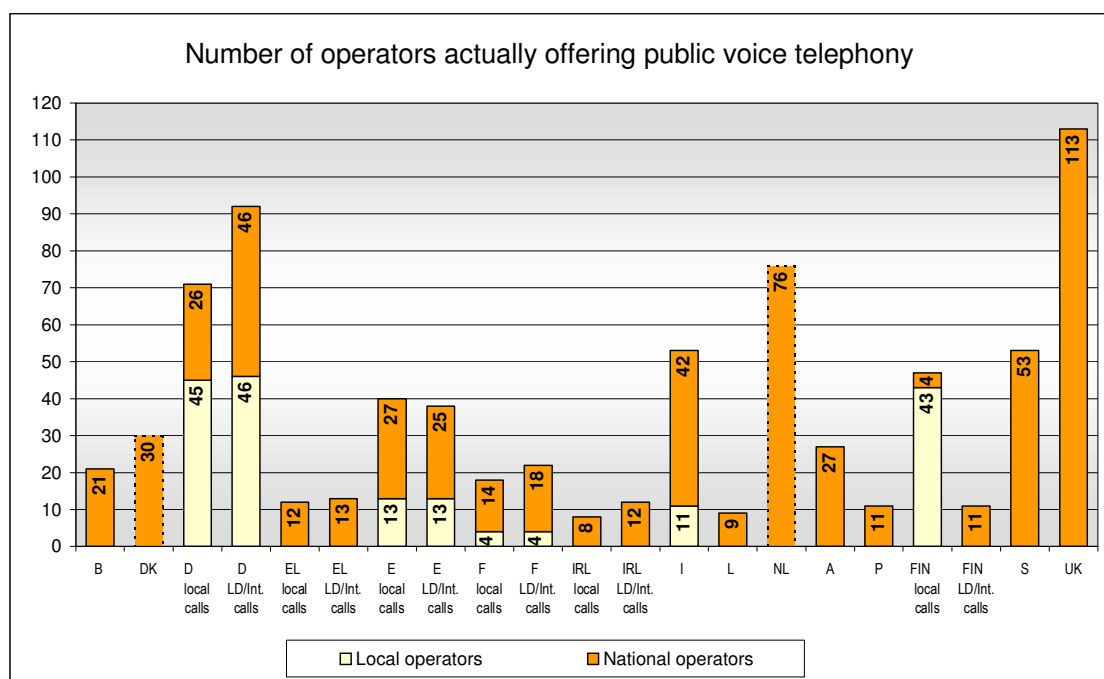
## Players in the fixed market

The following chart shows the estimate of the number of operators active in the voice telephony market at August 2003. Figures for local operators are available only for the countries in which the licence/authorisation system provide for this category. Moreover, this does not exclude that in the other countries that do not impose any geographical distinction, national operators are not providing services only in local areas.

Where possible separate figure for local and long-distance/international call market are provided. In these cases, the two bars referring to the same country should be read separately on a service by service bases, since the same operator can be authorised to offer more than one type of service.

The chart shows a significant presence of active local operators in the local calls market (around one third on the total number of active operators) while, apart from Germany, in the long-distance/international calls market their presence is negligible.

**Figure 4**



- Figures for Denmark and the Netherlands are not strictly comparable with the others since they refer to the operators that have been allocated geographical numbers and/or access codes.
- The figures for the Netherlands are not comparable with previous reports.
- Figures for both Spain and Finland do not include 2 operators actually offering only international voice telephony.
- In Finland, 37 of the 43 regional operators providing local calls are local incumbents and belong to the Finnet Group. 2 local and 2 national operators providing local calls belong to Elisa Group.
- The figures for France refer to 31.3.2003
- The figures for Sweden refer to 31.12.2002
- DK, I, NL, A, P, S and UK do not provide separate figure for the types of calls.
- In Belgium and Luxembourg local calls does not exist as a separate category from long-distance calls.

Figures in the previous chart do not show to what extent the operators are offering services. Many new entrants initially only provide services to business users in the main cities, even if they have a national license allowing them to offer all types of service throughout the country.

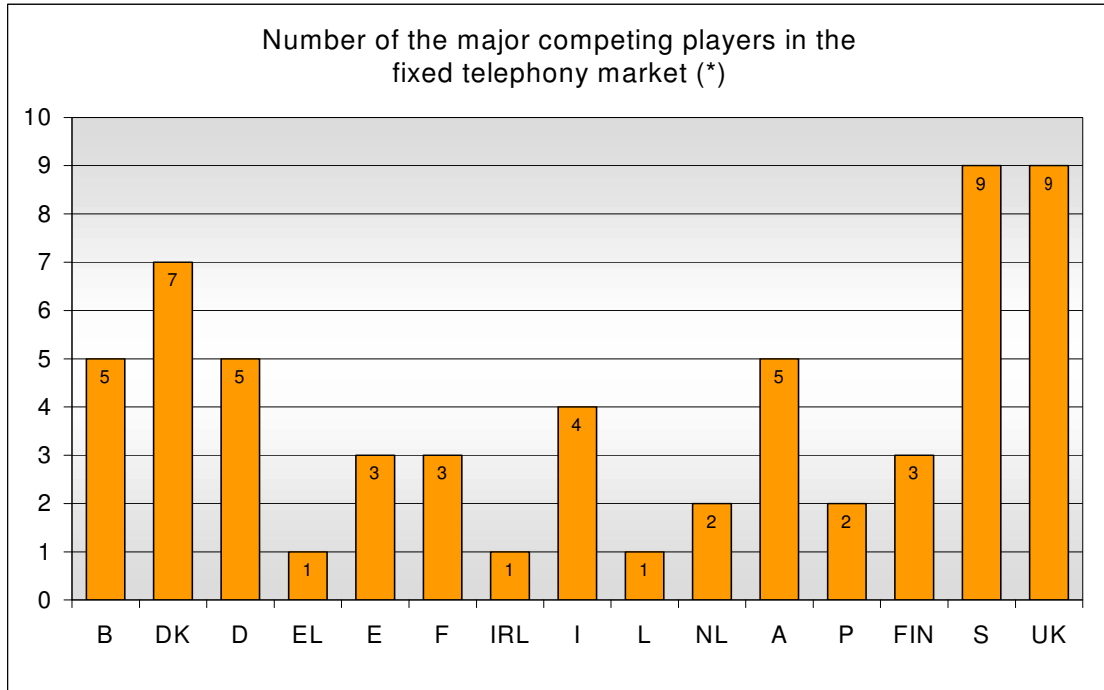
To give an idea of the “real” number of effectively competing fixed operators, the following chart shows for each country the number of operators that have a combined market share of at least 90% on the global voice telephony market (including all types of calls<sup>8</sup>). Generally speaking, very few

<sup>8</sup> Local calls to internet, local phone calls, long-distance and international calls as well as calls to mobile.

countries have more than 4 competing operators (including the incumbent) that have such a combined market share.

These figures give an idea of the number of major competing operators, but it should be recalled that the competition is largely asymmetric, with a strong position of the incumbents.

**Figure 5**



(\*) Number of operators that have a combined market share of at least 90% on the global voice telephony market.

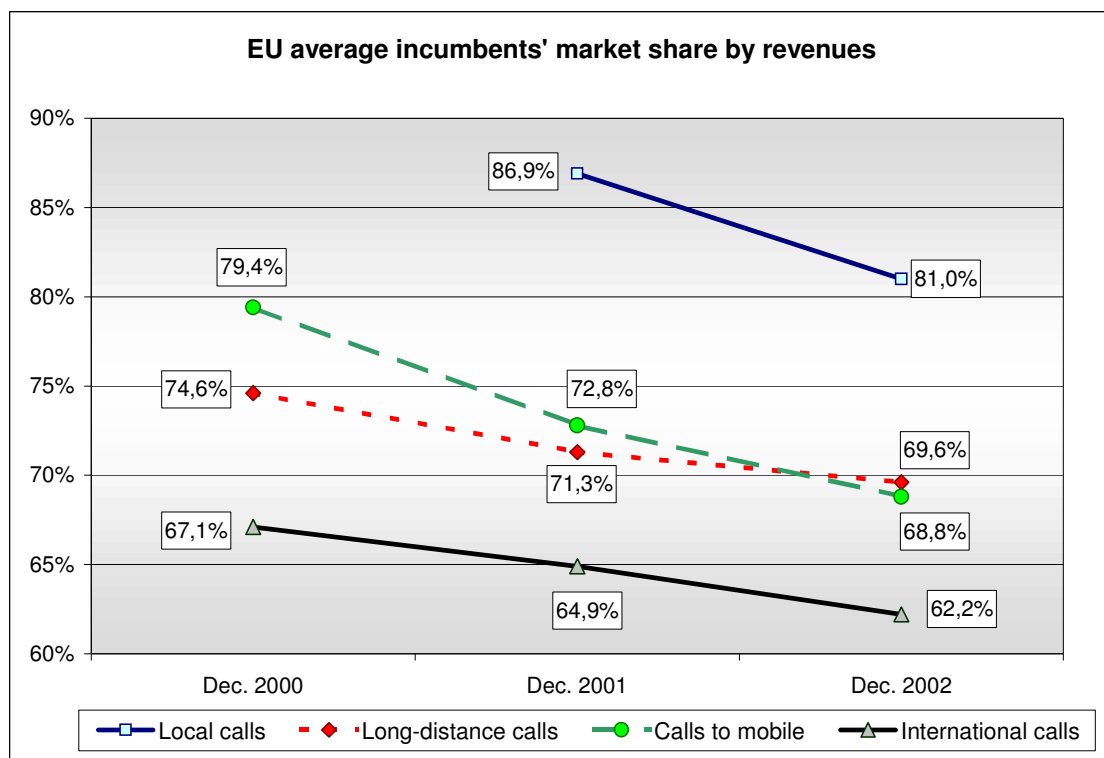
## 1.2. INCUMBENTS MARKET SHARE ON THE FIXED VOICE TELEPHONY MARKET

This section shows the incumbents' market share on the fixed voice telephony markets on the basis of both retail revenues and outgoing minutes of traffic. Where possible, figures for local, long-distance, international call, calls to mobile and calls to internet are shown. Unfortunately, not all Member States collect both types of data, and differentiation between the various markets is not always available. DK, L and P do not provide data by revenues; NL, S, and I do not provide data by minutes of traffic. Data for A by revenues are confidential.

Figures in this section have been provided by NRAs and give the situation as for December 2002, except for Netherlands, Austria (March 2002) and the United Kingdom (March 2003).

The following chart shows the EU weighted average trend since 2001 of the incumbent's market share in the major segment of the voice telephony market<sup>9</sup> based on retail revenues. Due to the non availability of data for all the countries and for all types of calls, the average EU data should be considered as indicative<sup>10</sup>.

**Figure 6**

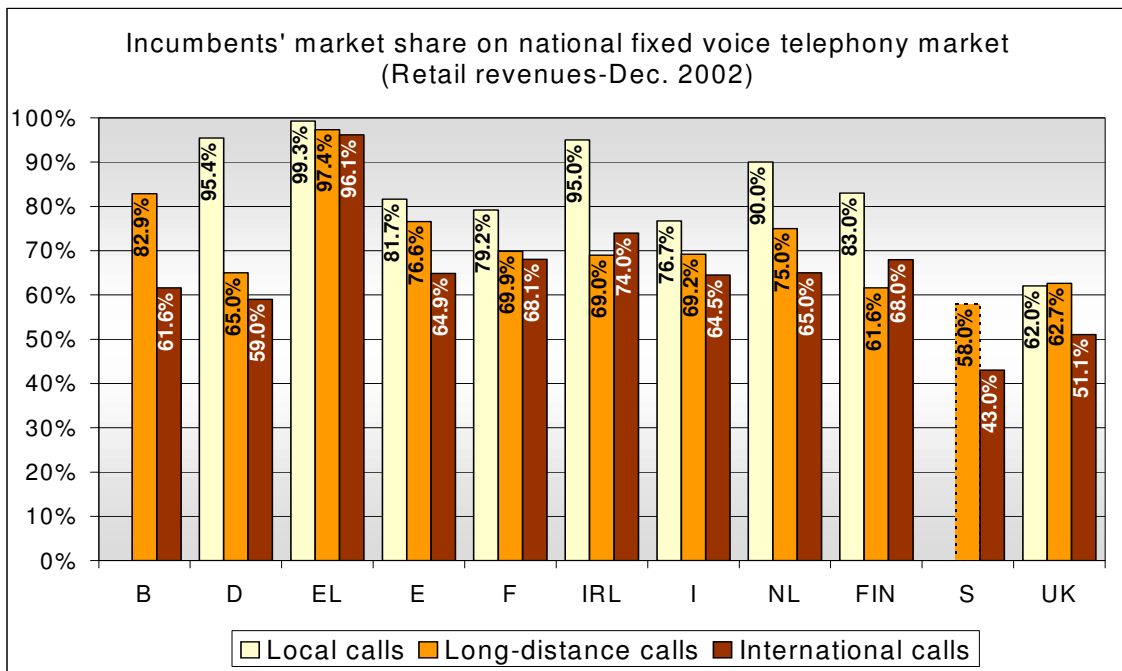


The following two charts show the incumbents' market share in the local, long-distance and international call market by retail revenues and by minutes of outgoing traffic. Local calls market include both local phone calls and local calls to internet.

<sup>9</sup> Data are not comparable with the previous reports, due to several factors: (1) figures for the years 2000 and 2001 have sometimes been updated to reflect revised data received from Member States; (2) the EU average is now a weighted, rather than a simple average; (3) 2002 and 2001 data for non euro-zone countries have been recalculated on the basis of 2003 exchange rate.

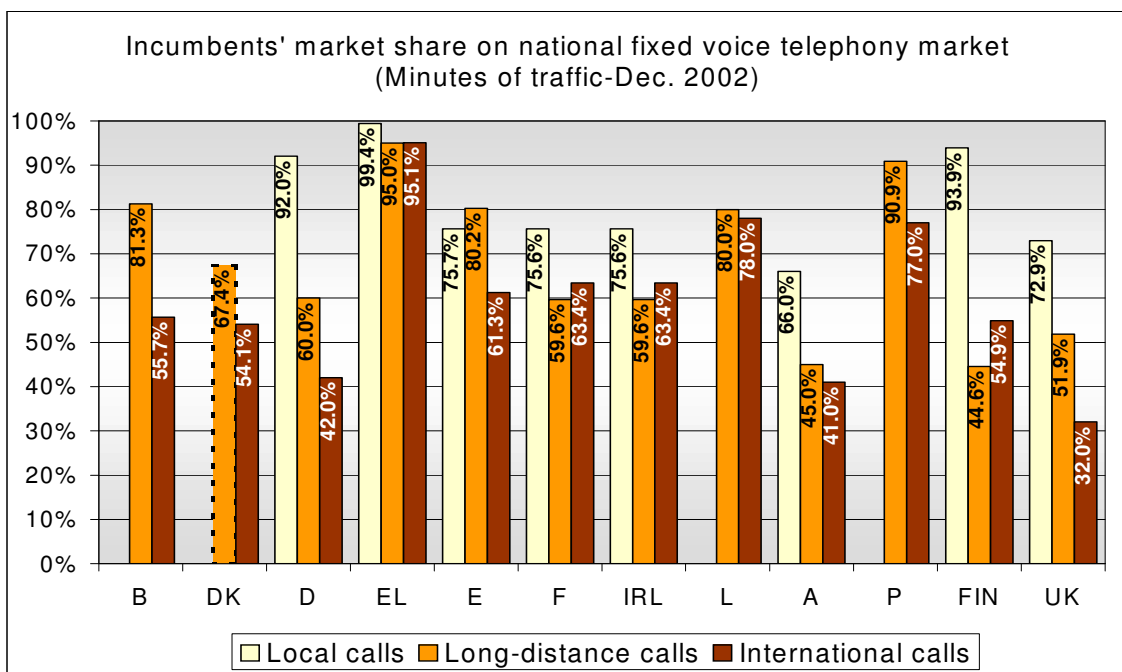
<sup>10</sup> Data for local call market is an average of countries that represent more than 90% of the EU population for both 2001 and 2002; data for call to mobile represent 96% of the EU population for the years 2002-2001 and 90% for the year 2000; data for international call represent more than 96% of the EU population for all the periods considered.

**Figure 7**



- In Belgium “local calls” does not exist as a separate category from long-distance calls.
- The figures for the Netherlands refer to March 2002, before the introduction of CPS for local calls on 1<sup>st</sup> August 2002. Moreover, data for long distance market refer to the combined local and long-distance market.
- In Finland, the figure for local calls is the combined market share of Sonera, Elisa and Finnet. The figures for the long-distance and international market includes Sonera only and not Finnet even if it is designated as SMP.
- Data for the long-distance market in Sweden is not strictly comparable with the others since it refers to the global national call market (local, long-distance calls and calls to mobile).

**Figure 8**



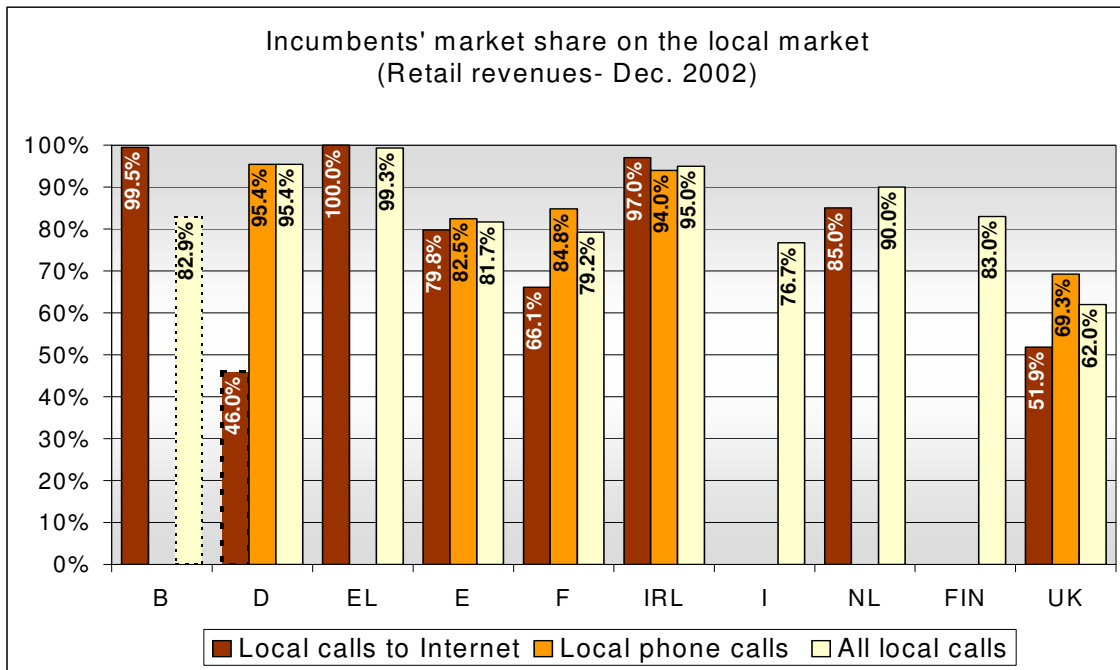
- In Belgium and Luxembourg local phone calls does not exist as a separate category from long-distance calls.
- Data for long-distance market share in Denmark is not strictly comparable with the others since it refers to the global national call market (local, long-distance calls and calls to mobile)

## Players in the fixed market

- In Finland, the figure for local calls is the combined market share of Sonera, Elisa and Finnet. The figure for the long-distance and international market includes Sonera only and not Finnet even if it is designated as SMP.

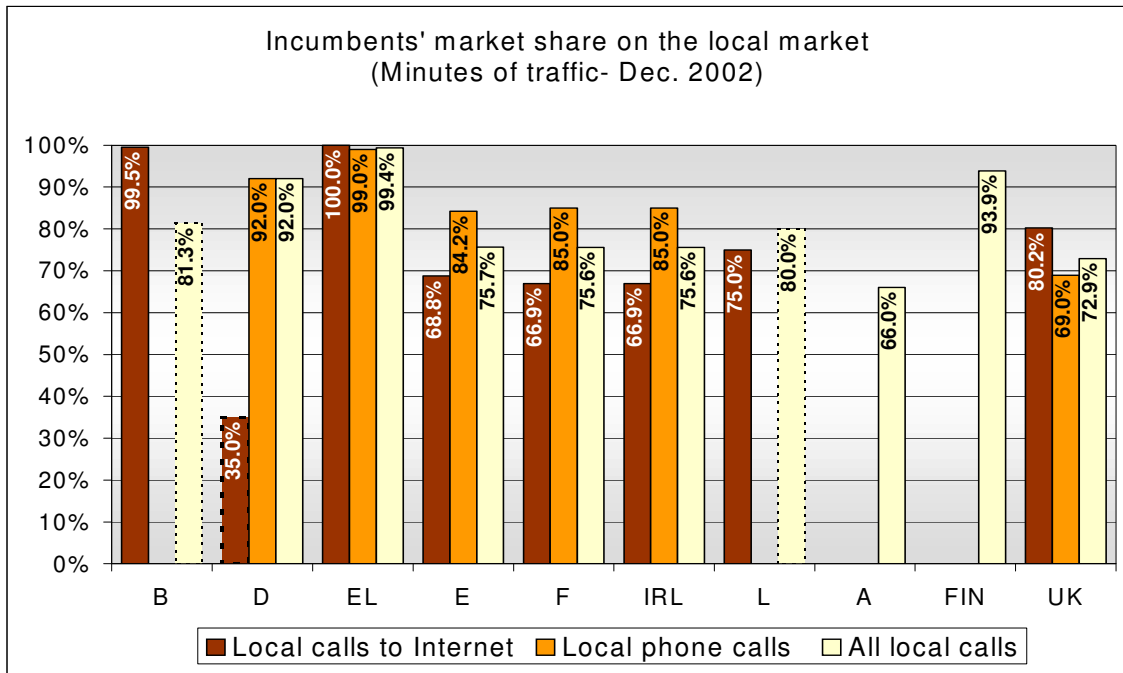
The following charts show the incumbents' market share in the local calls market by retail revenues and by minutes of outgoing traffic. Where possible, separate figures for local phone calls and local calls to internet are provided.

**Figure 9**



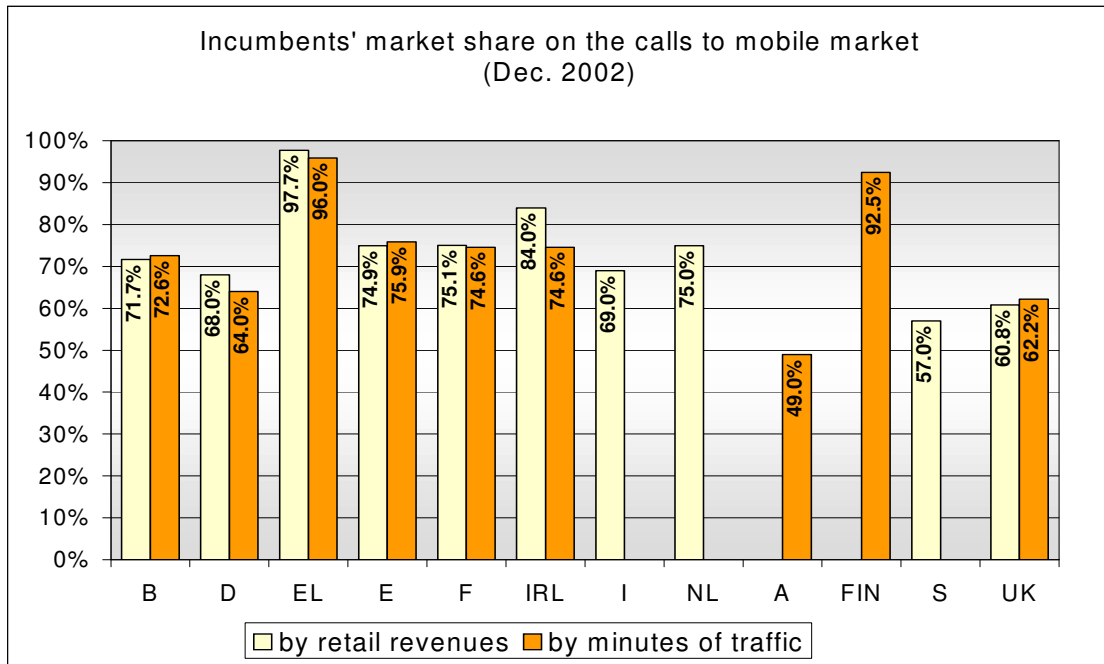
- Columns with dotted border are not strictly comparable with the others.
- In Belgium local calls does not exist as a separate category from long-distance calls.
- In Germany calls to internet are not local calls.
- In Ireland operators may classify internet calls differently. They may be included in other call categories such as local only, national as well as internet; therefore, market shares are varied.
- The figures for the Netherlands refer to March 2002 before the introduction of CPS for local call on 1<sup>st</sup> August 2002. Moreover, data for local calls to internet include also ISDN access.

Figure 10



- Columns with dotted border are not strictly comparable with the others.
- In Belgium and Luxembourg local calls does not exist as a separate category from long-distance calls.
- In Germany calls to internet are not local calls.
- In Ireland operators may classify internet calls differently. They may be included in other call categories such as local only, national as well as internet, therefore market shares are varied.
- In Finland, the figure for local calls is the combined market share of Sonera, Elisa and Finnet.

Figure 11



- The figure for Finland refers to Dec. 2001.

## 2 CONSUMERS' CHOICE OF FIXED OPERATORS

This section analyses the fixed voice telephony market from the point of view of consumers.

The data presented below have been provided by the national regulatory authorities and, unless otherwise indicated, report the position at August 2003. Figures for countries not included in the charts are not available.

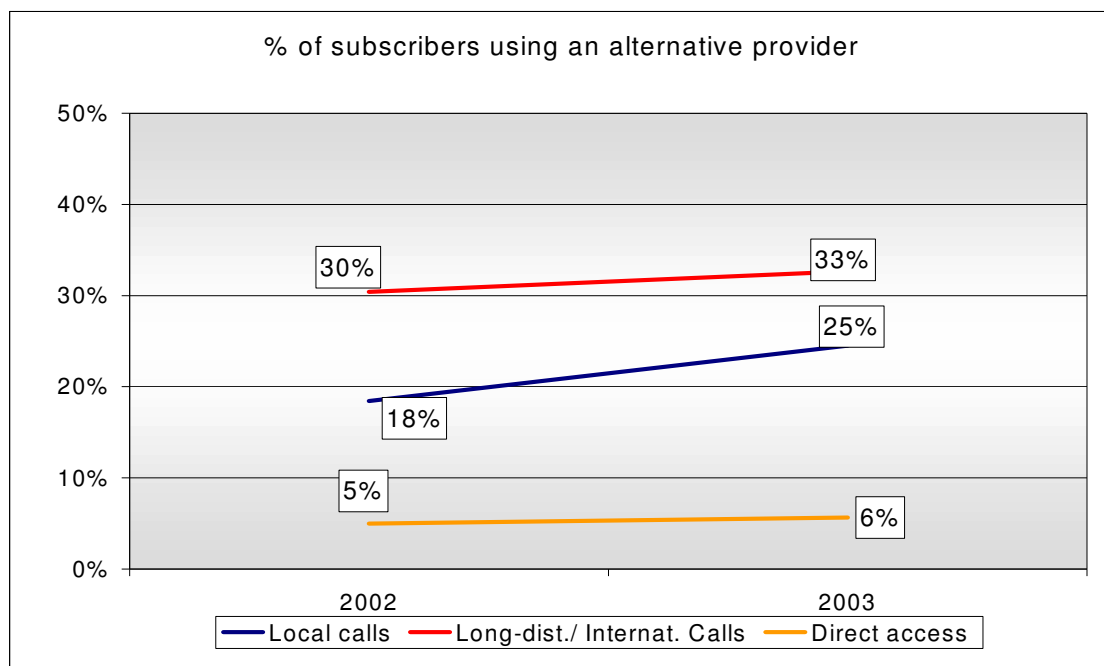
Figures are not always comparable with those published in previous Reports, due to changes in the methodologies and/or in the classification used by the Member States.

### 2.1. PERCENTAGE OF SUBSCRIBERS ACTUALLY USING AN ALTERNATIVE PROVIDER OTHER THAN THE INCUMBENT

Traditional incumbents' customers are more and more aware of the possibility of using a provider alternative to the incumbent, either by dialling a call-by-call prefix (*carrier selection*) or by choosing to route all calls by default to the network of an alternative operator (*carrier pre-selection*). The use of an alternative operator through carrier selection/carrier pre-selection does not exclude the possibility of using the incumbent too. *Direct access* is also available to users through alternative operators' proprietary wire/wireless access or through unbundled local loops leased from the incumbent.

As at August 2003, 33% of EU subscribers used an alternative provider to route long-distance and international calls, while only 25% were using alternative providers for local calls. At the same time, direct access from alternative providers was used by 6% of EU subscribers. Since last year, the percentage of subscribers using an alternative provider has grown by 16% for direct access, 12% for long-distance/international calls and 39% for local calls.

**Figure 12**



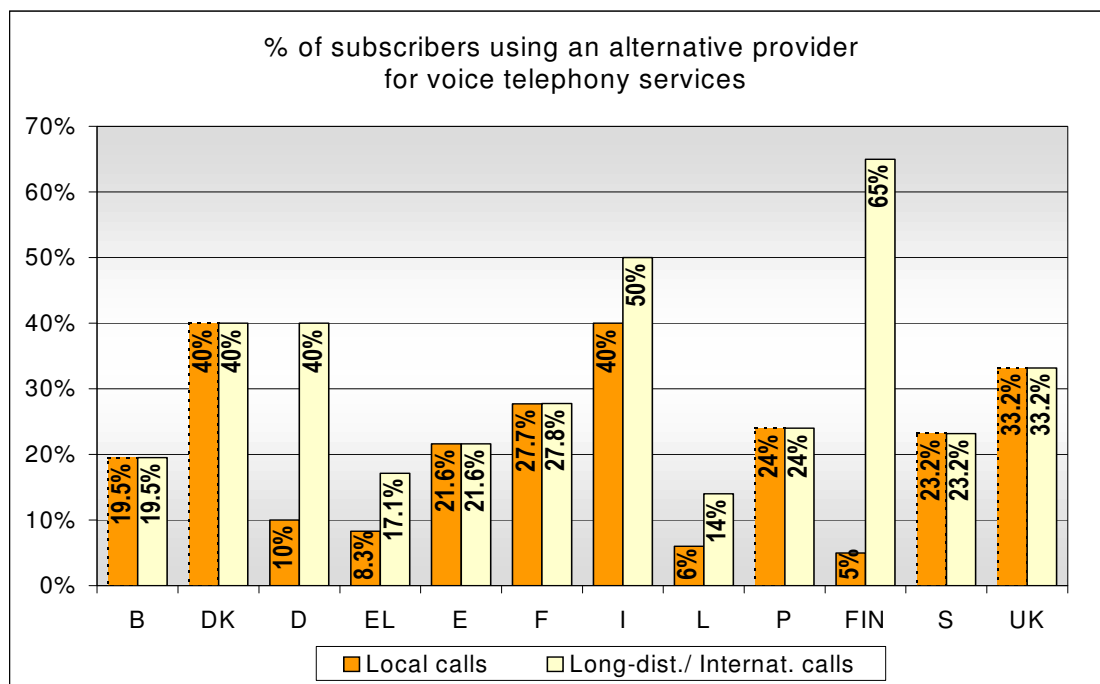


The following charts show for the 15 Member States the % of subscribers using an alternative provider for voice telephony services through carrier selection, carrier pre-selection and direct access. Where available, separate figures for local and long-distance/international calls are given.

Figures refer to August 2003 except for Belgium and Sweden (31.12.02) and for France (31.3.2003).

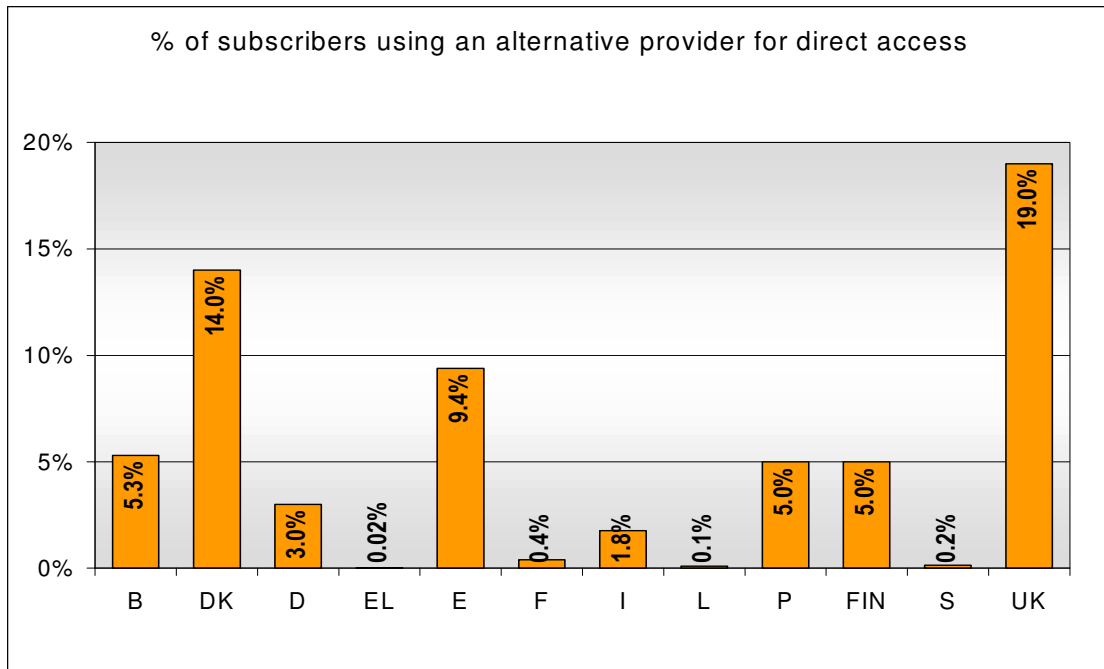
Data for Ireland, Netherlands and Austria are not available.

**Figure 13**



- The figures for France, Spain, Sweden and Luxembourg should be read as minimum.
- The figure for local calls in Luxembourg includes only carrier pre-selection customers, while for long-distance/international calls, it also includes carrier selection customers.
- The figures for Denmark, Portugal, Sweden and United Kingdom do not distinguish between local and long-distance/international calls. In Belgium local calls does not exist as a separate category from long-distance calls.

**Figure 14**



## 2.2.FACILITIES USED BY NEW ENTRANTS FOR THE PROVISION OF VOICE TELEPHONY

This section provides information on the facilities used by new entrant to offer voice telephony, particularly to residential users.

Data have been provided by the national regulatory authorities and report the position at July 2003, except for Sweden and the United Kingdom (1.1.2003) and for France (31.3.2003).

Alternative operators can ask users to be routed to their network either by carrier selection (CS) or by carrier pre-selection (CPS). Furthermore, new entrants can obtain direct access to users through proprietary wire/wireless access or through unbundled local loops leased from the incumbent.

These facilities are not mutually exclusive and very often the same operator uses the three at the same time accordingly to category of customers (business or residential), type of services (local or long-distance/international calls), geographical area, availability of ULL, etc.. The following figures should therefore be read separately and not aggregate as country totals.

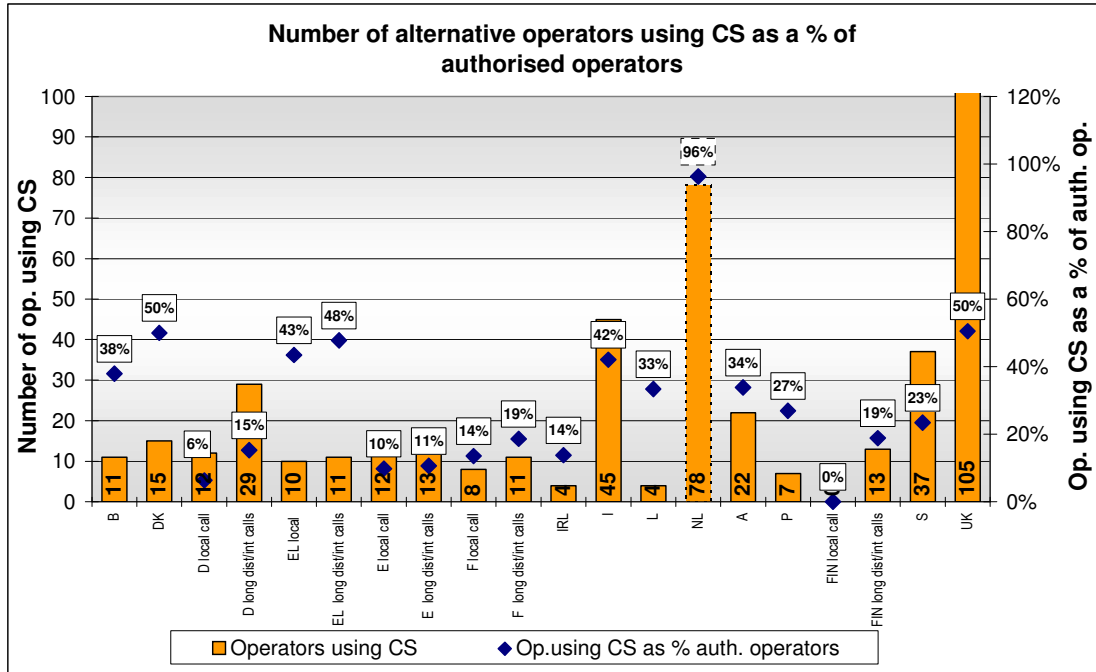
At July 2003 we could broadly estimate that more than 2/3 of the new entrants that are operational in the European market offer voice telephony services though carrier selection and/or carrier pre-selection, and only 1/3 of them use direct access to customers. These values have remained virtually unchanged between 2002 and 2003 across the EU.

The following two charts show the number of operators using carrier selection and/or carrier pre-selection by Member State at July 2003. Where possible and appropriate, separate figures for types of calls are given; in the other cases (DK, IRL, I, NL, A, P, S and UK), separate data was not available or the operators do not differentiate the facilities used by type of calls. In Belgium and Luxembourg local calls does not exist as a separate category from long-distance calls.

The number of operators using carrier selection and/or carrier pre-selection depends on the number of authorised operators, which can vary widely between countries. This is due to the different size of the countries and to the existence, in only some of them, of the local operators category.

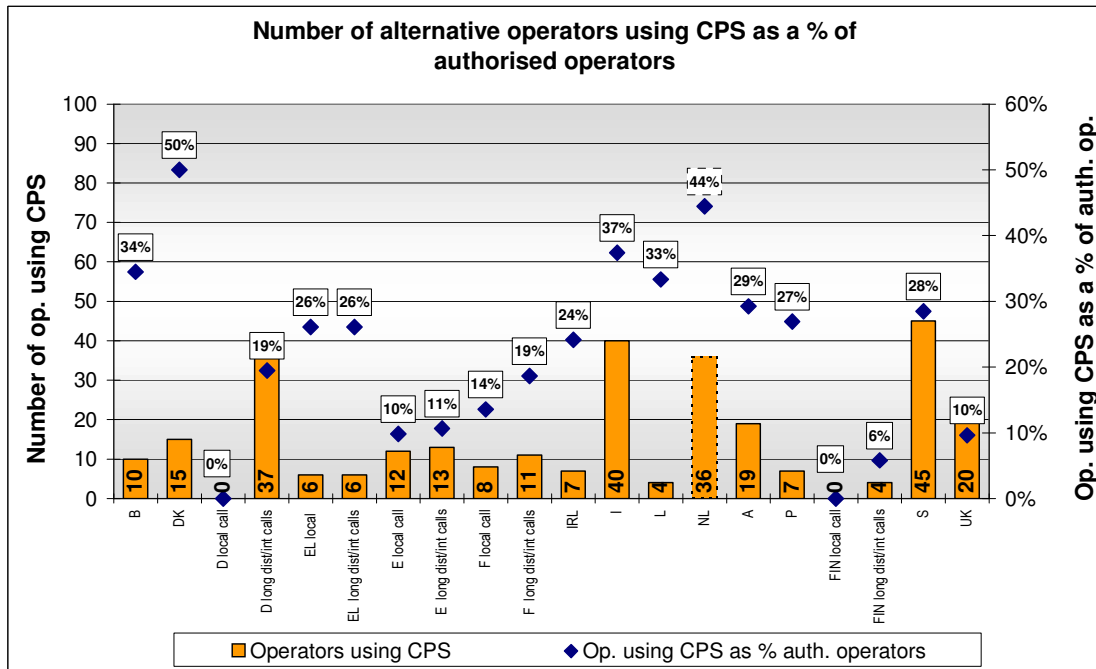
For these reasons, an estimate of the number of operators using carrier selection and/or carrier pre-selection as a percentage of authorised operators is also shown. It should be recalled that less than half of authorised operators have started operations. Moreover, the figures do not show to what extent the operators are offering services: residential and/or business users; nation-wide or only in local areas; all types of calls or only local or long-distance or international calls, etc..

Figure 15



- The figures for Belgium refer to national calls only and not to international calls.
- The figures for Denmark should be considered as minimum.
- In Germany, carrier pre-selection for local calls was not available until July 2003.
- The figures for the Netherlands for CS are not strictly comparable with the others since the data refers to operators with an access code and not to operators effectively active.

Figure 16



- The figures for the Netherlands are not strictly comparable with the others.

|

|

### 3 PUBLIC NETWORK INTERCONNECTION AND INTERCONNECTION CHARGES

#### 3.1. FIXED-TO-FIXED INTERCONNECTION CHARGES

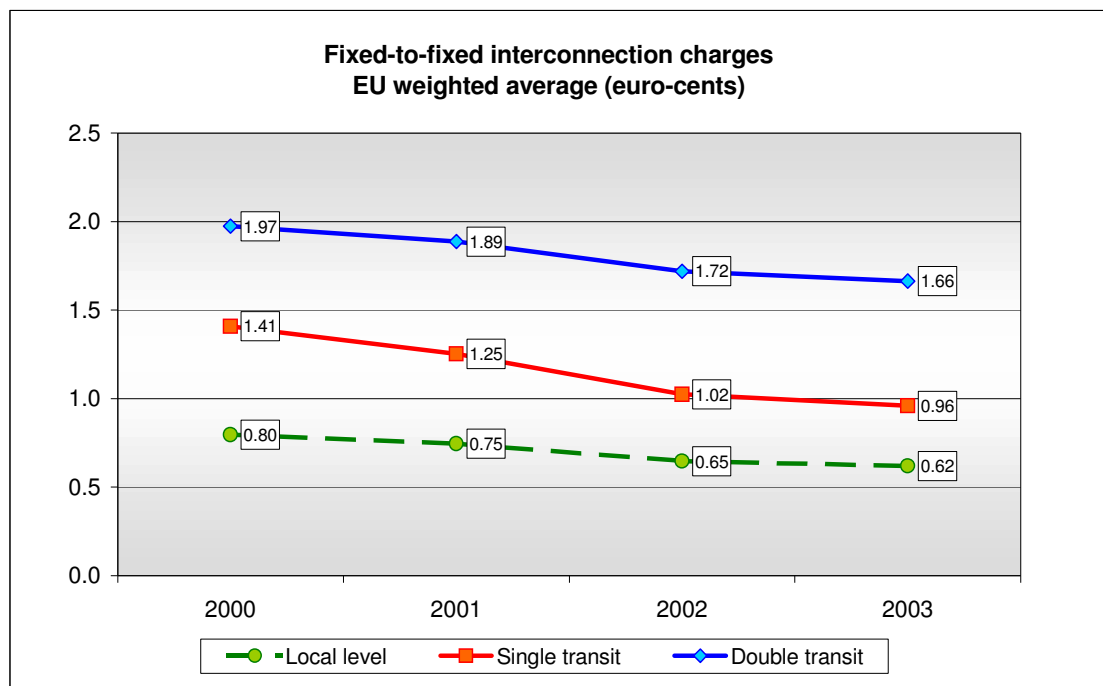
This section analyses the interconnection charges for call termination on the incumbent's fixed network<sup>11</sup>.

The figures may have been approved by the NRA or simply agreed between operators, where the legal framework does not require NRA approval.

The following chart shows the EU weighted average interconnection charges since 2000<sup>12</sup> for local level, single and double transit.

Since August 2000, the EU weighted average charge for call termination on fixed networks has decreased by 32% for single transit, by 22% at local level, and by 16% for double transit. This happened mostly in the period up to August 2002; during the past year the level of interconnection charges seems to have stabilised (they are around 5% less for the retail and single transit levels; 3% less for double transit). Price differences between countries are still significant, in particular at the double transit level, and even seem to have increased over the past three years.

**Figure 17**



<sup>11</sup> The figures shown are per minute charges based on the first three minutes of a call.

<sup>12</sup> The EU average is a weighted, rather than a simple average; this explains the difference with the data published in the previous reports. Furthermore, 2003 exchange rates have been applied to the years 2000-2002 for the non euro-zone countries.

The following three charts show the interconnection charges for local level, single and double transit as of 1 August 2003, in comparison to the values of August 2002. Charges for the Netherlands apply from 1 September 2003.

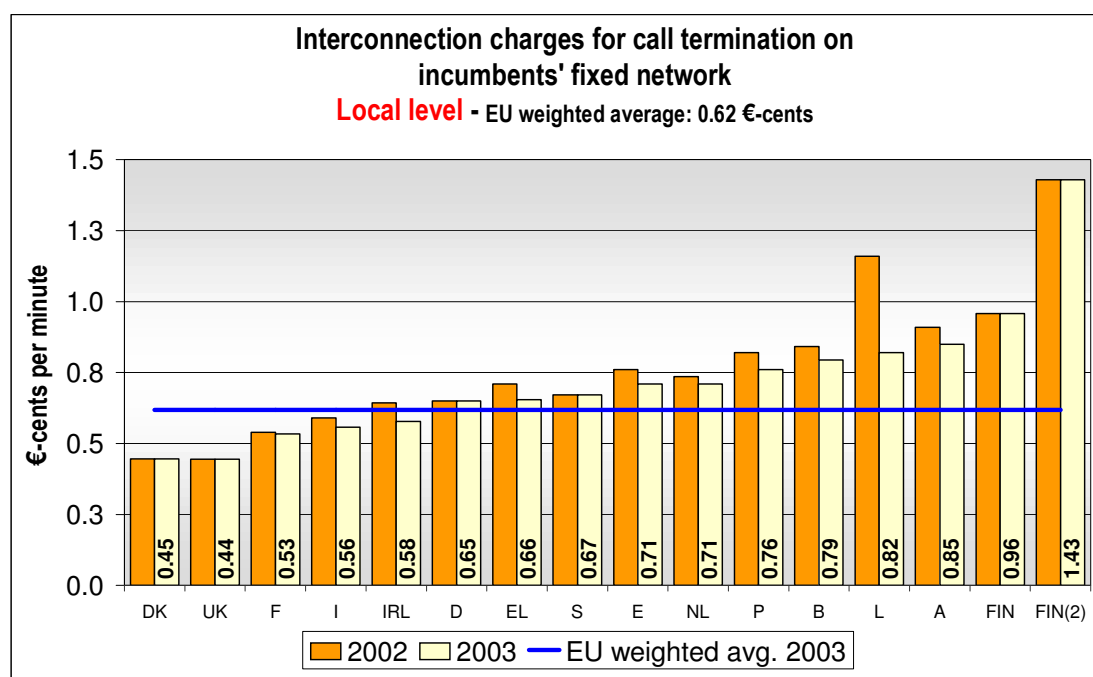
The most notable changes since last year have been the significant decreases in Luxembourg (-29% for local and single transit and -20% for double transit), in Denmark (-17% for local transit and -28% for double transit) and in Italy and Ireland, where there has been a decrease of 14% and 10% respectively at all levels of interconnection.

The interconnection charge for double transit has significantly increased in Greece (+35%), which brought it up to the second highest position.

In the case of France, in order to maintain consistency across Member States, the per minute charge indicated (based on the first 3 minutes) does not include the charge related to the cost of the 2 Mbit/s port which, however, according to ART, provides a better picture of the cost borne by the interconnecting party. By taking this additional charge into account, per minute average charges set by the NRA (peak/off-peak charge for a call of 200 seconds) would be 0.57€-cent and 1.01€-cent respectively at local and single transit interconnection levels.

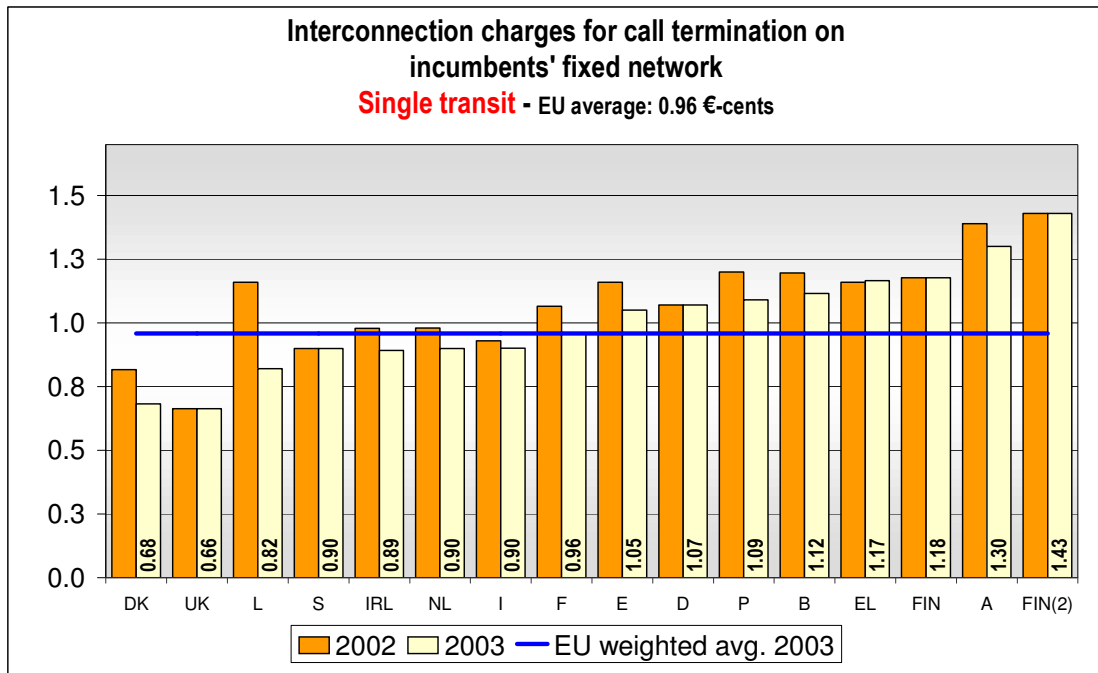
In Finland there are about 50 SMP operators who apply different interconnection charges. The charts refer to charges applied by the two major operators, Sonera (FIN) and Elisa (FIN2).

**Figure 18**



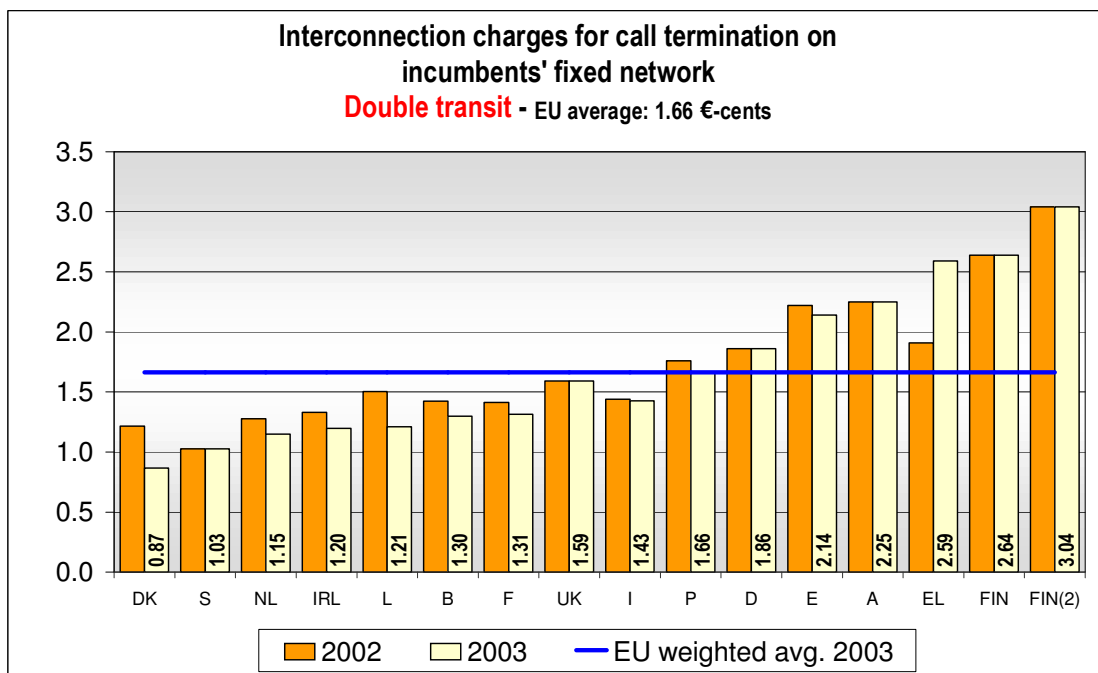
- In Luxembourg there is no distinction between local and long-distance domestic calls.
- Figures for Denmark, Sweden and United Kingdom for 2002 have been recalculated using 2003 exchange rate.

**Figure 19**



- Interconnection charges for Spain refer to a standard single transit, but a different charge is applied in Barcelona and Madrid (0,95€-cents).
- Figures for Denmark, Sweden and United Kingdom for 2002 have been recalculated using the 2003 exchange rates.

**Figure 20**



- The figures for Finland consist of two charges: one paid to the local operator and one paid to the long-distance operator.
- Figures for Denmark, Sweden and United Kingdom for 2002 have been recalculated using 2003 exchange rate.
- Data for the United Kingdom refer to a connection of more than 200km. For lengths of less than 100km the interconnection charge at double transit is 1.013€-cents; and for 100-200km it is 1.26€-cents.



### 3.2.FIXED-TO-MOBILE INTERCONNECTION CHARGES

This section shows the per-minute interconnection charges for fixed call termination on the networks of mobile operators.

In the following charts information is shown for 50 mobile operators in the EU (representing almost 100% of the EU mobile market). A total of 16 operators in the EU have been designated as having significant market power (SMP<sup>13</sup>) in nine national markets for interconnection: Belgium, Denmark, Greece, Spain, France, Ireland, Italy, Finland and Sweden. SMP operators cover 45% of the EU mobile market (in terms of subscribers).

26 operators have been designated as SMP on the national mobile market (SMP-mobile) in 13 Member States: the 9 countries with SMP operators in the interconnection market plus Luxembourg, Netherlands, Portugal and the United Kingdom. In Germany and Austria there are no operators designated as SMP or as SMP-mobile either.

Charges are for calls originating in the same countries, except for Finland, where charges for mobile termination of international fixed calls are considered.

The per-minute interconnection charges are based on the first three minutes of a call at peak rate, except for the Netherlands, Finland and Sweden where the average peak/off-peak rate set by the NRA has been shown.

Except for Germany, the figures have been collected by the NRA, and give the situation in August 2003. Data for Germany are not publicly disclosed by the NRA and the figure shown in the chart was provided by Cullen International.

The following chart shows the evolution of the weighted average fixed-to-mobile interconnection charges for SMP and non SMP mobile operators, since August 2001<sup>14</sup>.

The difference in charges between the two classes of operators has arisen mostly during the past year as a result of regulatory intervention by NRAs to bring about cost orientated charges for SMP operators. Since August 2002, the average interconnection charge for SMP operators has decreased by 15.3%, while for non-SMP operators they have remained more or less stable.

The difference between the level of the charges for SMP and non-SMP operators can be explained by the increased number of SMP operators (which now account for 45% of EU subscribers compared to 41% in 2002), but mostly by the cost orientation requirement for interconnection charges on SMP operators.

It should be noted that even for non-SMP operators in the national interconnection market, interconnection charges are sometimes set by the NRAs, for example as a result of intervention on the basis of a competition enquiry or to set price ceilings to avoid excessive of tariffs. Furthermore, in some countries NRAs intervene in setting the charges for non-SMP operators in order, for example, to resolve a dispute between market players.

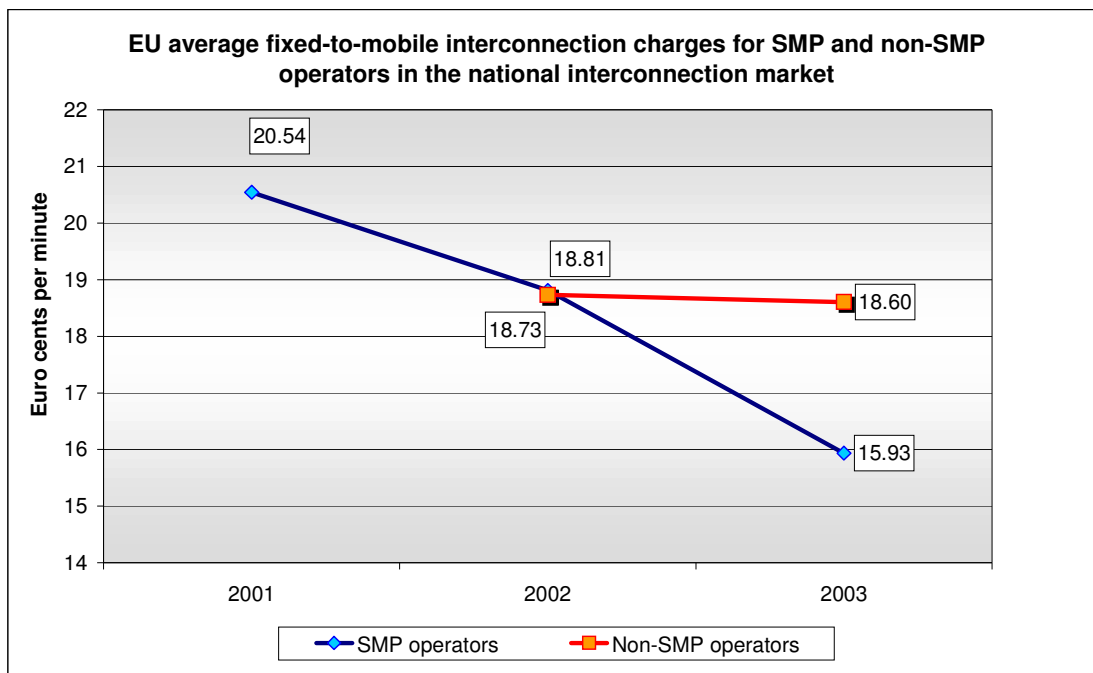
It should be noted that notwithstanding the decrease, the level of fixed-to-mobile interconnection charges remains on average more than 9 times higher than that of fixed-to-fixed interconnection charges (double transit).

<sup>13</sup> In the following document, SMP operators means operators designated as having significant market power in the national markets for interconnection, while SMP-mobile operators means operators designated as SMP on the national mobile market.

<sup>14</sup> Figures are not comparable with previous reports, due to the use of weighted averages instead of simple averages; furthermore, the 2003 exchange rates have been applied to the previous years 2000-2002 for the non euro-zone countries. Figures for 2001 for non-SMP operators are not available: the EU weighted average for non-SMP operators representing 36% of the subscribers of total non-SMP operators' subscribers was 20.9€-cents.

The EU weighted average of fixed-to-mobile interconnection charges for 50 European operators is 17.45€-cents.

**Figure 21**



The following charts show the fixed-to-mobile interconnection charges for 50 mobile operators in the EU, the national weighted average<sup>15</sup> for SMP and non-SMP operators and the trend since August 2002.

With the exception of all operators in France and Portugal, one operator in Spain and two in Greece, mobile termination charges do not vary according the type of network in which the call is originated (fixed or mobile). In France, mobile-to-mobile interconnection charges are based on the "bill and keep" principle, so mobile operators do not define termination charges.

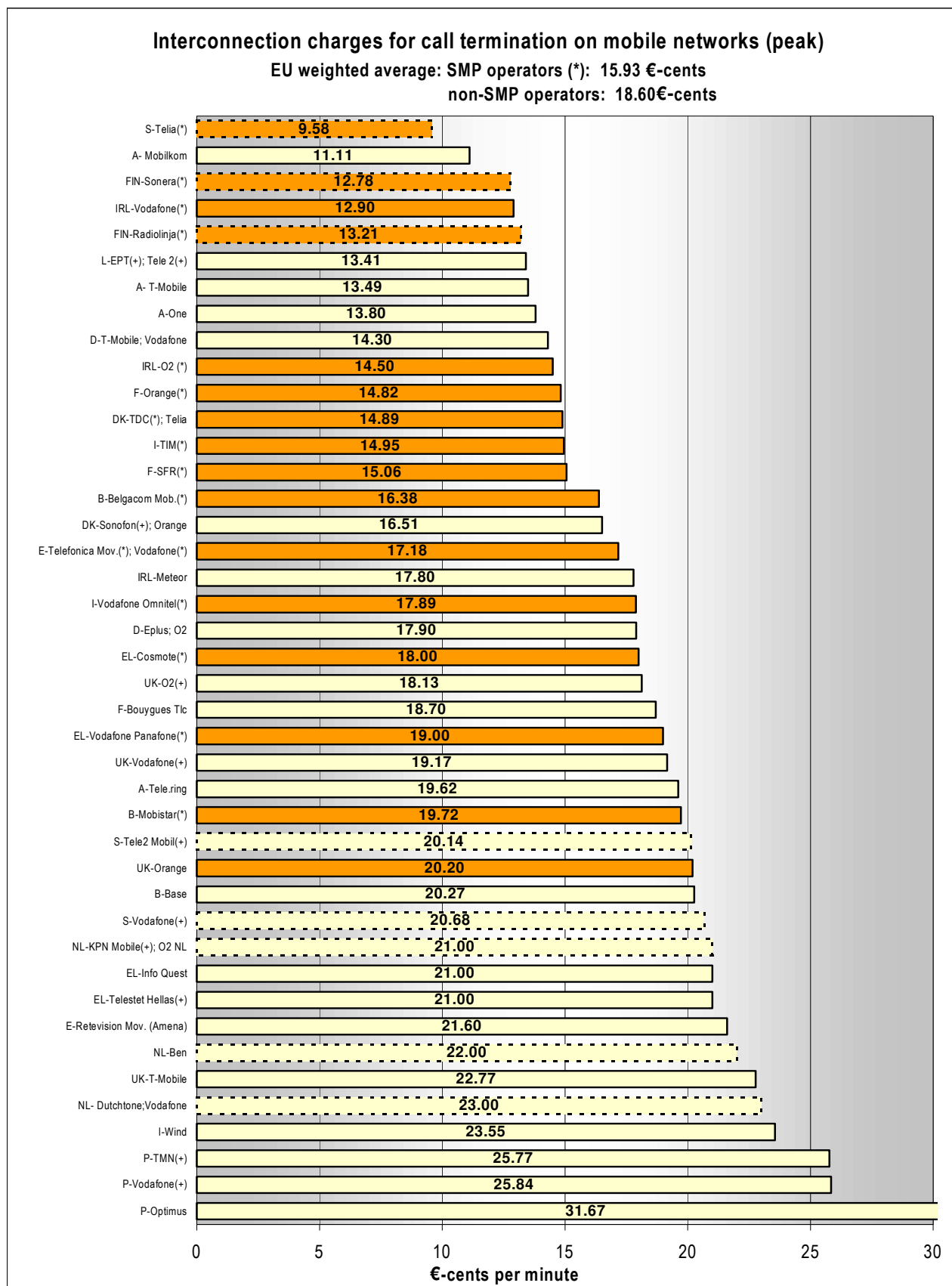
Data for Finland indicate the interconnection charges for an international fixed call to a mobile network (interconnection charges also apply to mobile-to-mobile calls). No mobile wholesale termination charges exist for calls originating on a national fixed network; instead, so-called "end-user" charges are levied. The originating fixed operator charges a customer a fixed network retail charge and a mobile network retail charge (to be forward to the mobile operator). Both fixed and mobile operators determine the charges for their own segments. An example of a fixed-to-mobile retail call charge (at peak rate including VAT) is 27€-cents for Sonera and 26€-cents for Radiolinja.

The main decreases in the charges since August 2002 have been achieved in Italy (-25% for one SMP operator), in France and Spain (around -18% for both SMP operators), in Ireland -13% for the SMP operator Vodafone), in Belgium (-14% for one SMP operator) and in Greece, where charges have decreased on average by 9% for the four non-SMP operators, after intervention by the NRA. On the other hand, fixed-to-mobile interconnection charges have increased by 10% for one operator (SMP on the national mobile market) in the Netherlands.

The figures for Portugal published in the 8<sup>th</sup> report are not comparable with the 2003 figure; moreover, the NRA has estimated an average decrease of 8% since last year.

<sup>15</sup> Average of the interconnection charges for the different national operators weighted on the basis of their subscribers.

Figure 22



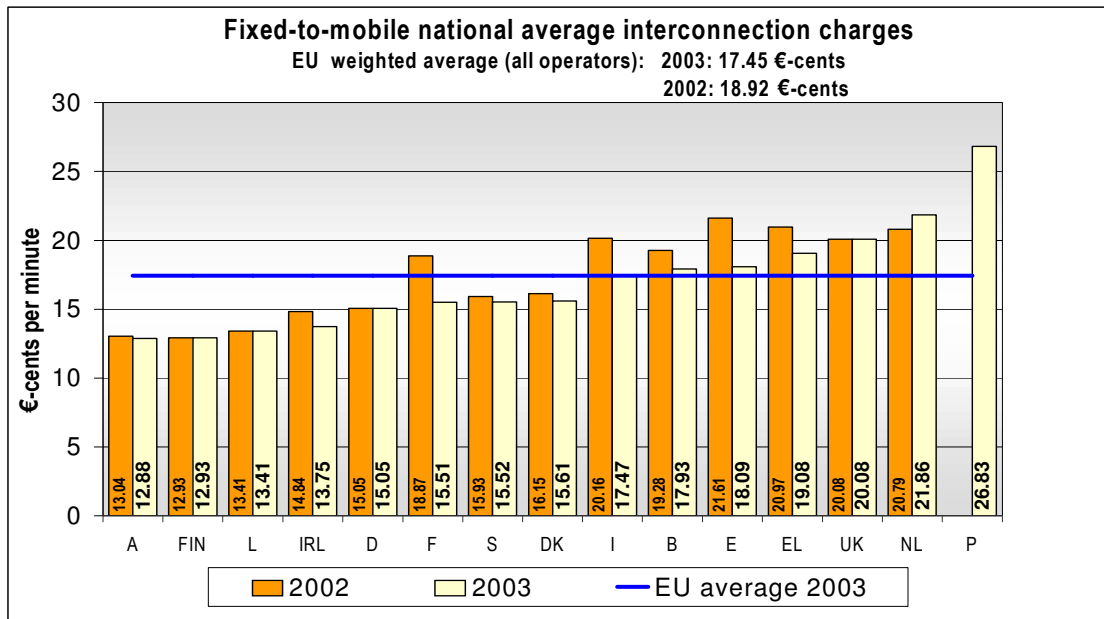
- The figures for Netherlands, Finland and Sweden are not strictly comparable with the others since they represent an average peak/off-peak rate.

Legend:

(\*) SMP operators in the national interconnection market

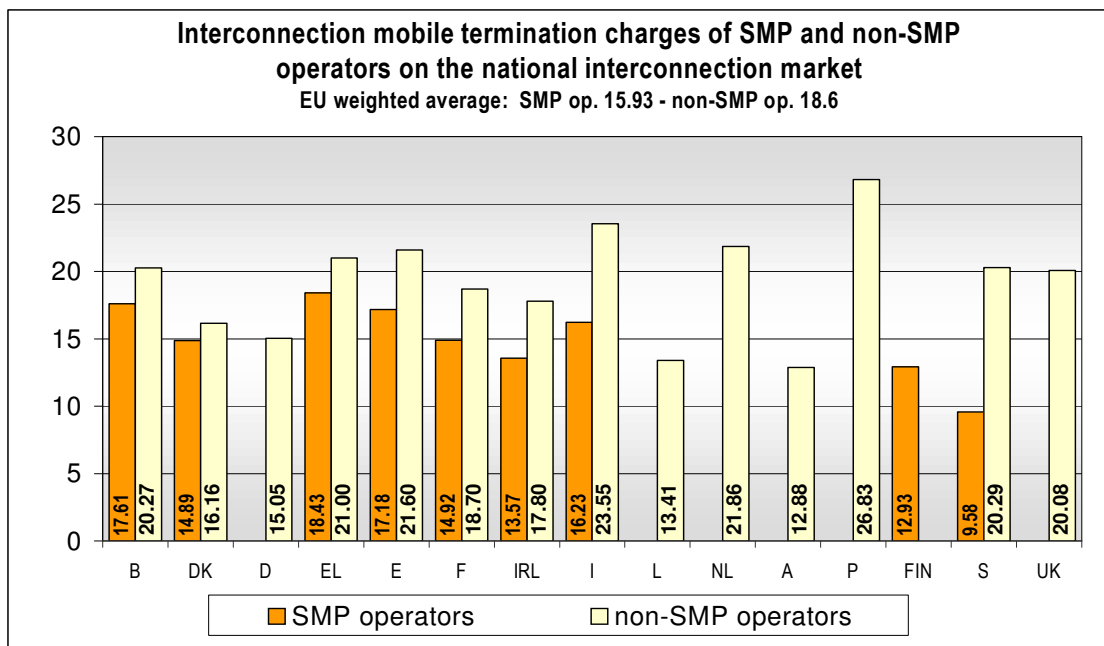
(+) SMP operators in the national mobile market

**Figure 23**



- Figures for Denmark, Sweden and United Kingdom for 2002 have been recalculated using the 2003 exchange rates.

**Figure 24**



### 3.3. LEASED LINES INTERCONNECTION CHARGES

This section shows the monthly rental and the one-off charges for short-distance leased lines (local ends, excluding VAT) up to 2 and 5 km provided by the incumbent operator to other interconnected operators. An estimate of the total average monthly rental cost (based on the total cost for two years) is also presented. Deviations for the monthly rental from the “recommended price ceiling” set in Commission Recommendation 1999/3863 of 24 November 1999 are also shown. The recommended price ceilings<sup>16</sup> are:

- € 80/month for a 64 Kbit/s leased line part circuit up to 5 km
- € 350/month for a 2 Mbit/s leased line part circuit up to 5 km;
- € 1 800/month for a 34 Mbit/s leased line part circuit up to 2 km;
- € 2 600/month for a 34 Mbit/s leased line part circuit up to 5 km.

National Regulatory Authorities have provided these figures through the questionnaire for the 9<sup>th</sup> Implementation Report and the replies to the ONP COM02-18 Document. Figures indicate the position in August 2003.

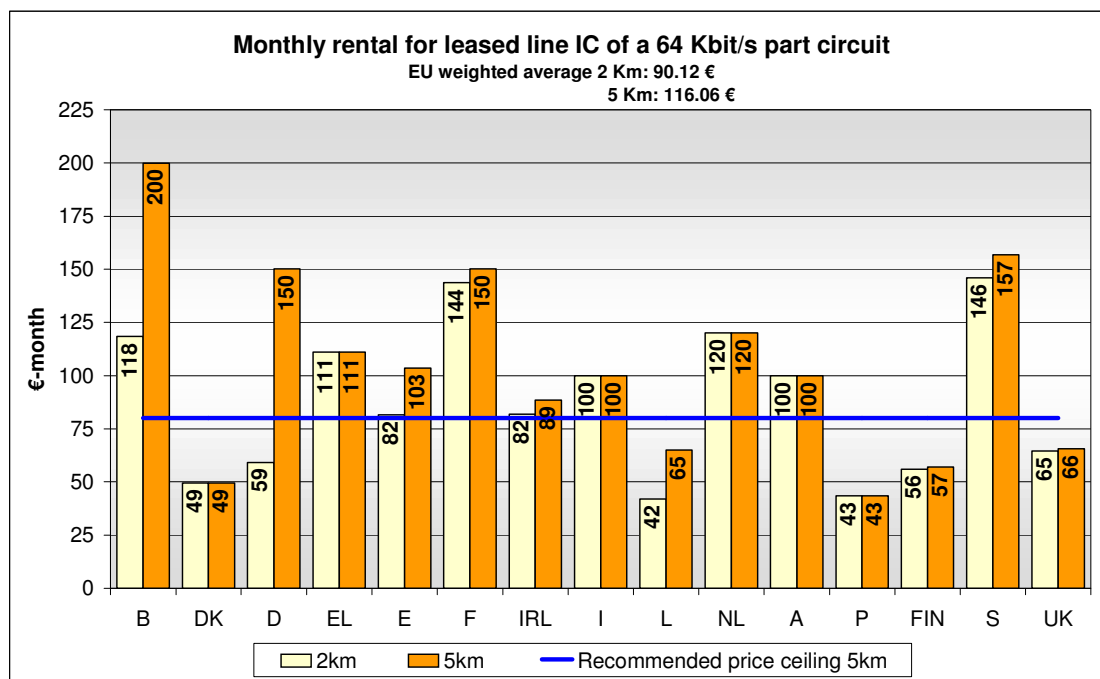
New prices with effect from September 2003 have been published in the Netherlands.

In Finland the charges by SMP operators differ. Leased lines prices are averages based on the charges of Sonera, Elisa and Finnet.

There is no 34 Mbit/s price offer in France. For the calculation of the EU 15 monthly rental average price, the 2002 price in France has been used in order to maintain consistency with previous years and plot the EU 15 average deviation from the price ceiling.

#### 64 Kbit/s part circuit

Figure 25



<sup>16</sup> Although the ceiling is not used anymore, it has been a very helpful tool to benchmark progress towards the reduction of leased lines wholesale interconnection prices. It is therefore used in this report in order to present progress.

Figure 26

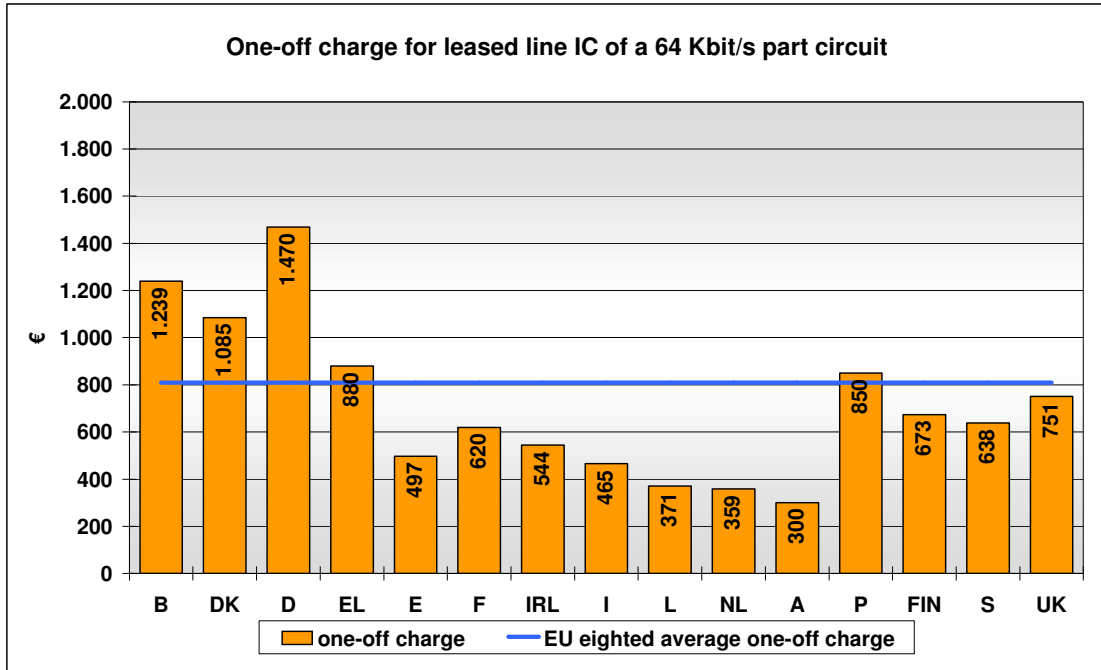
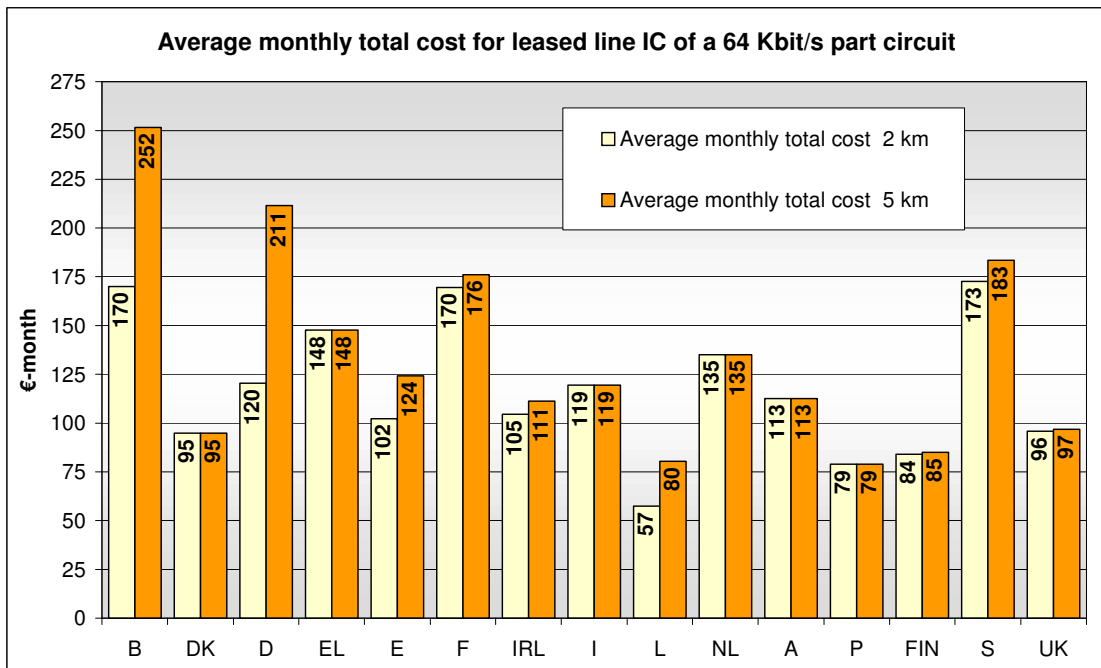


Figure 27



**2 Mbit/s part circuit**

Figure 28

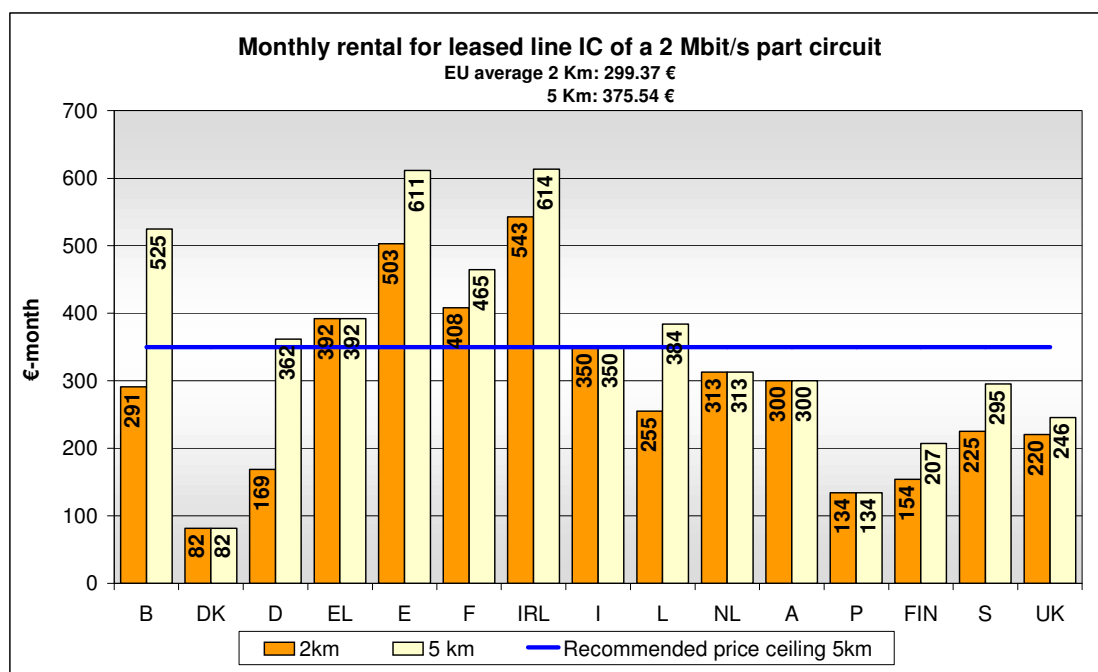
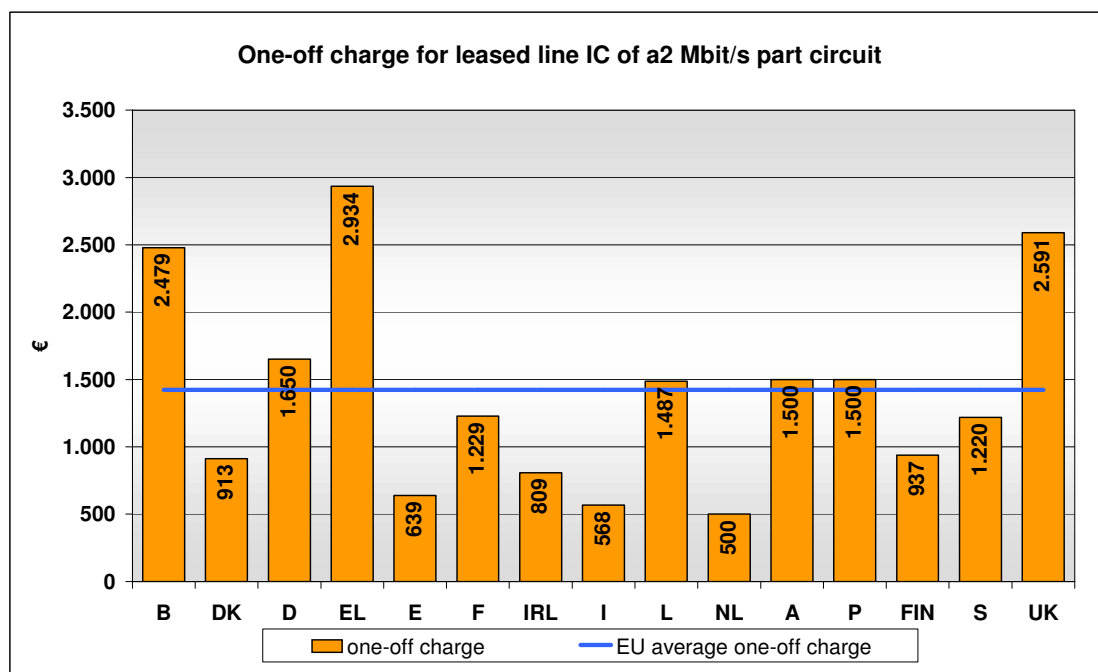
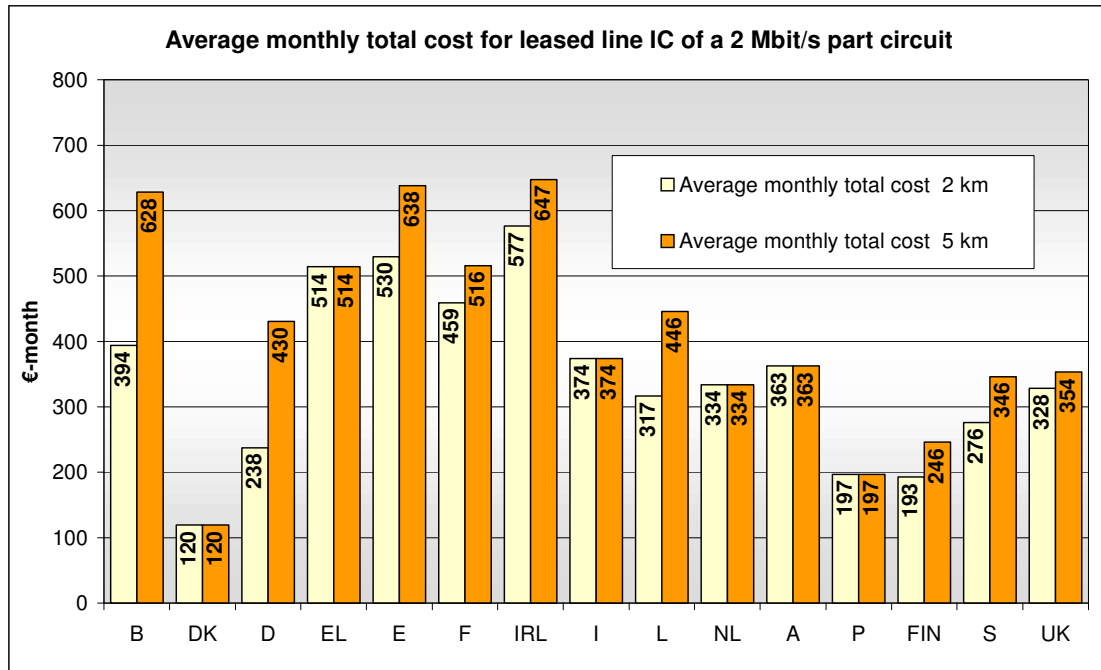


Figure 29



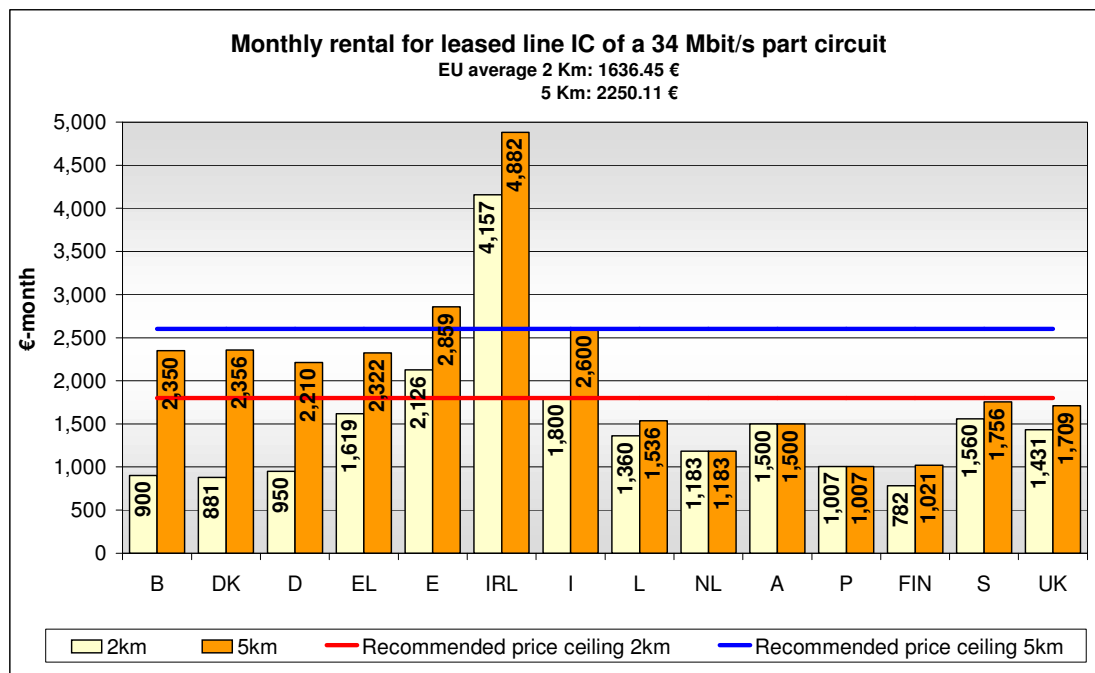
**Figure 30**





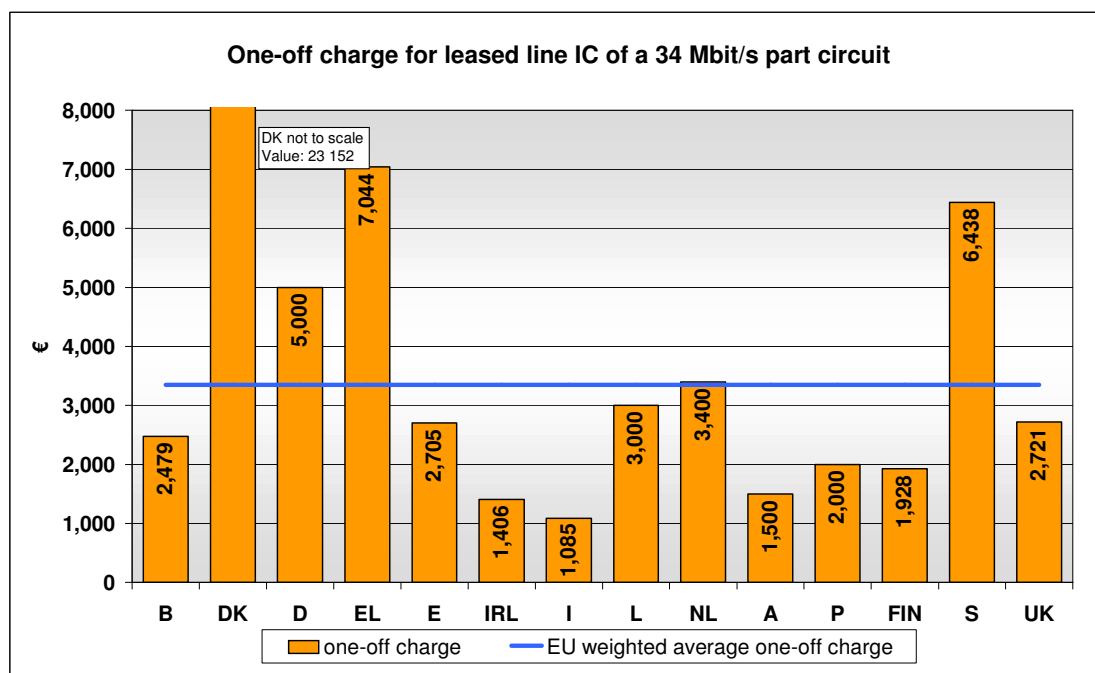
**34 Mbit/s part circuit**

**Figure 31**



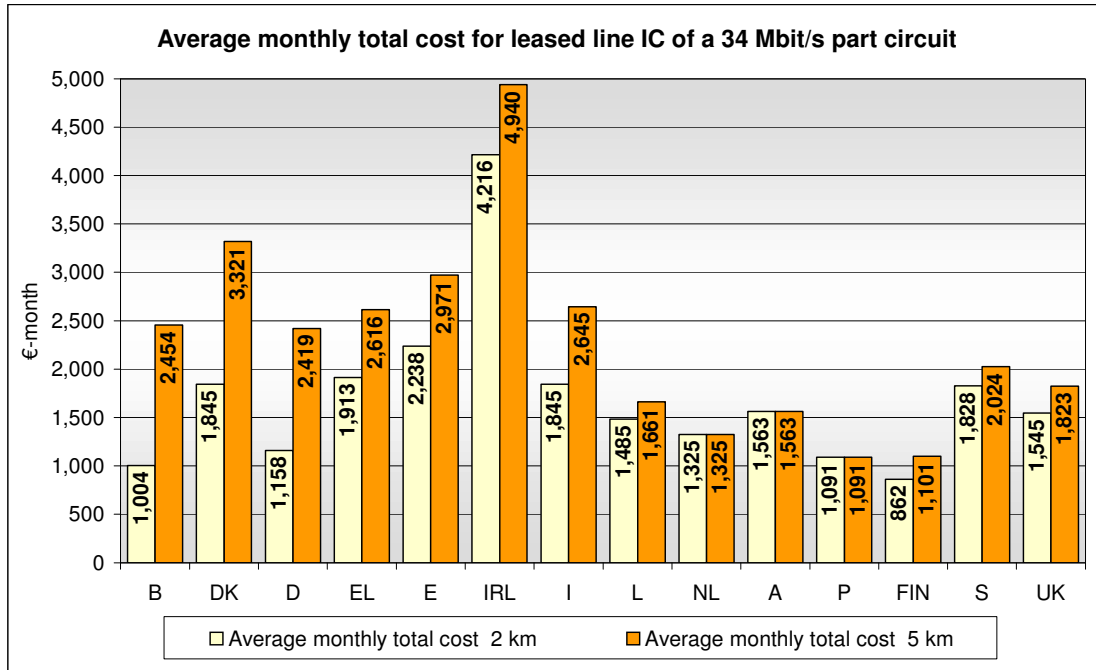
- There is no 34 Mbit/s price offer in France
- Price in the Netherlands is an average of 2 times 34 Mbit/s in a 155 Mbit/s fibre access service and a 155 Mbit/s broadband access group.

**Figure 32**



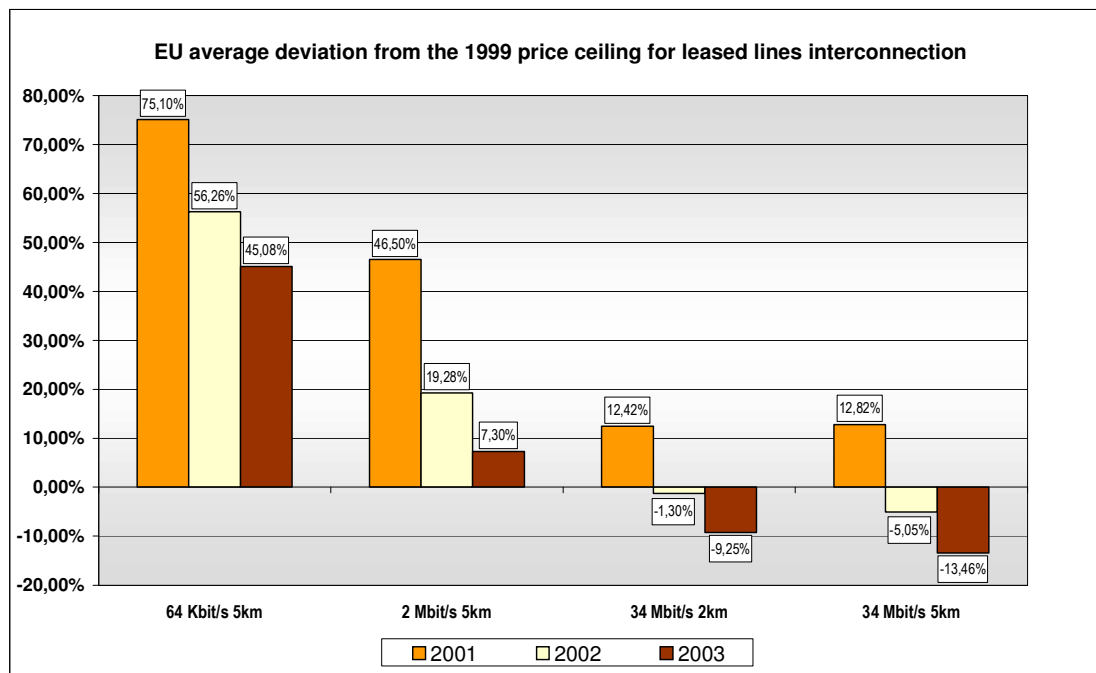
- There is no 34 Mbit/s price offer in France

**Figure 33**



- There is no 34 Mbit/s price offer in France
- Price in the Netherlands is an average of 2 times 34 Mbit/s in a 155 Mbit/s fibre access service and a 155 Mbit/s broadband access group.

**Figure 34**





## 4 MOBILE MARKET

### 4.1. MOBILE PENETRATION

The following charts show the number of mobile subscribers and the penetration rate in 2003 for second generation mobile services (DCS-GSM) in each Member State. The growth in the penetration rate since August 2002 is also shown.

Subscriber figures are taken from FT Mobile Communications (August 2003). The NRAs have had the opportunity to revise these data and, where necessary, have made corrections. In some cases the figures for August 2003 are estimates, since operators have not provided official figures. Data include both post-paid card and pre-paid subscribers and show the situation as at August 2003 with the following exceptions:

For Denmark, Greece, Portugal, Sweden and the United Kingdom the reference date is 1st July 2003.

For Spain the reference date is 1<sup>st</sup> June.

Data for Finland and Italy (estimated data) refer to the end of September.

EU average is a weighted average.

Figure 35 shows the absolute number of mobile subscribers in each Member State (columns) and the penetration rate (dots), measured as the number of subscribers per 100 population.

Figures for Italy, Spain and Sweden include analogue subscribers.

**Figure 35**

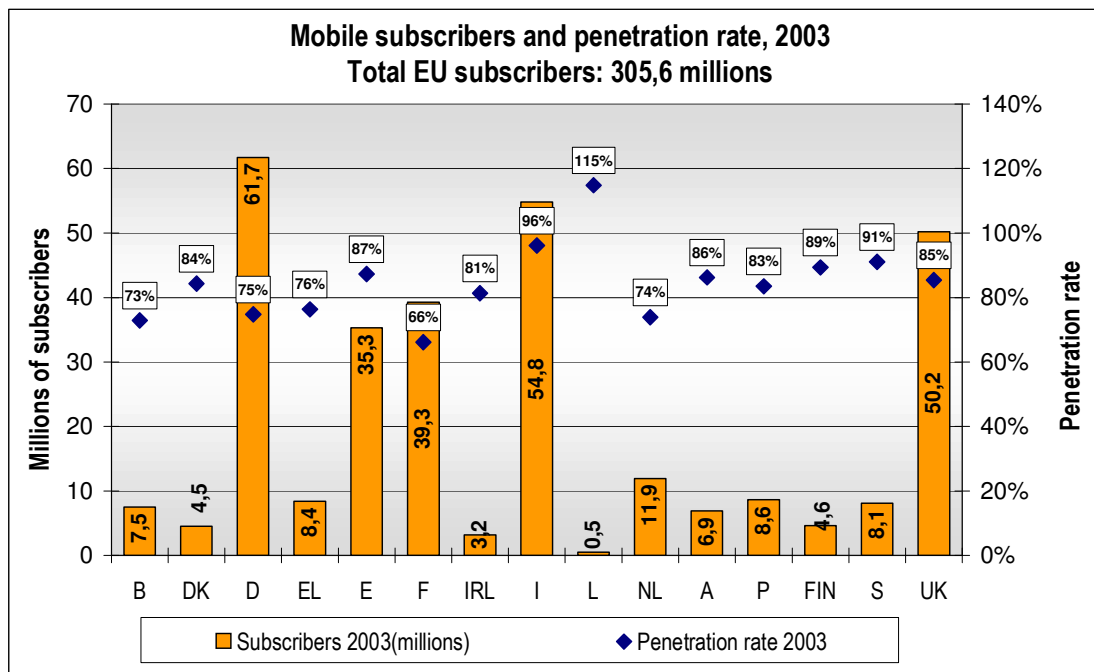


Figure 36

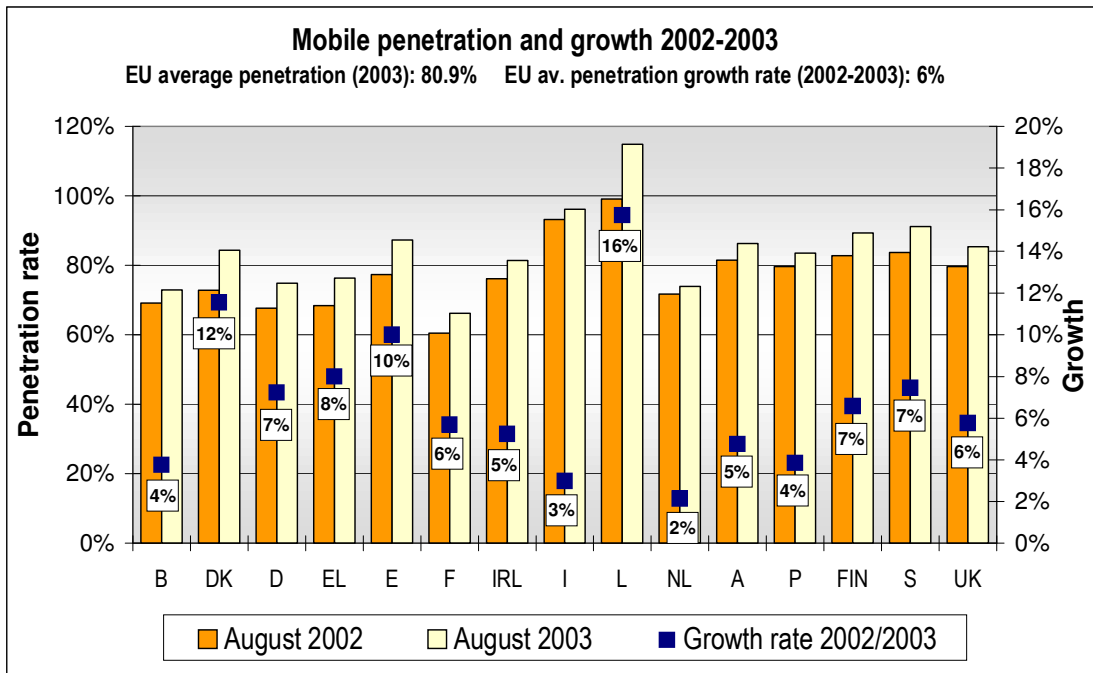
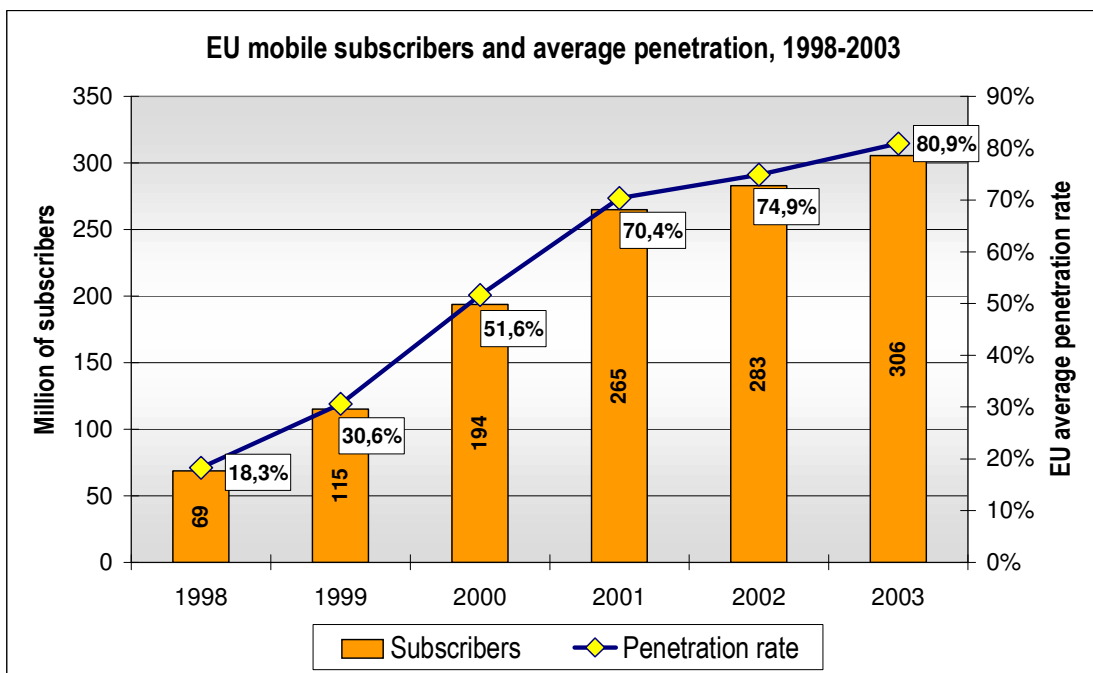
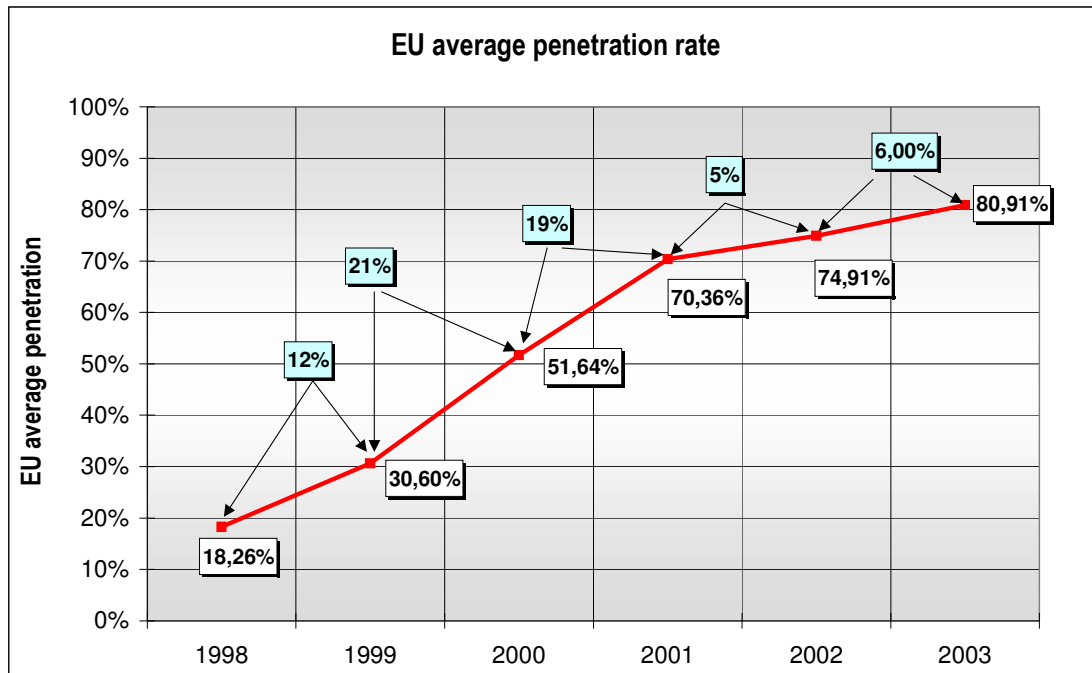


Figure 37



**Figure 38**



- EU average is a weighted average.

#### 4.2. PLAYERS IN THE MOBILE MARKET

This section shows the number of mobile licences granted in each Member State for the provision of analogue, GSM 900, DCS 1800 and UMTS services.

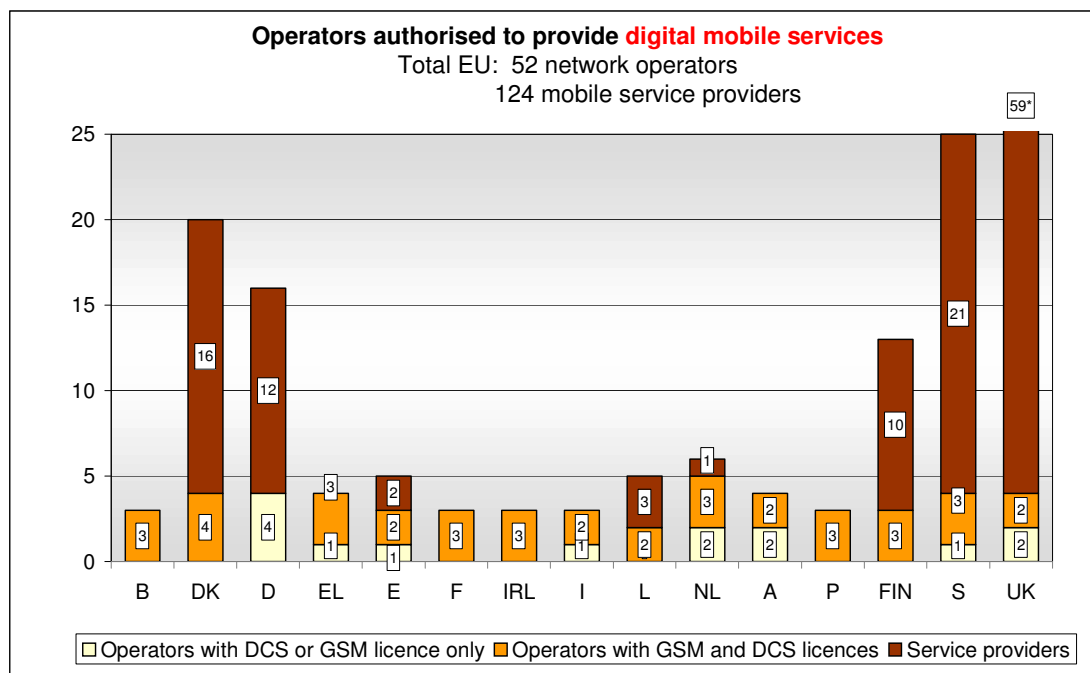
The data on the number of licensed operators have been provided by the national regulatory authorities and indicate the position in August 2003.

The following chart shows the number of operators licensed to provide digital mobile services (second-generation) rather than the number of licences issued in each country. The number of operators indicates the real magnitude of the choice of operators for customers of digital mobile services, since very often operators have licences for both GSM 900 and DCS 1800. Mobile network operators have been identified as having only GSM 900 or only DCS 1800 frequencies, or both (in which case they have usually been granted a GSM 900 licence which has subsequently been extended to the DCS 1800 band).

Information on mobile service providers<sup>17</sup> has been included where available (without distinction between local and national coverage).

<sup>17</sup> Mobile service providers are defined as entities authorised to offer mobile service under their own brand name (dealing with marketing, billing, etc.), using a third party's mobile network.

Figure 39



\* Values not to scale

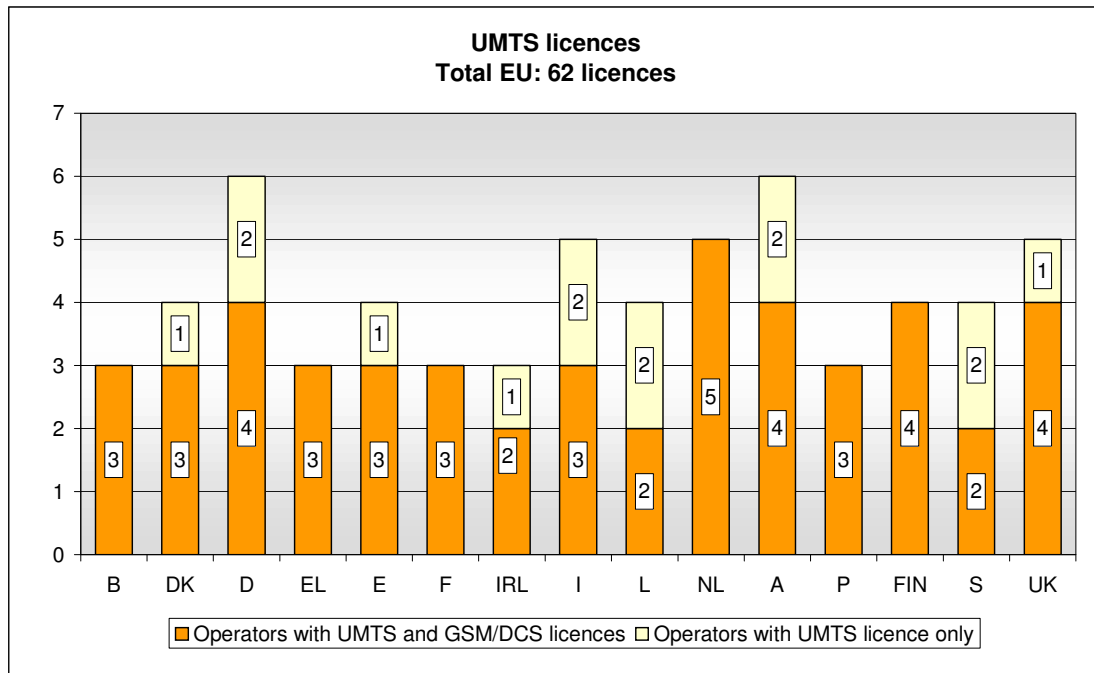
- Figures for Finland do not include 1 local GSM operator belonging to the Finnet Group (Alands).
- The figure for France does not include 2 analogue, 6 GSM and DCS local licences granted to the subsidiaries of the licensed mobile operators for the overseas departments<sup>18</sup>.

There are 3 analogue licences for mobile services still active in EU: in Spain, in Italy and in Sweden. Their phase-out is scheduled for the 1st January 2007 for Sweden and Spain and for the end of 2005 for Italy.

The following chart shows the number of UMTS licences granted in Europe. The great majority of licences have been granted to players active in the second generation market, and 14 licences have been granted to new entrants.

<sup>18</sup> Département de la Réunion, Antilles Françaises, Guyane; Île de Saint Martin et Saint Barthélemy)

**Figure 40**



The figure for Finland does not include a local service provider.

### 4.3. OPERATORS' MARKET SHARES

The following charts show the market shares, in terms of subscribers, of the leading operator and of the main competitors in the second generation mobile market.

Operators' market shares have been calculated on the overall mobile market (including analogue, DCS 1800 and GSM 900 subscribers). There are analogue subscribers in Spain, Italy and Sweden.

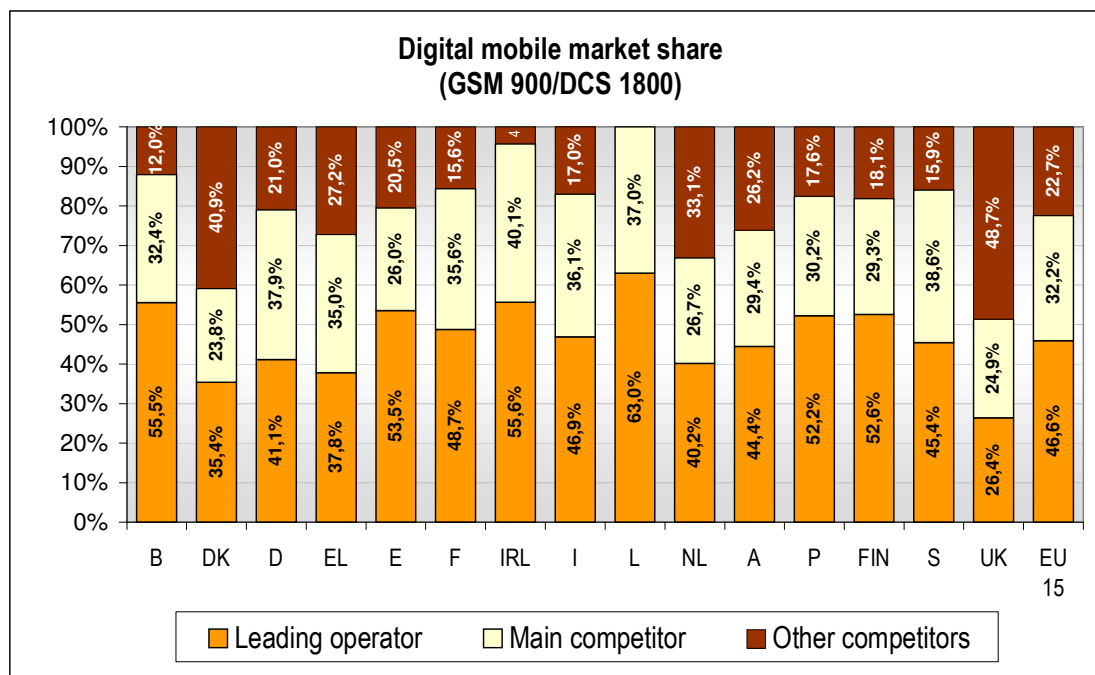
Data concerning shares of the mobile market are based on estimates on the number of mobile subscribers, taken from FT Mobile Communications, and refer to August 2003. As already indicated, NRAs have checked these estimates.

Apart from the United Kingdom, the leading operator is a subsidiary of the incumbent fixed network operator.

Figure 41 shows the shares of the leading operator, the main competitor and the other competitors on the digital mobile market only (100%).

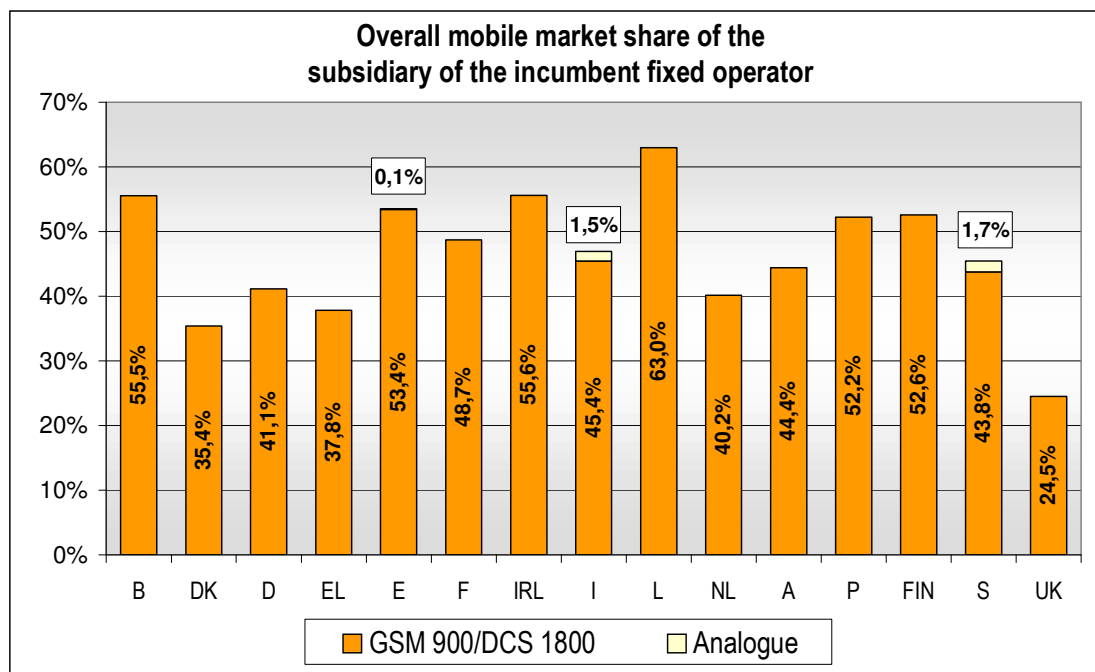


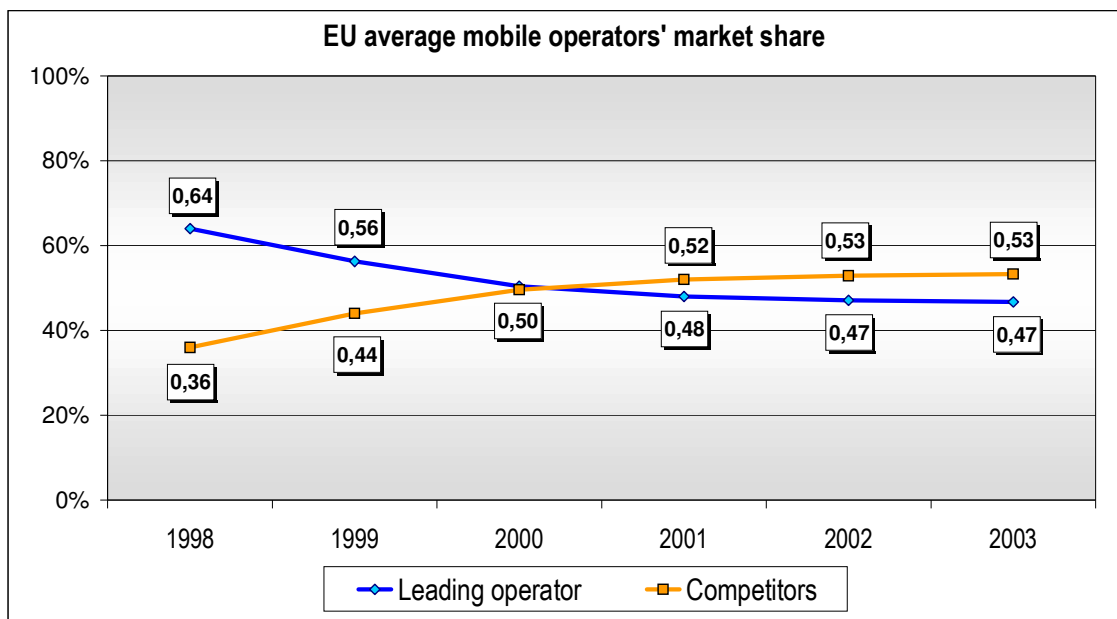
Figure 41



The following chart shows the share of the overall mobile market held by the mobile subsidiary of the incumbent fixed operator. Where the incumbent still operates the analogue service, the shares of the overall mobile market of their analogue and of their digital services are indicated separately.

Figure 42



**Figure 43**

#### 4.4.MOBILE BASKET

The analysis of national (as opposed to roaming) mobile services is based on the OECD baskets for digital mobile services. Due to significant changes in usage patterns the OECD baskets have been redefined with effect from August 2002. The new baskets are not compatible with the “old” ones, in that they contain an SMS element, they include calls to several mobile networks, and they do not cover international calls.

The new, revised baskets are used in this analysis. There are 3 different baskets, based on low, medium and high usage levels. All packages analysed in this study are Post-Paid packages. Some of the main properties of the new OECD baskets are:

Low usage basket with:

25 outgoing calls per month + 30 SMS messages

42% of calls are to fixed line phones, 58% to mobile phones

Medium usage basket with:

75 outgoing calls per month + 35 SMS messages

36% of calls are to fixed line phones, 64% to mobile phones

High usage basket with:

150 outgoing calls per month + 42 SMS messages

40% of calls are to fixed line phones, 60% to mobile phones

Each basket also has a unique definition of time of day distribution and call duration, and includes the monthly rental, and any registration charges distributed over 3 years.

The two most prominent operators in each country are covered, based on available subscriber numbers. All relevant packages from each operator are considered, but the final results presented here only show the cheapest package for each basket.

A full description of the methodology can be found at the end of this report.

Figure 44

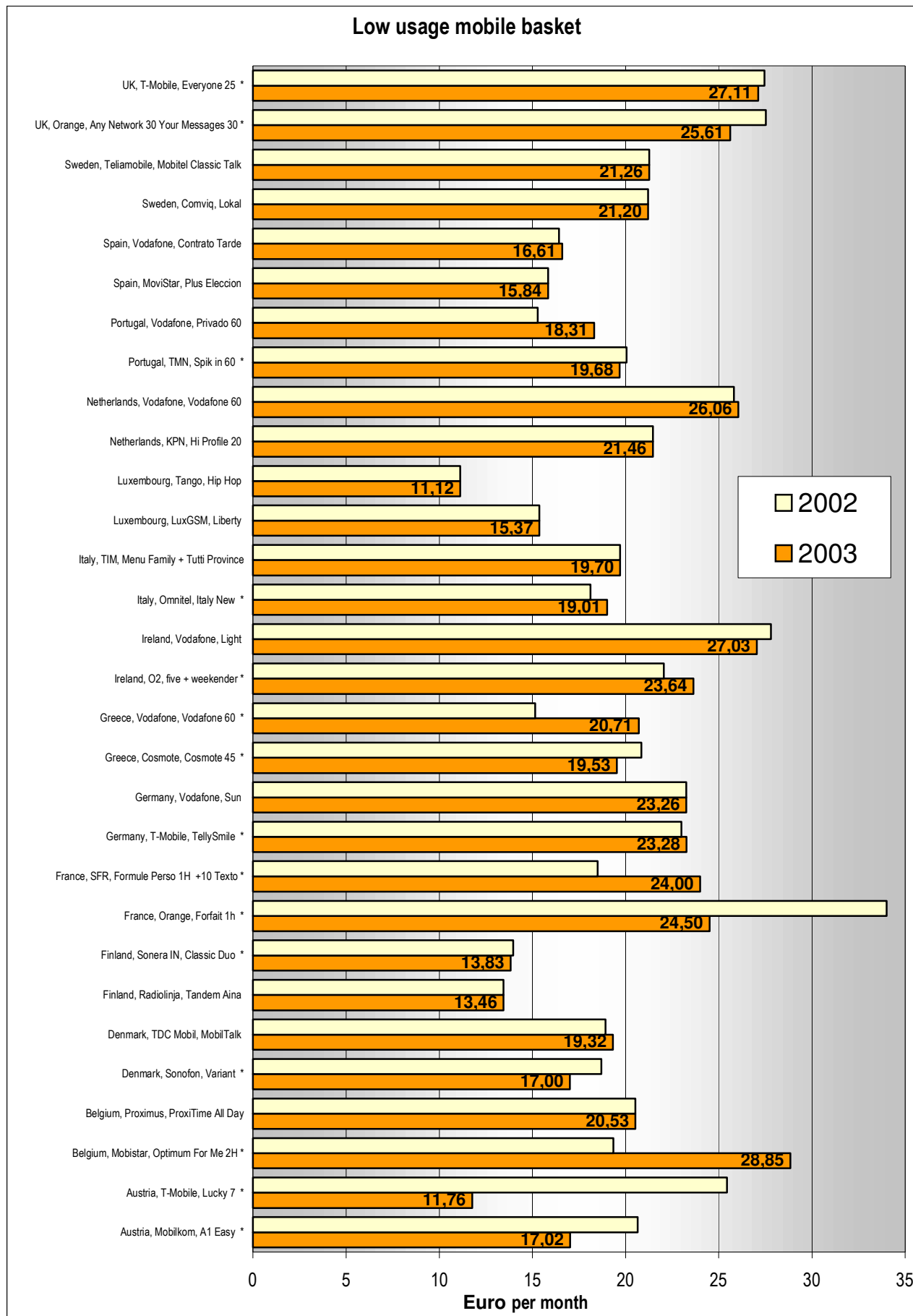


Figure 45

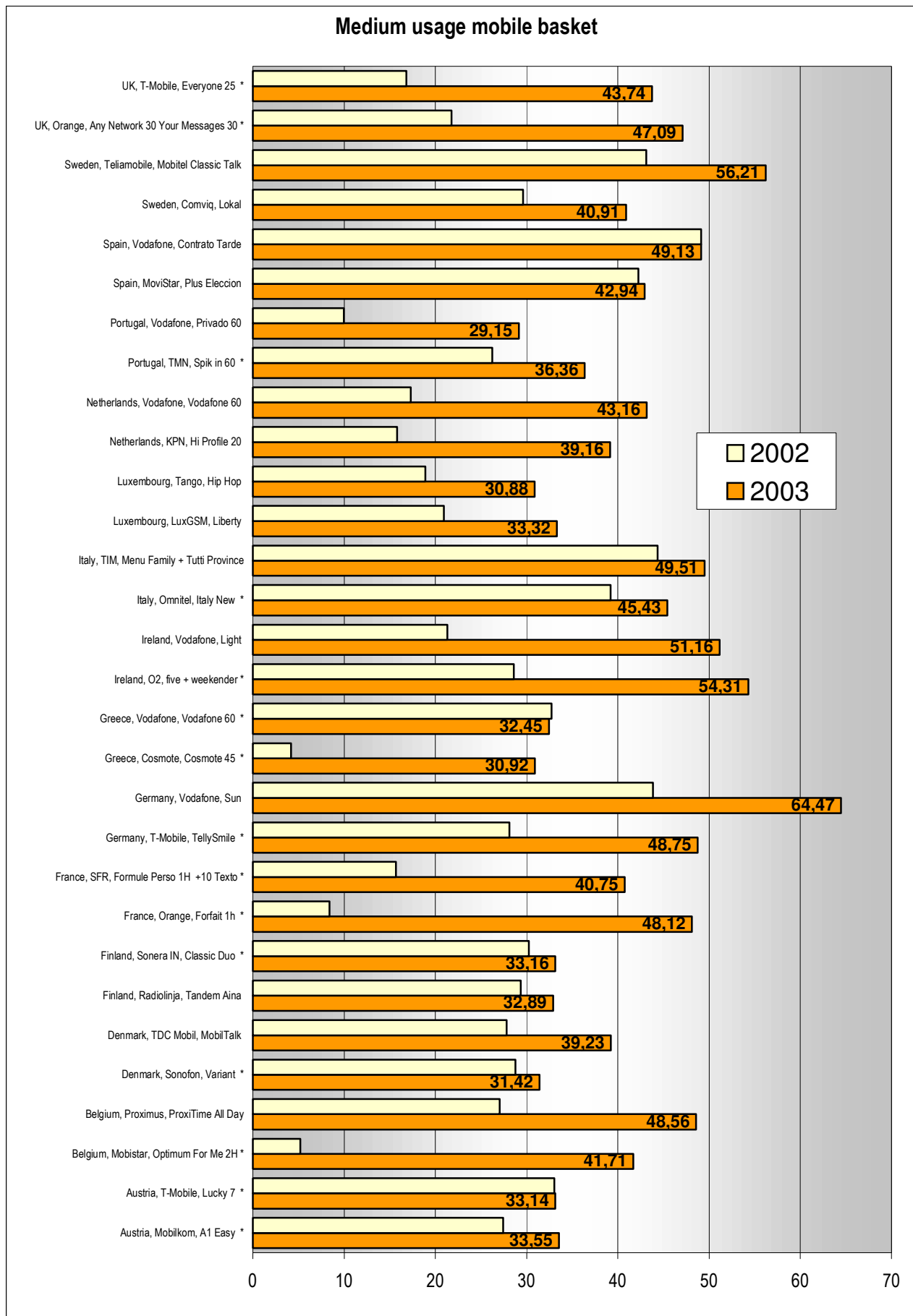
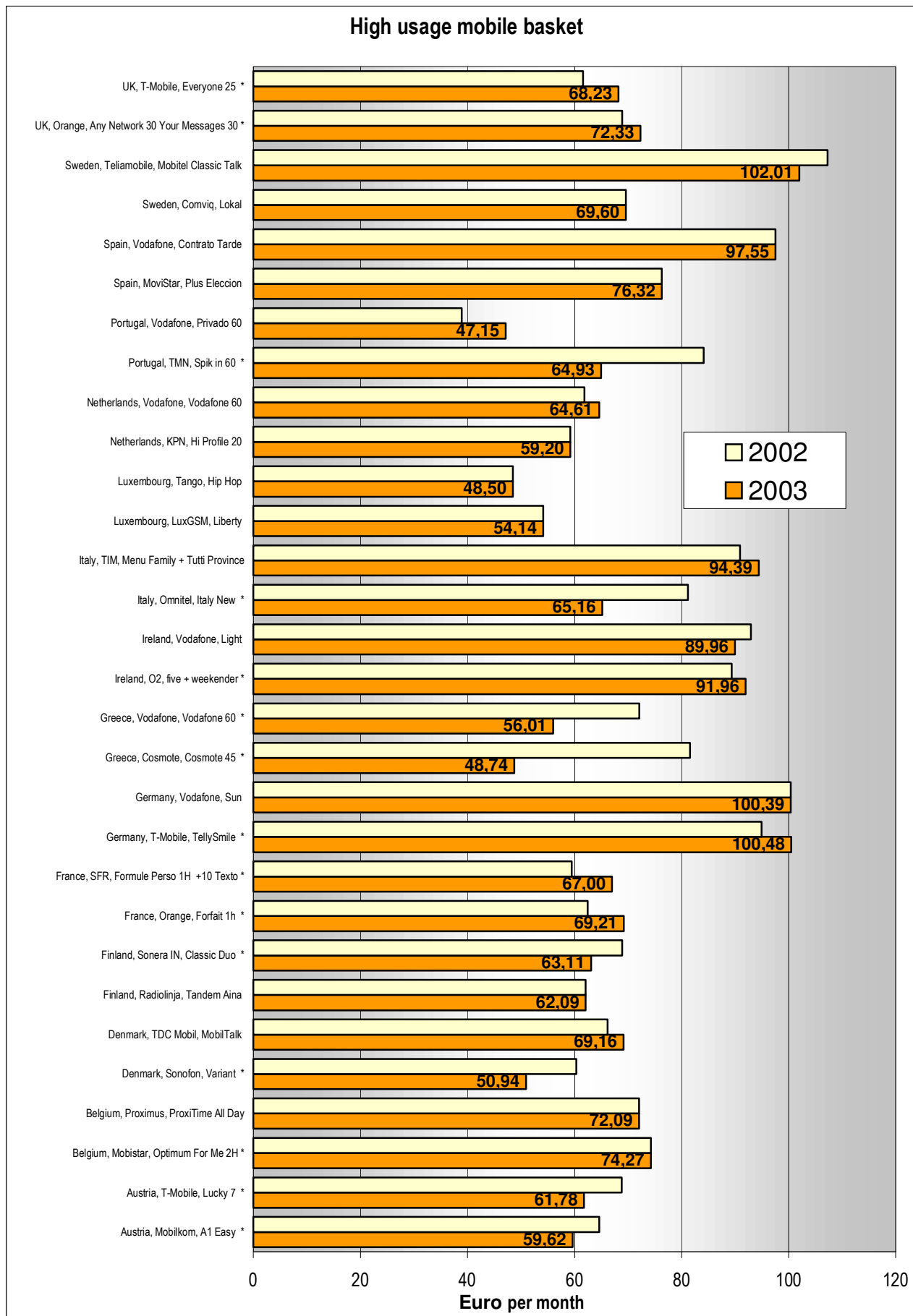


Figure 46



## 5 BROADBAND ACCESS AND PRICING

### 5.1. BROADBAND ACCESS

This section provides data on the number and type of broadband lines supplied in the EU by both incumbent operators and new entrants. It also contains information on access lines provided by means of alternative technologies such as wireless access (WLL), satellite and cable modems.

Information have been collected from the national regulatory authorities through the ONP COM02-18 questionnaire on data for local broadband access. Given the rapid developments in this sector, it has been agreed with NRAs to update the ONP questionnaire data on a regular basis in January, July and October. Unless otherwise stated data below refer to the situation as at 1<sup>st</sup> July 2003.

For the collection of data the following concepts have been used:

- “New entrants” refers not only to alternative telecommunications operators, but also include the internet service providers (ISPs);
- In the case of full unbundling, the copper pair is rented to a third party for its exclusive use;
- As fully unbundled lines (ULL) supplied by incumbent to new entrants could in principle be used for services other than broadband the total number of ULL for access to internet will be lower than the total number of ULL;
- In the case of shared access, the incumbent continues to provide telephony service, while the new entrant delivers high speed data services over the same local loop;
- Bitstream access refers to the situation where the incumbent installs a high-speed access link to the customer premises and then makes this access link available to third parties, to enable them to provide high-speed services to customers. Bitstream depends in part on the PSTN and may include other networks such as the ATM network, and bitstream access is a wholesale product that consists of the provision of transmission capacity in such a way as to allow new entrants to offer their own, value-added services to their clients. The incumbent may also provide transmission services to its competitor, to carry traffic to a 'higher' level in the network hierarchy where new entrants may already have a broadband point of presence.;
- In contrast to bitstream access, simple resale occurs where the new entrant receives and sells on to end-users - with no possibility of value-added features to the DSL part of the service - a product that is commercially similar to the DSL product provided by the incumbent to its own retail customers, irrespective of the ISP service that may be packaged with it;
- Retail broadband access refers to the access provided to the end users;
- Incumbents’ DSL lines refers to the lines provided to end users by the incumbent, its subsidiaries or partners;
- “Other means of accessing the internet” indicates connections by means of satellite, fibre optic, powerline communications, etc;

### 5.1.1. Wholesale access

This section shows the availability of wholesale access supplied by incumbents to new entrants. Separate figures are provided for full unbundled lines, shared access and bitstream access (wholesale DSL lines).

**Table 1 Number of agreements for full ULL, shared access, bitstream access and resale, 2002-2003.**

	N. of agreements on fully unbundled lines		N. of agreements on shared lines		N. of agreements Wholesale DSL lines supplied. Bitstream access		N. agreements Wholesale DSL lines supplied. Simple resale	
	2002	2003	2002	2003	2002	2003	2002	2003
<b>B</b>	7	8	4	8	4	9	12	21
<b>DK</b>	16	13	5	4	5	7	1	0
<b>D</b>	91	74	3	5	2	0	52	0
<b>EL</b>	2	7	0	0	0	0	0	0
<b>E</b>	6	9	6	9	38	40	n.a.	n.a.
<b>F</b>	9	9	9	9	4	5	5	20
<b>IRL</b>	1	1	1	1	0	3	0	0
<b>I</b>	31	31	2	2	50	45	n.a.	0
<b>L</b>	n.a.	2	n.a.	2	n.a.	0	n.a.	1
<b>NL</b>	10	12	10	12	n.a.	1	n.a.	0
<b>A</b>	12	17	0	0	24	24	0	0
<b>P</b>	4	4	n.a.	n.a.	4	8	n.a.	0
<b>FIN</b>	180	n.a.	80	n.a.	60	n.a.	35	n.a.
<b>S</b>	33	63	33	63	4	23	5	11
<b>UK</b>	53	57	5	7	309	n.a.	0	535
<b>Tot. EU</b>	<b>455</b>	<b>307</b>	<b>158</b>	<b>122</b>	<b>504</b>	<b>165</b>	<b>110</b>	<b>588</b>

**Figure 47**

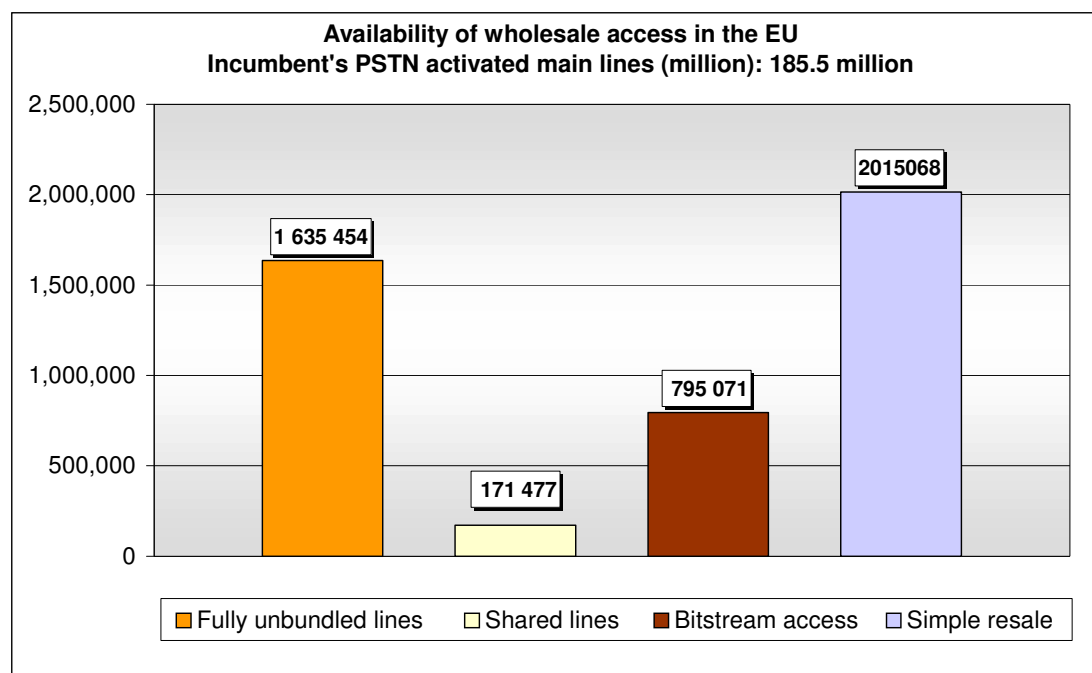


Figure 48

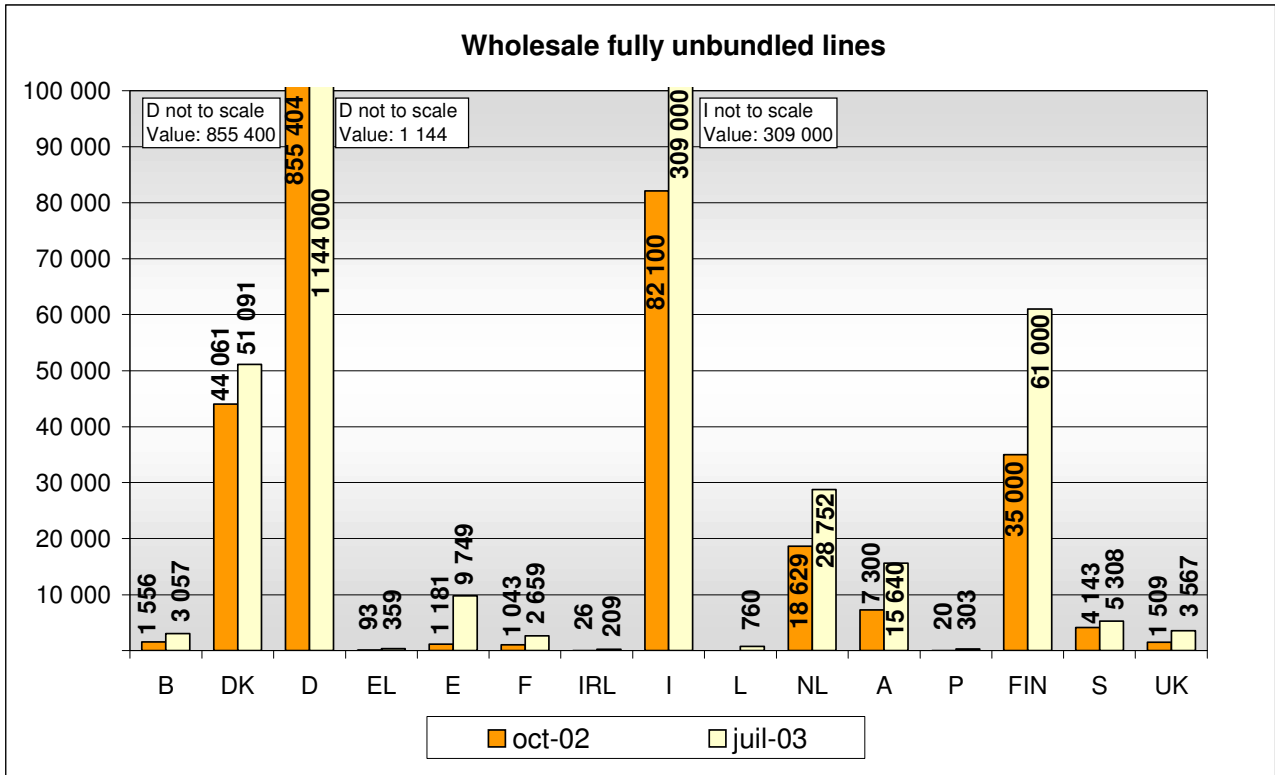


Figure 49

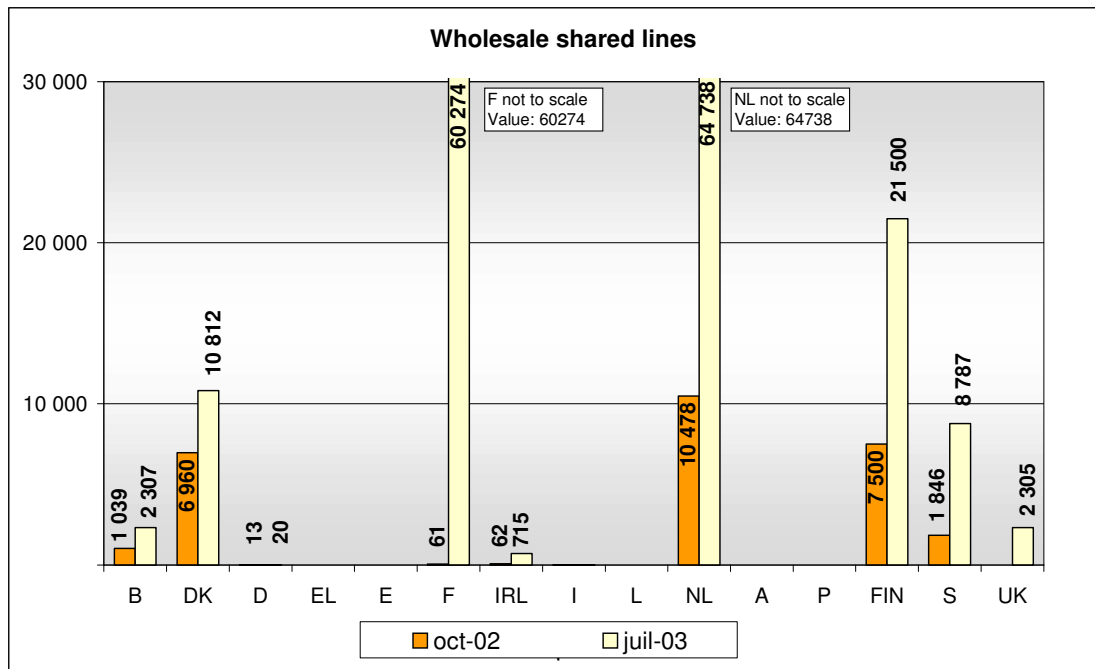
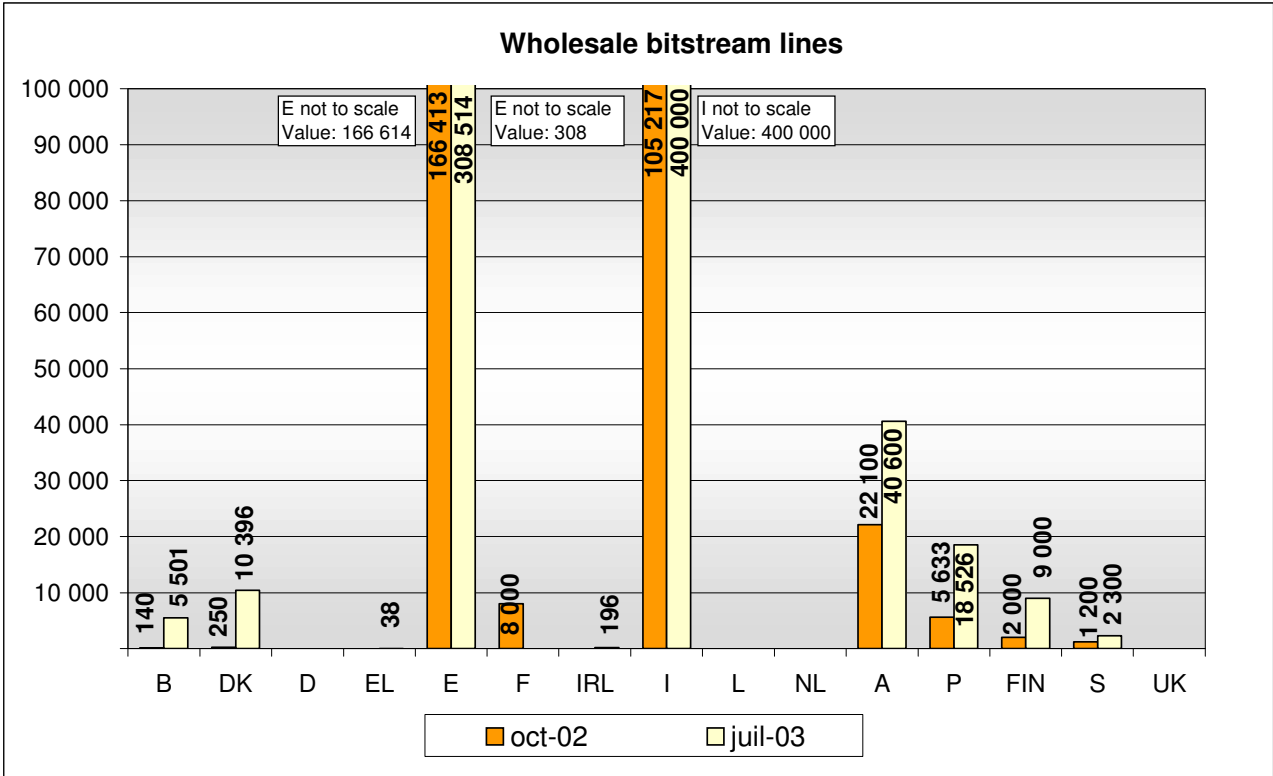




Figure 50



**5.1.2. Retail broadband access to internet**

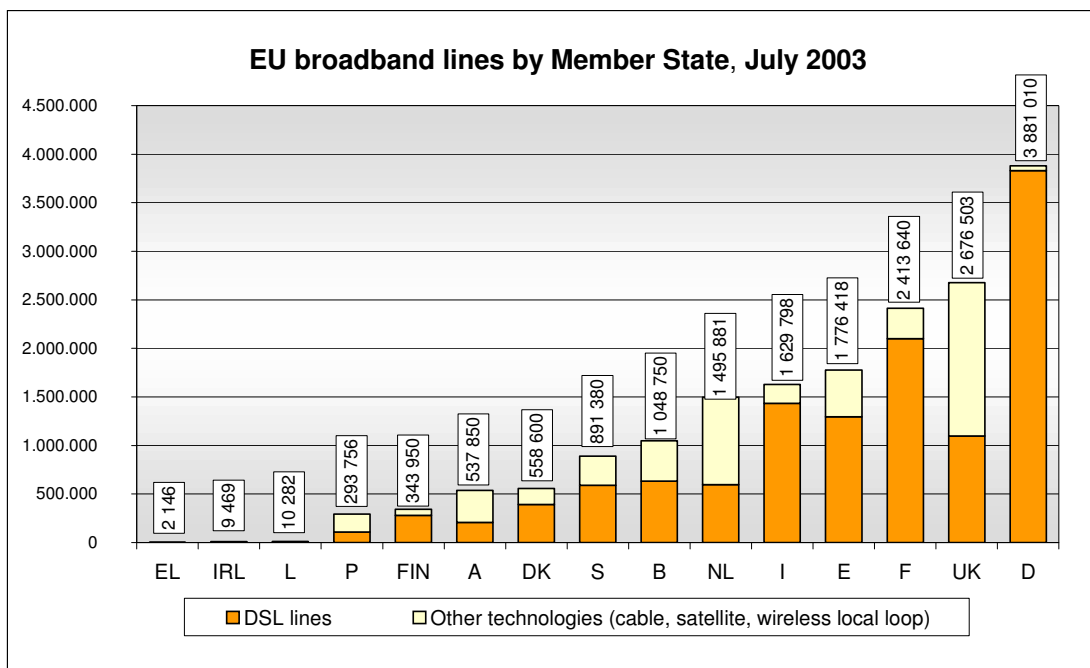
This section shows the availability of broadband access to internet for end-users provided by incumbents (their subsidiary or partners) and by new entrants (alternative telecom operators or Internet Service Providers).

Internet broadband access can be provided through different means: DSL lines, wireless local loop (WLL), cable TV access (cable modem), dedicated leased lines and other access (like satellite, fibre optic, powerline communications, etc.)

New entrants' DSL lines can be provided to end users by means of full unbundled, shared access, bitstream access or resale.

Figure 48 shows the total number of broadband access to internet for each Member States provided by both incumbents and new entrants and including all means of broadband connections.

**Figure 51**



Figures 52, 53 and 54 present the number of broadband lines per Member State in October 2002 and July 2003. Chart 52 displays the total number of retail broadband lines, while chart 53 shows the DSL lines and chart 54 the lines using other means.

Figure 52

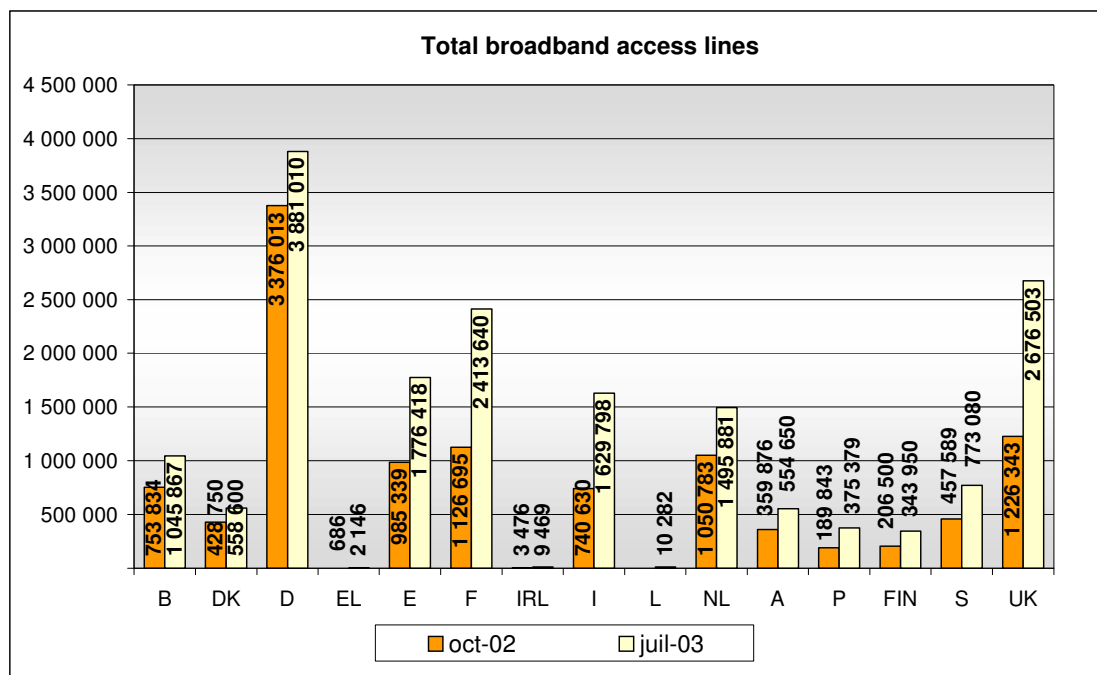
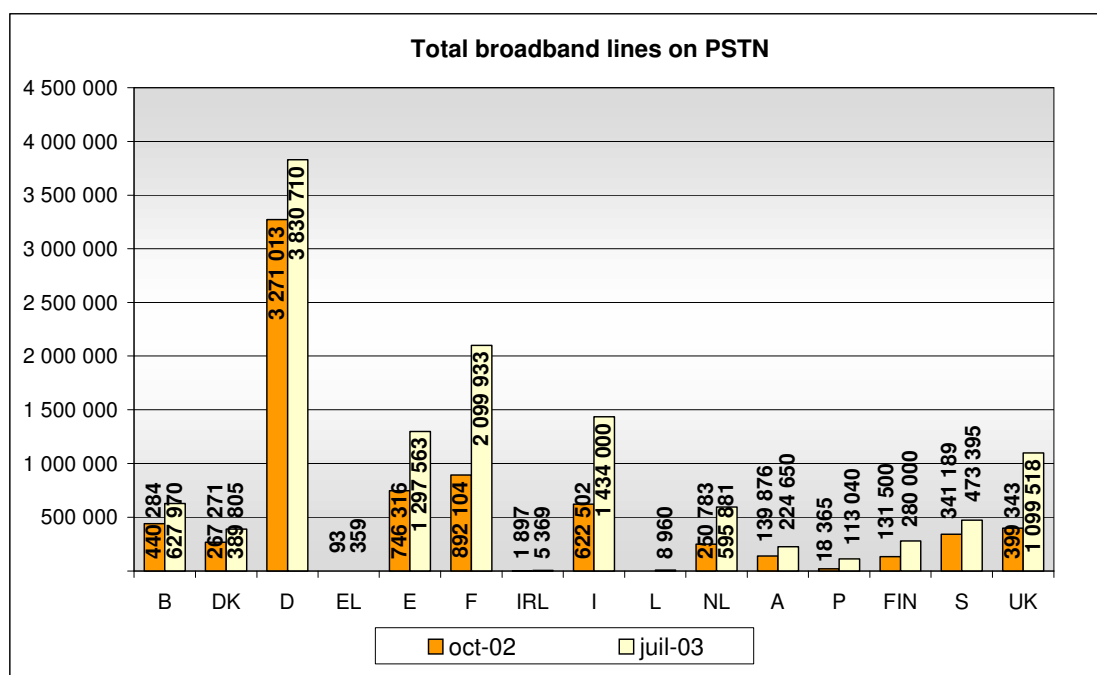


Figure 53



**Figure 54**

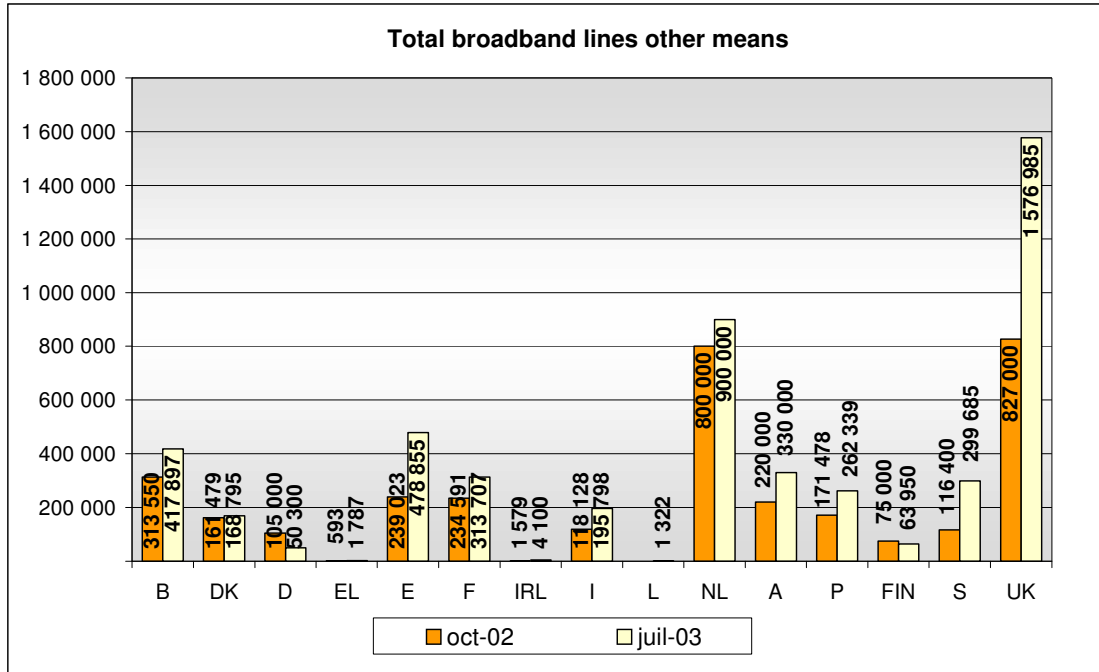


Figure 55 displays the breakdown of broadband lines by technology in each Member State.

**Figure 55**

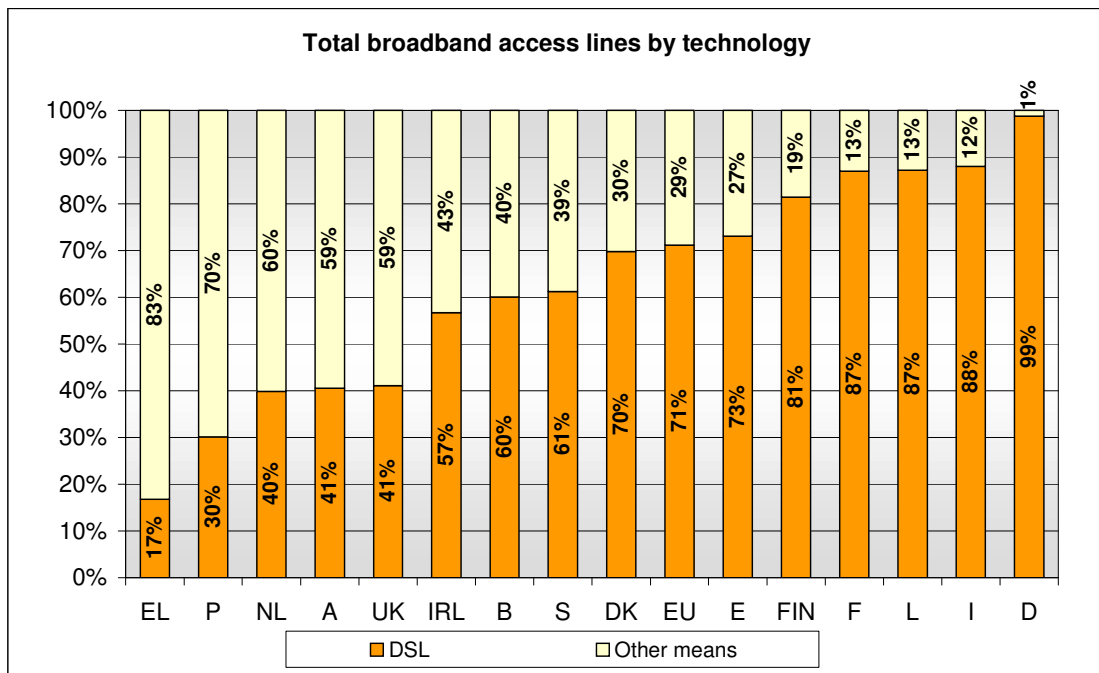


Figure 56 displays the breakdown of broadband lines by operator in each Member State.

**Figure 56**

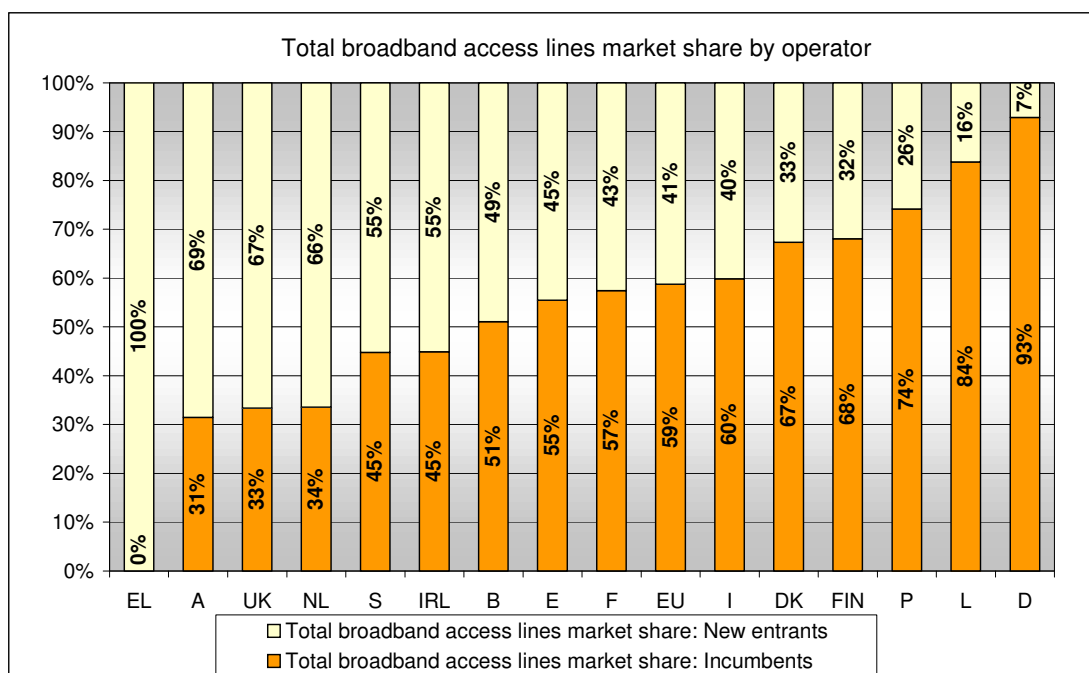
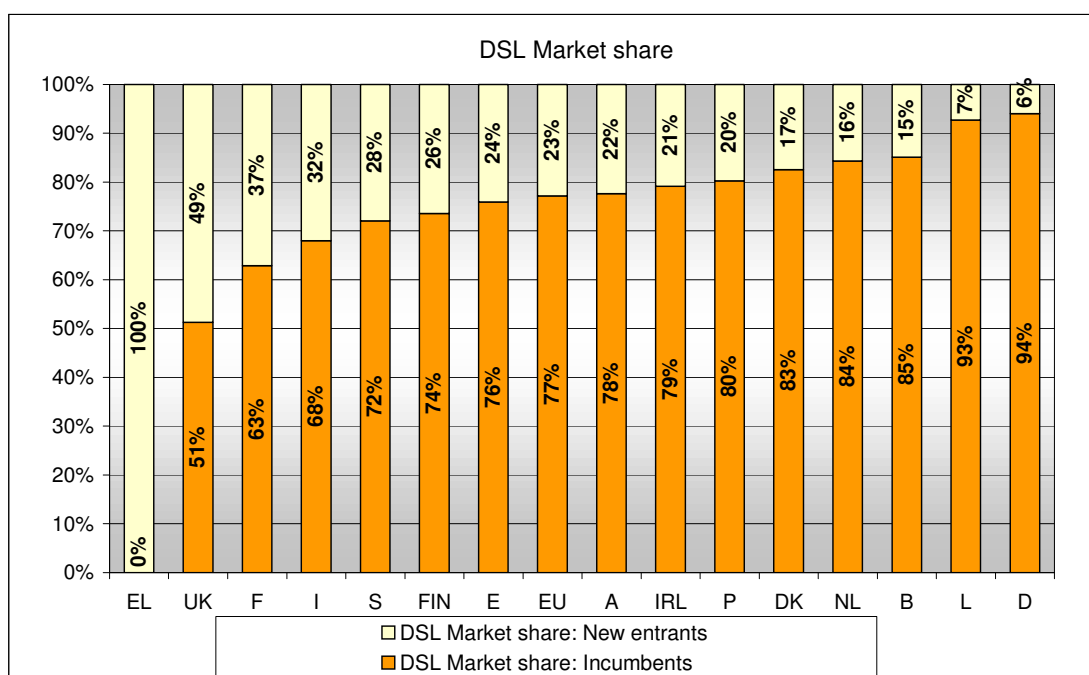


Figure 57 displays the market share of DSL lines by operator in each Member State.

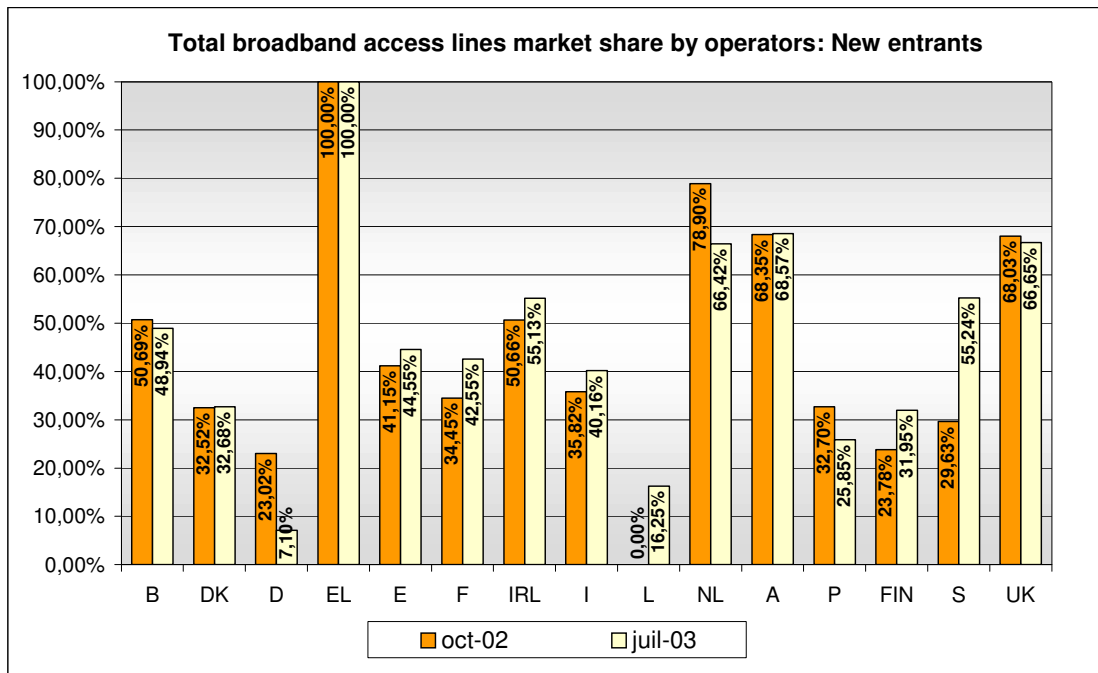
**Figure 57**



Broadband access

The following chart shows the change in the percentage of broadband lines in the hands of the new entrants in the period from July 2002 to October 2003.

**Figure 58**



The following chart shows the change in the percentage of DSL lines in the hands of the incumbents in the same period.

**Figure 59**

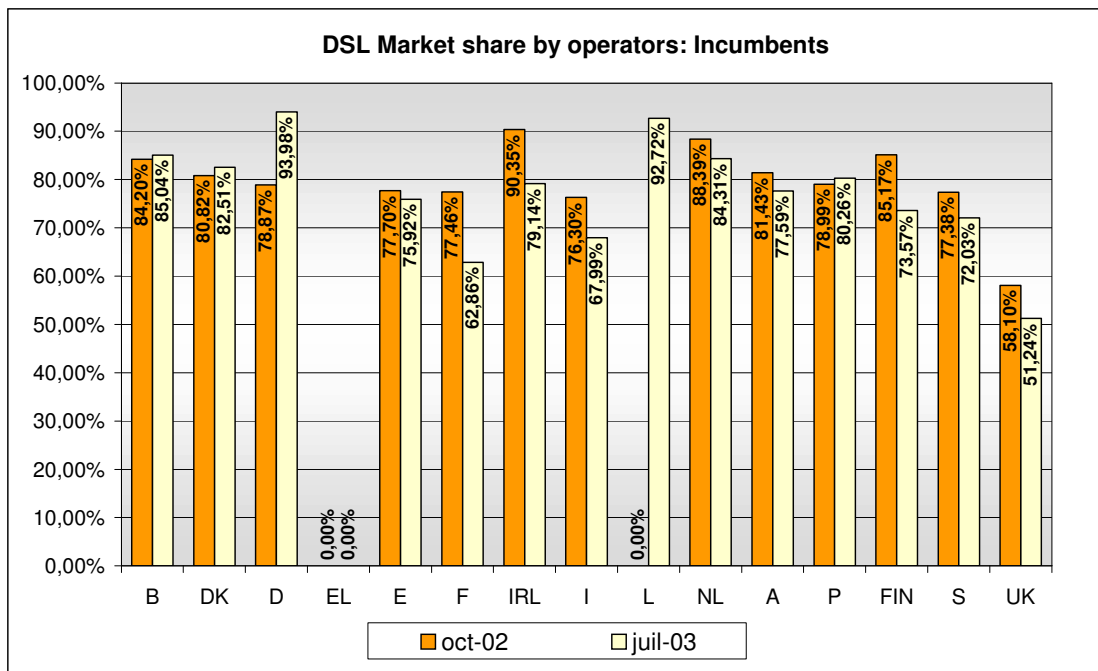
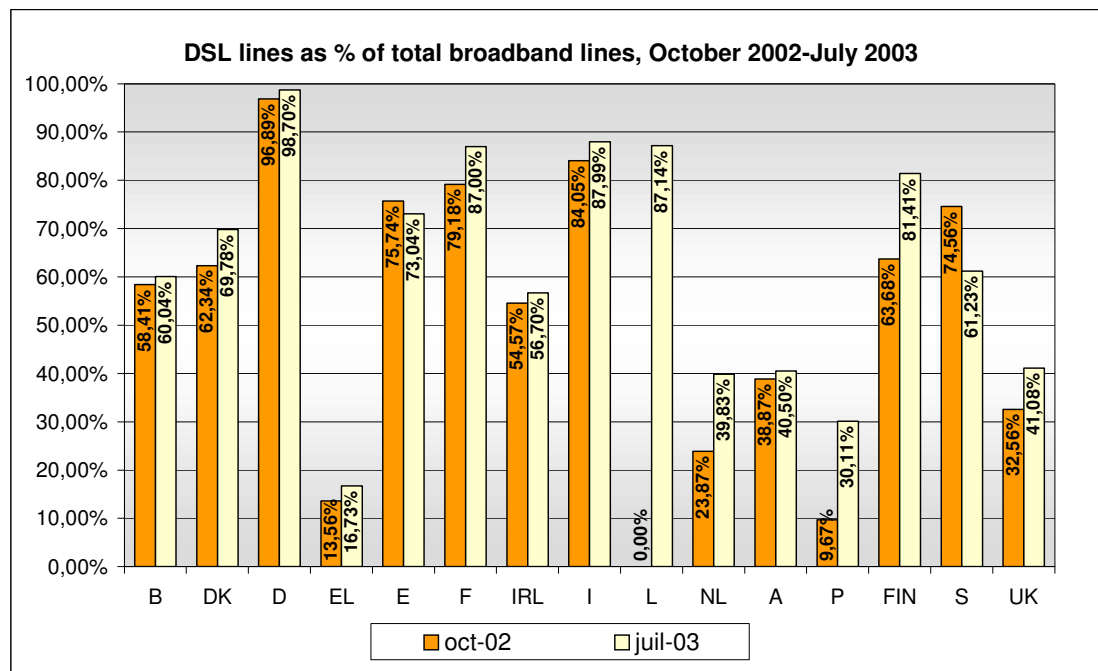


Figure 60 shows the evolution in the percentage of DSL lines over the total broadband lines.

**Figure 60**



Broadband access

The following chart displays the penetration rate of broadband lines measured as the total number of broadband lines divided by the population.

**Figure 61**

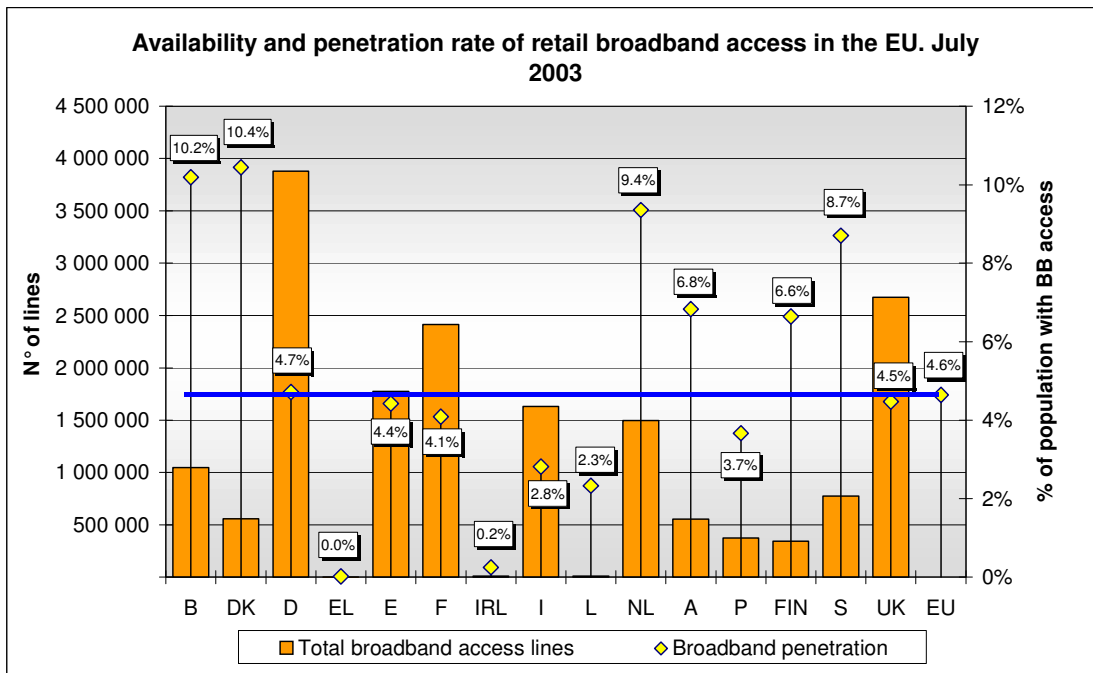
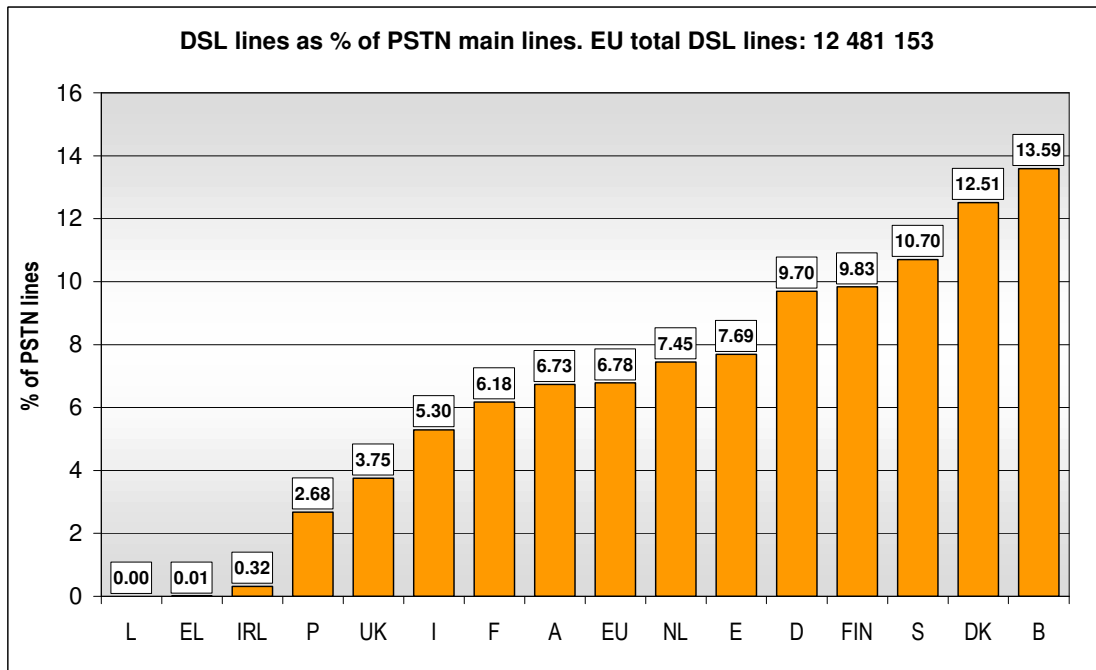


Chart 62 displays the number of DSL lines per 100 PSTN lines.

**Figure 62**





Availability of wholesale access at 1 July 03											
Country	Incumbent's PSTN activated main lines	Fully unbundled lines			Shared access lines supplied by the incumbent to new entrants			Wholesale DSL lines supplied			
		Unbundled lines	Requested lines	N. of agreements	Shared lines	Requested lines	N. of agreements	Bitstream access		Simple resale	
								No. of lines	No. of agreements	Resale No. of lines	No. of agreements
<b>B</b>	4.620.560	3.057	134	8	2.307	42	8	5.501	9	88.416	21
<b>DK</b>	3.115.303	51.091	n.a.	13	10.812	n.a.	4	10.396	7	0	0
<b>D</b>	39.500.000	1.144.000	0	74	20	0	5	0	0	0	0
<b>EL</b>	5.485.020	359	60	7	0	8	0	38	0	0	0
<b>E</b>	16.884.000	9.749	1.648	9	0	0	9	308.514	40	NA	NA
<b>F</b>	34.000.000	2.659	0	9	60.274	10.000	9	n.a.	5	717.000	20
<b>IRL</b>	1.700.000	209	366	1	715	1.267	1	196	3	0	0
<b>I</b>	27.079.000	309.000	437.000	31	19	19	2	400.000	45	0	0
<b>L</b>	247.000	760	51	2	0	0	2	0	0	6	1
<b>NL</b>	8.000.000	28.752	n.a.	12	64.738	n.a.	12	0	1	0	0
<b>A</b>	3.090.000	15.640	1.300	17	0	0	0	36.900	24	0	0
<b>P</b>	4.092.000	303	21	4	0	0	n.a.	18.526	8	0	0
<b>FIN</b>	2.848.000	61.000	n.a.	n.a.	21.500	n.a.	n.a.	9.000	n.a.	0	n.a.
<b>S</b>	5.530.000	5.308	100	63	8.787	400	63	2.300	23	116.000	11
<b>UK</b>	29.300.000	3.567	188	57	2.305	101	7	N/A	N/A	1.093.646	535

EU 185.490.883 1 635 454 440868 307 171 477 11837 122 791 371 165 2015068 588

Fully unbundled lines 1635454  
 Shared access lines 171 477  
 Total unbundled lines 1 806 931  
 Total unbundled lines / PSTN lines 0,97%  
 Wholesale DSL-Bitstream access 791 371  
 Wholesale DSL-Simple resale 2015068  
 Wholesale DSL 2 806 439

Broadband access

Availability of incumbent's and new entrants' retail broadband access																		
July 03		New entrants' DSL lines on PSTN July 03				Incumbents' access lines by other means						New entrants' access lines by other means					Total number of new entrants	
	Incumbent's DSL lines	Full ULL	Shared access	Bitstream access	Resale	Total	WLL	Cable modem	Leased lines	Other	Tot.	WLL	Cable modem	Leased lines	Other	Tot.		
<b>B</b>	534008	1491	2159	2769	87543	93962	6	0	44	0	50	1	415617	2178	51	417847	21	<b>B</b>
<b>DK</b>	321645	47078	11986	9096	0	68160	0	50809	3604	0	54413	1211	106495	4656	2020	114382	19	<b>DK</b>
<b>D</b>	3600000	230690	20	0	0	230710	38	n.a.	n.a.	5262	5300	n.a.	45000	n.a.	n.a.	45000	800	<b>D</b>
<b>EL</b>	0	359	0	0	0	359	0	0	0	0	0	208	0	1577	2	1787	27	<b>EL</b>
<b>E</b>	985053	3996	0	308514	0	312510	-	-	-	-	0	56145	404473	5501	12736	478855	58	<b>E</b>
<b>F</b>	1320000	2659	60274	n.a.	717000	779933	0	66704	n.a.	n.a.	66704	1000	246003	n.a.	n.a.	247003	16	<b>F</b>
<b>IRL</b>	4249	209	715	196	0	1120	0	0	n.a.	n.a.	0	100	4000	n.a.	0	4100	40	<b>IRL</b>
<b>I</b>	975000	154000	0	305000	0	459000	0	0	283	n.a.	283	8	0	3300	192207	195515	15	<b>I</b>
<b>L</b>	8308	652	0	0	0	652	0	188	115	0	303	25	883	106	5	1019	0	<b>L</b>
<b>NL</b>	502391	28752	64738	0	0	93490	n.a.	0	n.a.	n.a.	0	n.a.	900000	n.a.	n.a.	900000	42	<b>NL</b>
<b>A</b>	174300	9750	0	40600	0	50350	0	0	n.a.	n.a.	0	0	330000	n.a.	n.a.	330000	100	<b>A</b>
<b>P</b>	90722	295	0	22023	0	22318	0	187608	n.a.	n.a.	187608	n.a.	74731	n.a.	n.a.	74731	15	<b>P</b>
<b>FIN</b>	206000	43500	21500	9000	0	74000	50	28000	n.a.	n.a.	28050	400	35000	n.a.	500	35900	50	<b>FIN</b>
<b>S</b>	341000	5308	8787	2300	116000	132395	0	0	5000	0	5000	2900	156400	0	135385	294685	n.a.	<b>S</b>
<b>UK</b>	563348	3567	2305	0	530298	536170	0	0	327000	2185	329185	2500	1098000	144000	3300	1247800	63	<b>UK</b>

EU 9626024 2855129 676896 4388624 EU 15

		Market share
Incumbents' broadband	10302920	59%
Other operators' broadband	7243753	41%
Tot. Broadband on PSTN	12481153	71%
Tot. Broadband other means	5065520	29%
EU Tot. Broadband	17 546 673	100%
PSTN broadband lines/Total PSTN lines		6,73%

## 5.2. PRICES FOR UNBUNDLED LOCAL LOOP

This section shows the charges per unbundled loop (monthly rental and connection) in case of full unbundled and shared access of the loop. Estimates of total average monthly rental cost (based on the total costs for the first year) are also presented.

In the following we assume that the loop is active and will be used to provide DSL services. Belgium and Luxembourg charge a different price for the loop, depending on whether it is used for the voice telephony services or for DSL services. Furthermore, Belgium applied a different price for non-active loop and charges in some Member States are different in case of additional access.

### 5.2.1. PRICES FOR FULL UNBUNDLED LOCAL LOOP

In Belgium a supplementary fee of € 28.33 for disconnection is also charged. It should be noted that a disconnection fee is not charged for the incumbent's own retail market.

Data for the connection fee in Germany refer to a unique payment option.

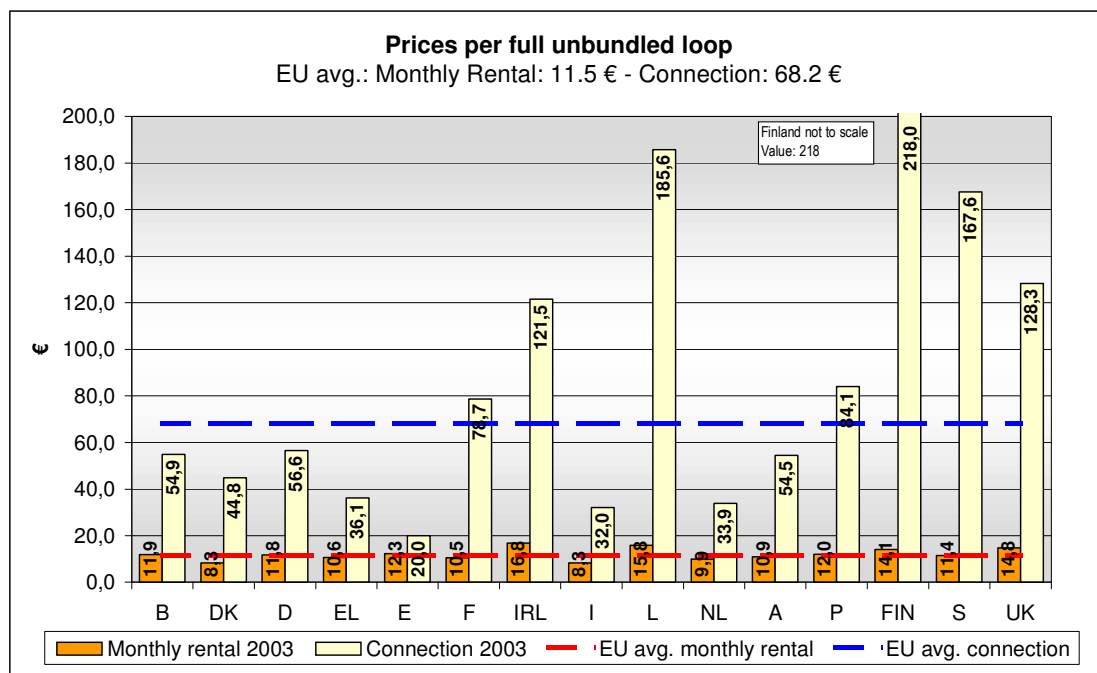
The price in Italy for full-unbundled local loop includes POTS and ADSL.

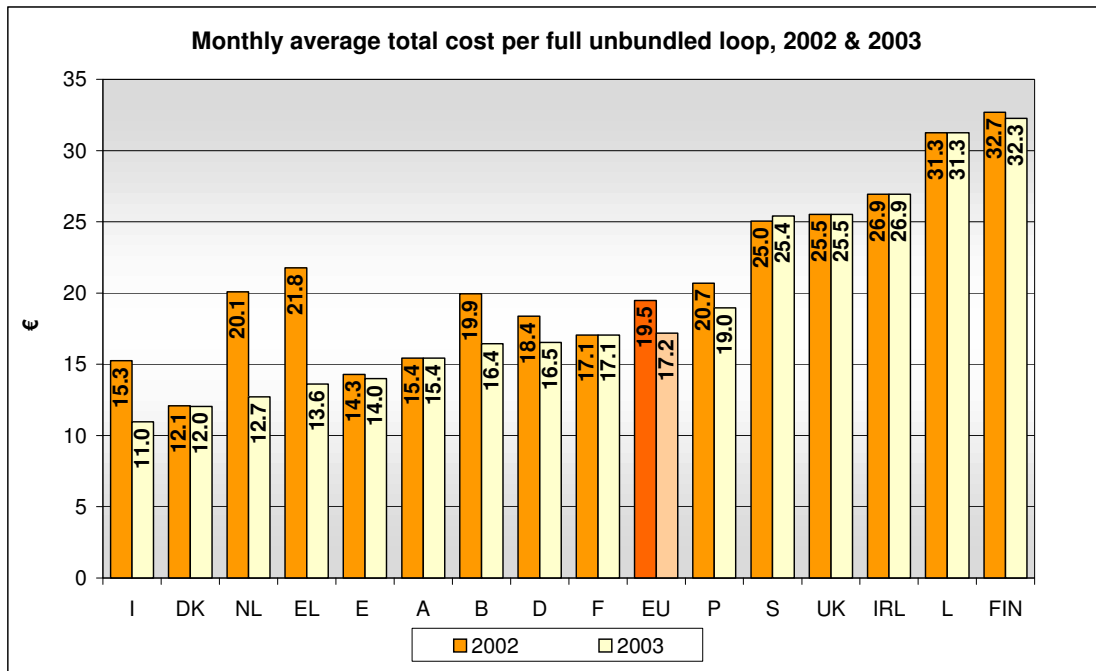
Data for Finland refer to a weighted average of 44 SMP operators providing ULL. Prices vary between 8 and 29 € for the monthly rental and between 105 - 303 € for the connection fee.

Data for the connection fee in Sweden refer to the first access. Charges for the following access up to 20 is 86€ and 70.75€ for additional access.

Figures for the United Kingdom refer to an average based on a price of 177.81 € per annum for the monthly rental and on a price of 128.25 € per annum for connection fee.

**Figure 63**



**Figure 64**

- Estimates are based on the total cost of the loop for the first year.

### 5.2.2. PRICES FOR SHARED ACCESS LOCAL LOOP

In Belgium a supplementary fee of €28.33 for disconnection is also charged. It should be noted that a disconnection fee is not charged for the incumbent's own retail market.

The connection fee in Denmark decreases to 35.3€, when taking over an existing shared access connection.

Data for the connection fee in Germany refer to a unique payment option.

Data for the monthly rental in Luxembourg do not include the price of the splitter.

Data for Finland refer to a weighted average of 44 SMP operators providing shared access to local loop. Generally the monthly rental is 50 % of the monthly rental of the full ULL and the prices for the connection fee vary between 42 - 260 €.

Data for Sweden for connection fee refer to the first access. Charges for the following access is 86€.

Data for France includes the price of the splitter.

Data for the United Kingdom refer to an average based on a price of 77.24 € per annum for the monthly rental and on a price of 170.5 € per annum for connection fee.

Figure 65

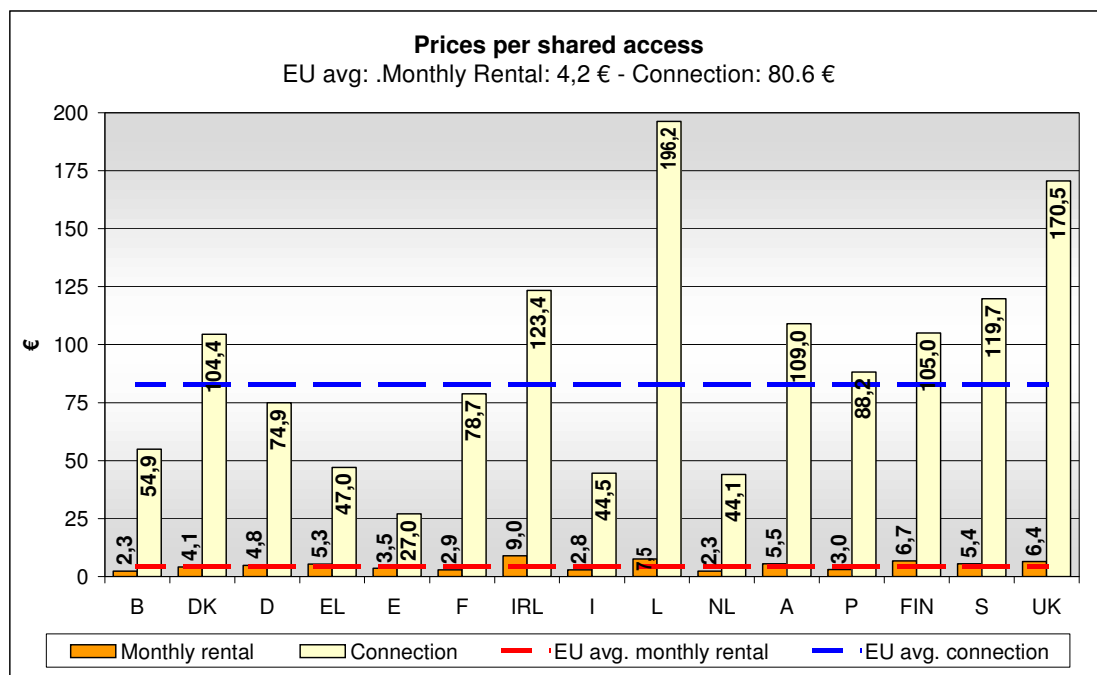
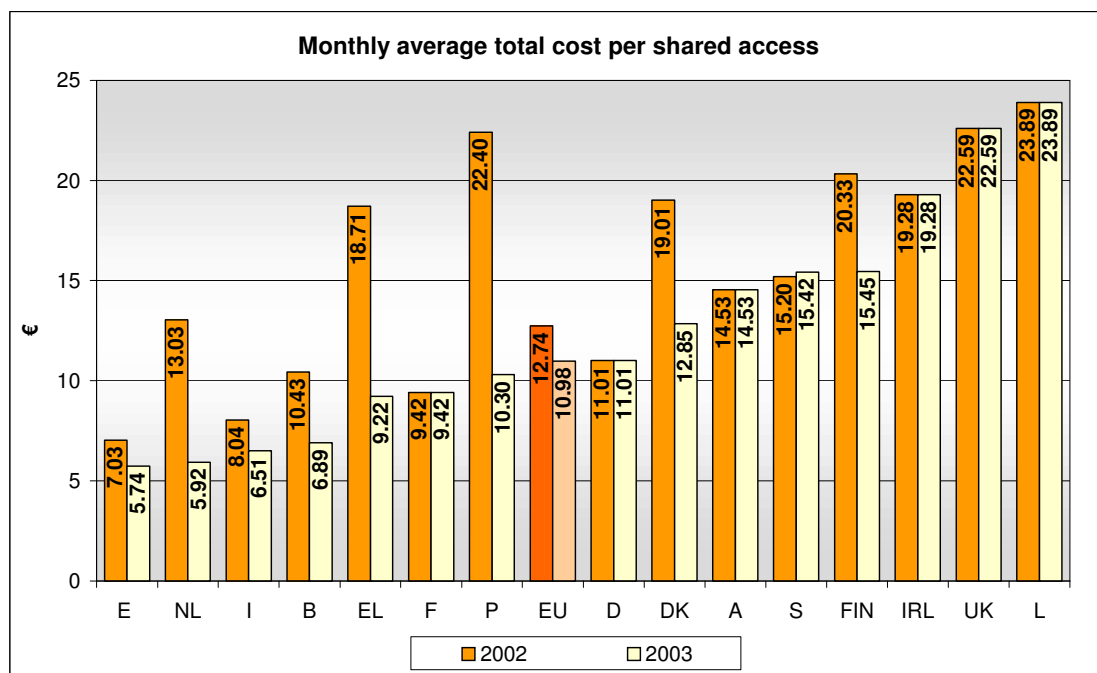


Figure 66



- Estimates are based on the total cost of the loop for the first year.

## **INCUMBENTS' RETAIL TARIFFS FOR PUBLIC FIXED VOICE TELEPHONY**

This section examines the charging system, the line rental charges and the main tariffs for public fixed voice telephony charged by the incumbent operators in each Member State<sup>19</sup> in August 2003. The price trend over the past five years is also analysed.

The incumbent operators still retain a large market share, but new entrants are increasingly gaining market shares by offering cheaper prices for certain types of calls (usually long-distance or international) or destinations. The prices charged by incumbents do not necessarily, therefore, represent the lowest prices available. A comparison between the rates charged by incumbents and alternative operators is shown at the end of this section.

The figures and information are taken from a study carried out for the Commission by Teligen, HI Europe. The data were collected from primary sources (i.e. directly from the incumbent operators) and communicated to the National Regulatory Authorities (NRA), which checked the accuracy of these data before this report was produced.

Different sets of charges for fixed national voice telephony services are shown in the following sections:

- the minimum costs for different types of calls (local, long-distance, international calls and calls towards mobile networks), depending on the charging system adopted;
- the monthly rentals charged by incumbent operators;
- the charges for a composite basket of calls (local, long-distance, international fixed calls and calls to mobile), that gives an estimate of the average monthly spending by a typical "European business/residential user" for the whole range (national and international) of calls;
- the charges for a basket of national calls, that gives an estimate of the average monthly spending by a typical "European business/residential user" for fixed national calls;
- the basket of international calls for each country that indicates the average price of a single call from the originating country to all other OECD destinations. In addition, the price of individual calls to specific destinations are also shown.
- the price of some individual calls (3- and 10-minute local, long-distance and international calls) at peak time, inclusive of any initial charge. For incumbents which apply unit-based charging, the price of a whole unit is calculated.

For the various types of calls, a benchmark based on a comparison with US and Japan is also included. For the USA, the prices for national calls are those charged by Verizon,NY for local calls, Verizon,NY (1998/1999) and AT&T (2000/2003) for national (intra-state) calls and AT&T for international calls. For Japan, the national call prices are those charged by NTT and the international call prices are those charged by KDD.

---

<sup>19</sup> The incumbent operators considered are the following: Belgacom for Belgium, Tele Denmark for Denmark, Deutsche Telekom for Germany, OTE for Greece, Telefonica for Spain, France Telecom for France, Eircom for Ireland, Telecom Italia for Italy, P&T Luxembourg for Luxembourg, KPN for the Netherlands, Telekom Austria for Austria, Portugal Telecom for Portugal, Sonera for Finland, Telia for Sweden, British Telecom for the United Kingdom.

The EU average tariffs shown in the charts are weighted averages (by population of the Member States in 2003) rather than simple averages.

## **6.1. CHARGING SYSTEM**

The billing system for public voice telephony services usually comprises two components: an initial charge applied at the beginning of a call and a charge for the remainder of the call (that may not depend on the type of initial charge used).

### **6.1.1. Initial charges**

There are different types of charges applied at the beginning of a call, either alone or in combination. The charging method used for the remainder of the call may not depend on the type of initial charge used. The types of charges are:

- Call set-up charge raised at the start of the call (when the call is answered). This charge does not offer any call time.
- Initial charge that is used in the same way as call set-up, but in addition includes a certain number of seconds call time before normal time-based charging starts.
- Unit charge does in effect work the same way as the initial charge. A full unit is charged at the beginning of the call, providing a certain number of seconds call time until the next unit is charged. Depending on the principle used by the operator (synchronous / asynchronous) the number of seconds call time in the first unit may be less than the specified unit duration.
- Minimum charge is normally used with per second billing, to ensure the operator minimum revenue per call. If the call duration is short, the actual call charge may be less than the minimum charge. In such cases the minimum charge will be applied.

### **6.1.2. Charging system during the call**

There are in principle 3 ways of charging calls. The fact that most operators tend to publish the duration charges on a per minute basis does not itself indicate which system is used. The 3 principles are:

- Real time charging (also known as per second billing) allows the cost of the call to be calculated to the exact duration of the call (normally nearest second). Call set-up charge, initial charge or minimum charge may be applied to this structure, in addition to the duration charge.
- Unit based charging uses a fixed price unit. The duration of this unit will vary with the destination of the call and time of day. Call duration will always be raised to a multiple of whole units, so the user will nearly always pay for more time than is used. Call set-up charge may be applied to this structure, but is relatively rare.
- Fixed period charging uses a variable price, but fixed duration unit. The call is normally charged on a per minute basis, or per 6 seconds. The price for the period will vary with destination and time of day. The charged duration of the call will be raised to a multiple of whole periods. A call set-up charge or initial charge is often implemented in the form of a higher charge for the first minute or period. This initial charge may vary with destination and time of day.

In August 2003 only the incumbents in Greece, Luxembourg, Austria and Germany still use a unit-based charging system for some types of calls. No changes are reported since the situation in August 2002.

Fixed voice telephony tariffs

The following charts show the minimum cost, due to initial charges, for local, long-distance and international calls and calls to mobile charged by the incumbent operators. The free call time (i.e. the number of seconds of call time before normal time-based charging starts) is shown in brackets. Values are expressed in €, including VAT.

Figure 67

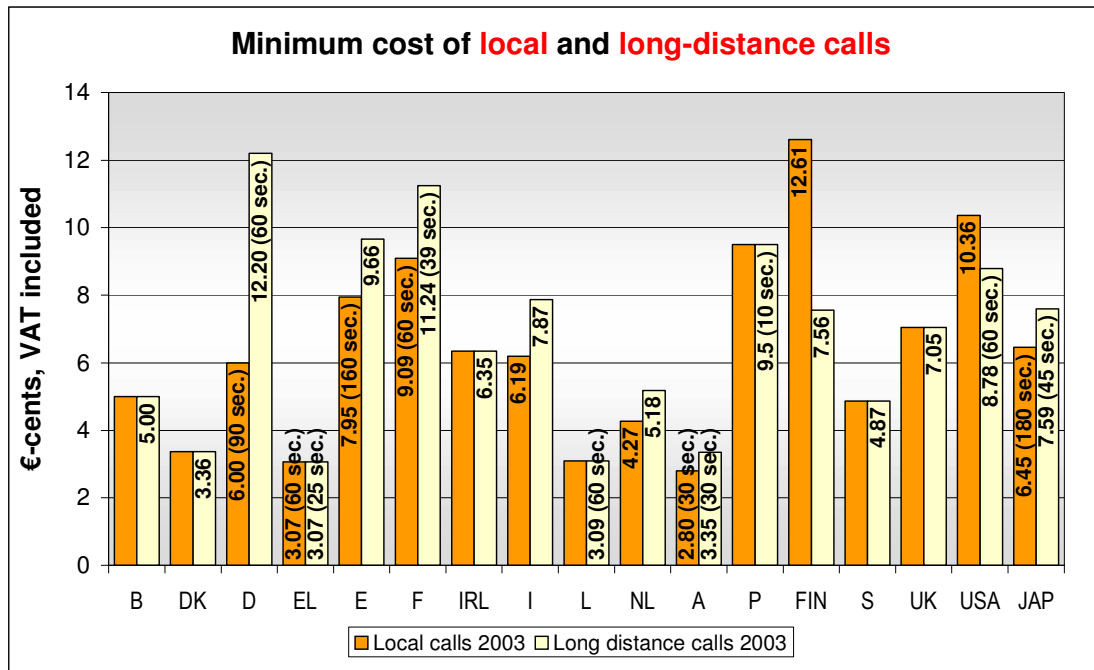




Figure 68

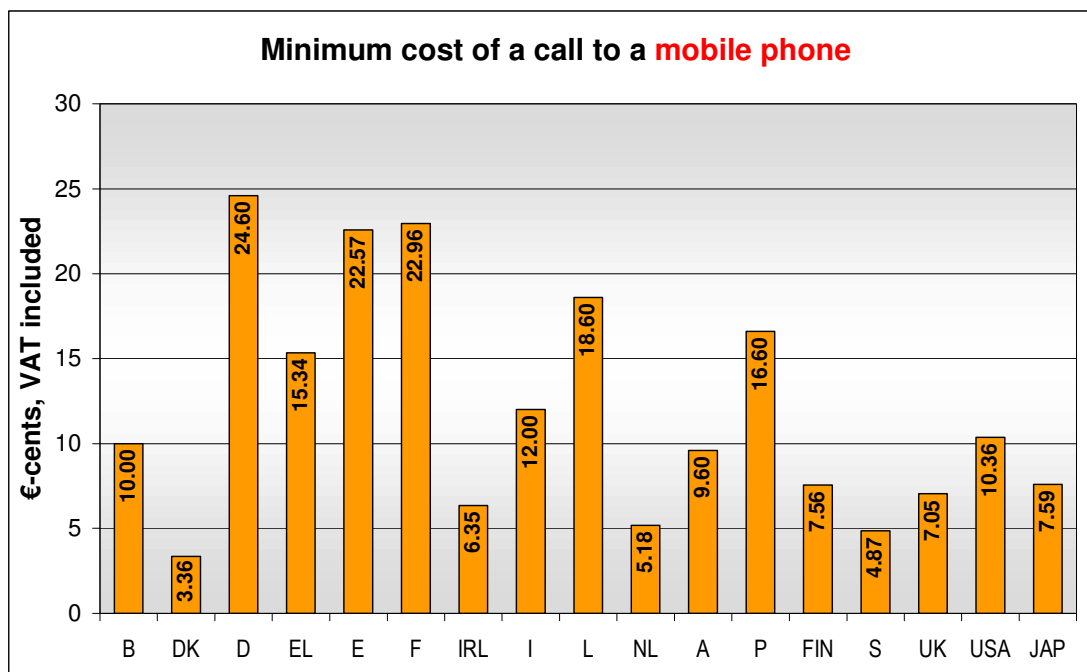
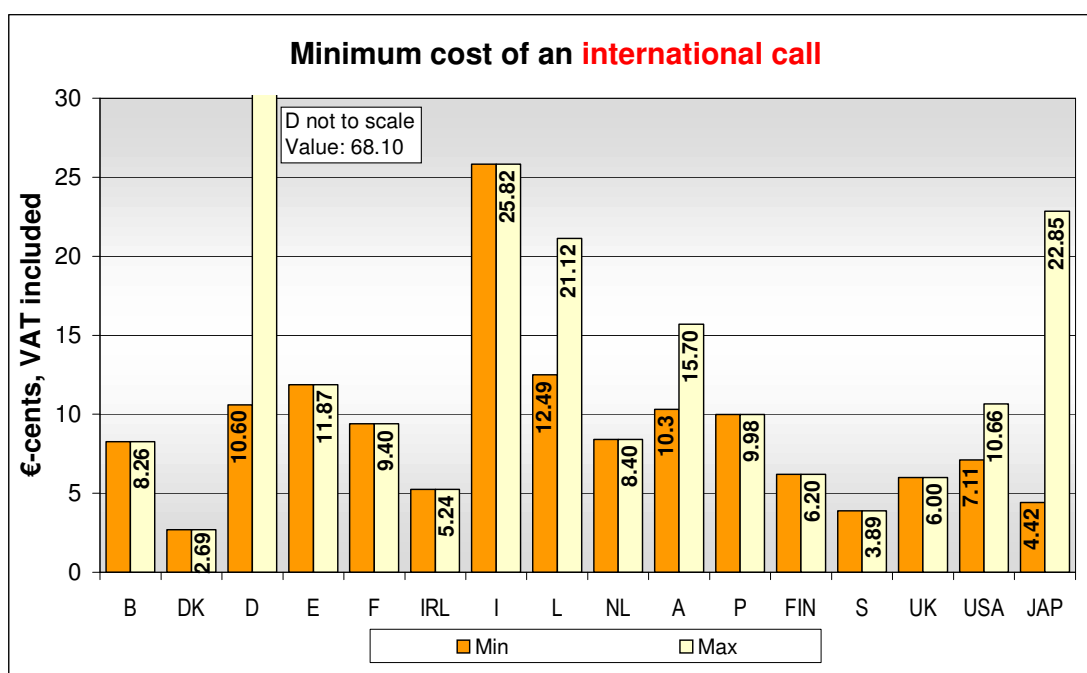


Figure 69



- Data for EL not available

## 6.2. MONTHLY RENTAL CHARGED BY THE INCUMBENT OPERATORS

The following charts show the incumbent's monthly line rental charges for residential and business users in each Member State in August 2003 and August 2002 and the variation in nominal terms of the EU average since August 1998. In order to reflect the real charges actually paid by users, values are expressed in €, including VAT for residential users and excluding VAT for business users.

The incumbent operators in Italy, Sweden, United Kingdom, USA and Japan apply different monthly line rental charges for residential and business users. In Austria two different packages have been chosen for residential and business users, hence different charges. In Finland the monthly

rental depends on where in the country the line is connected. In the other countries the differences between the types of users are due only to the exclusion of VAT for business users.

Figure 70

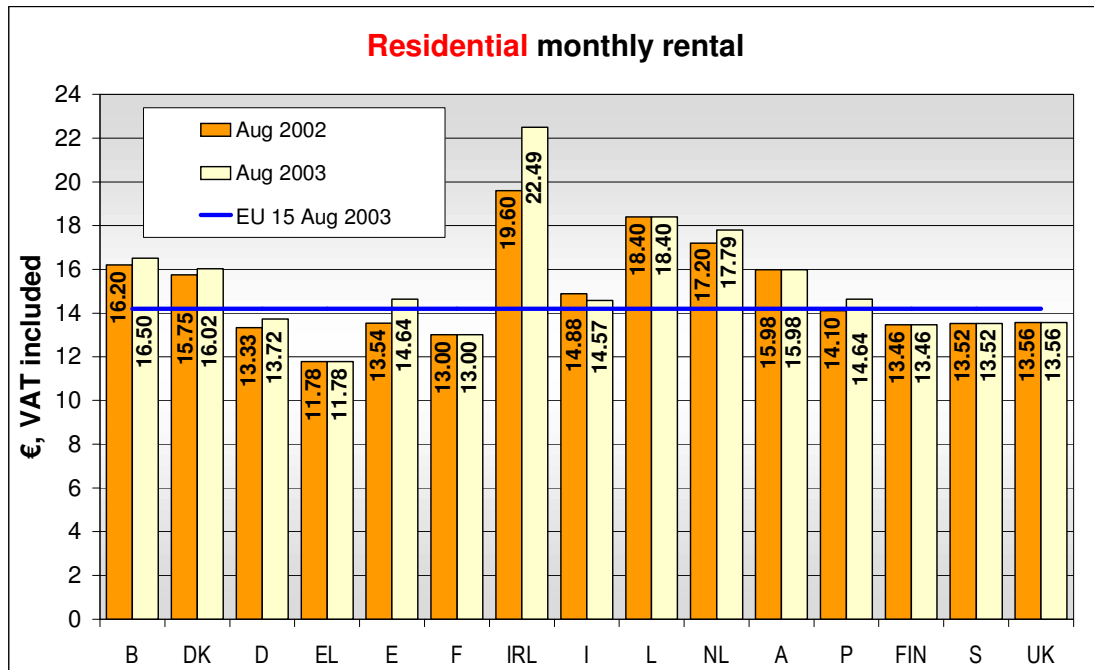
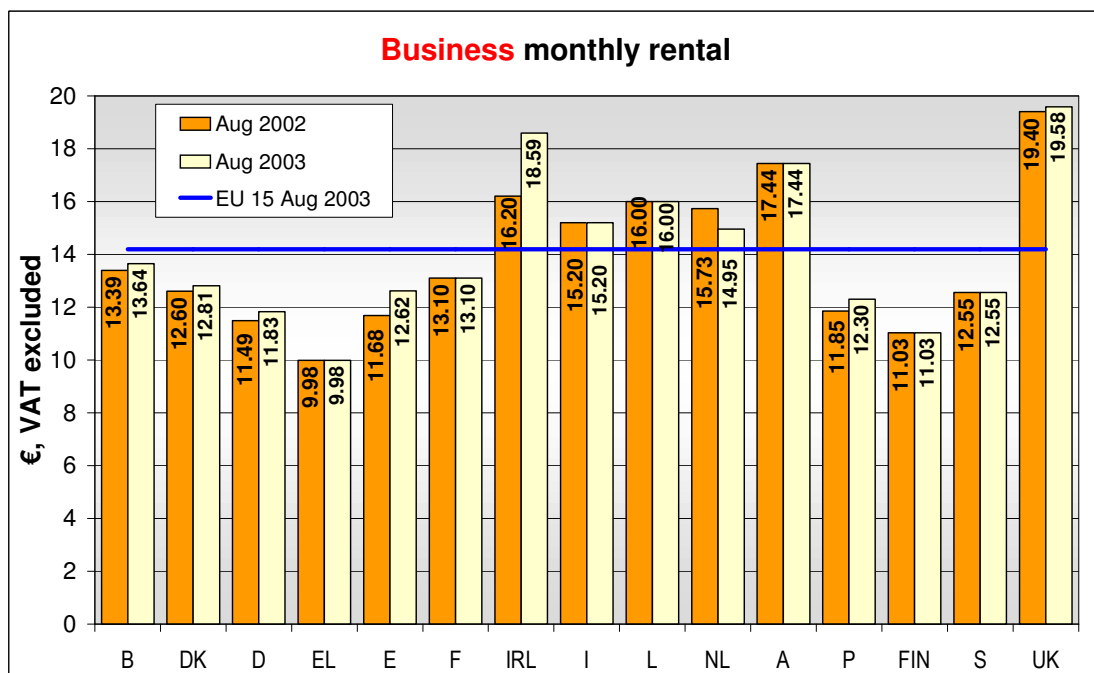


Figure 71



The following charts show the EU weighted average variation in nominal terms of the residential and business monthly line rental charge.

Figure 72

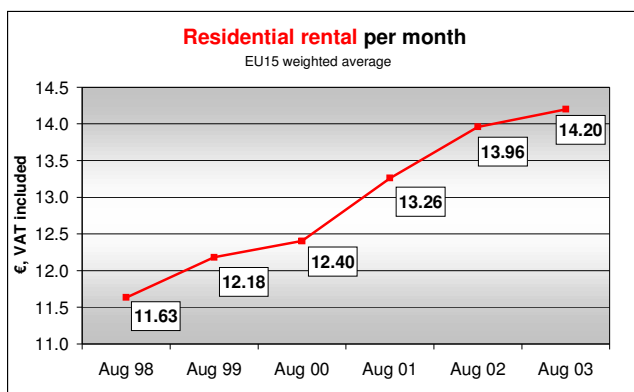
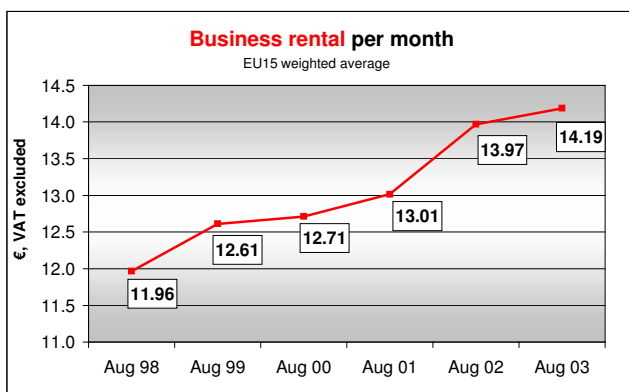


Figure 73



### 6.3.AVERAGE MONTHLY EXPENDITURE (composite call basket)

The figures presented in this section are intended to provide an estimate of the average monthly expenditure of a “standard” European consumer (business and residential). The Basket Methodology for Telecommunications Cost Comparison has been devised by the OECD and accepted in most countries as the most stable and neutral method of comparison.

The user is assumed to have a contract for the provision of voice telephony services with the incumbent operator, and to use only this operator for all types of calls (local, long-distance, international, calls to mobile). Since consumers are making increasing use of call-by-call carrier selection, in particular for specific highly discounted types of calls (i.e. international and long-distance), the figures given below are purely indicative, and do not necessarily reflect the cheapest solution available.

The charts below show the average monthly expenditure for standard residential and business users as of August 2003, expressed in €, based on the standard tariffs charged by the incumbent operators (i.e. excluding any discount packages). This means that lower costs can be achieved if the user subscribes to one or more discounted packages.

The basket of calls used to estimate average monthly expenditure is the new “composite OECD basket”<sup>20</sup>, which includes not only fixed national calls (as did the old basket), but also fixed international calls and calls to mobile networks.

A full description of the methodology can be found at the end of this report.

<sup>20</sup> The revised OECD baskets were adopted in May 2000.

Figure 74

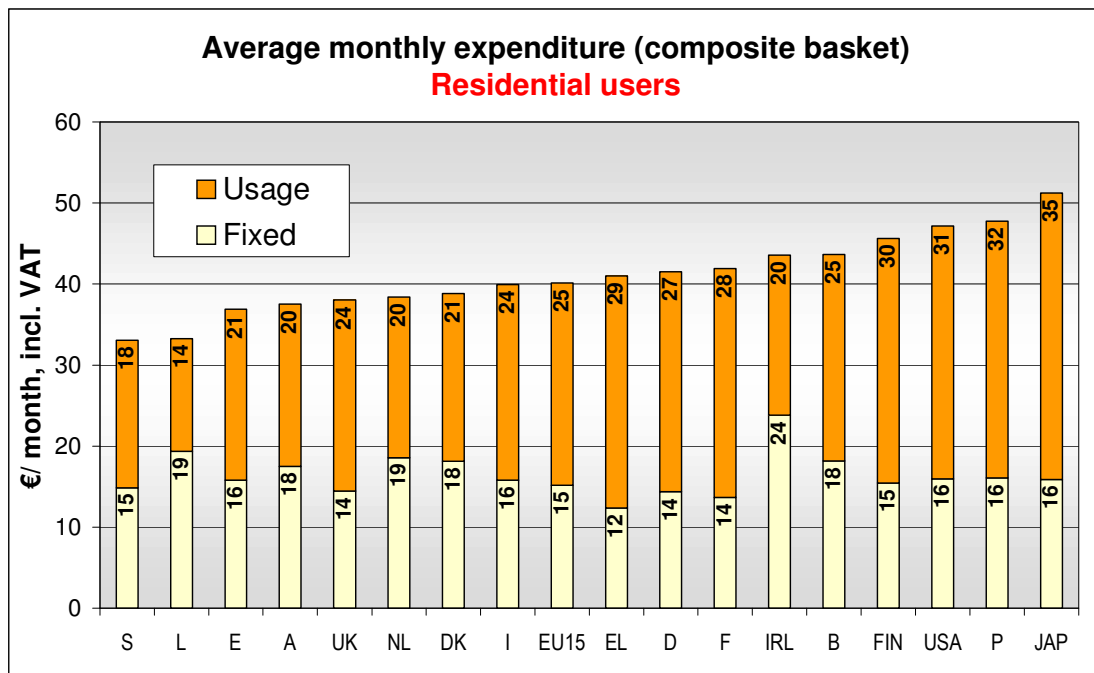
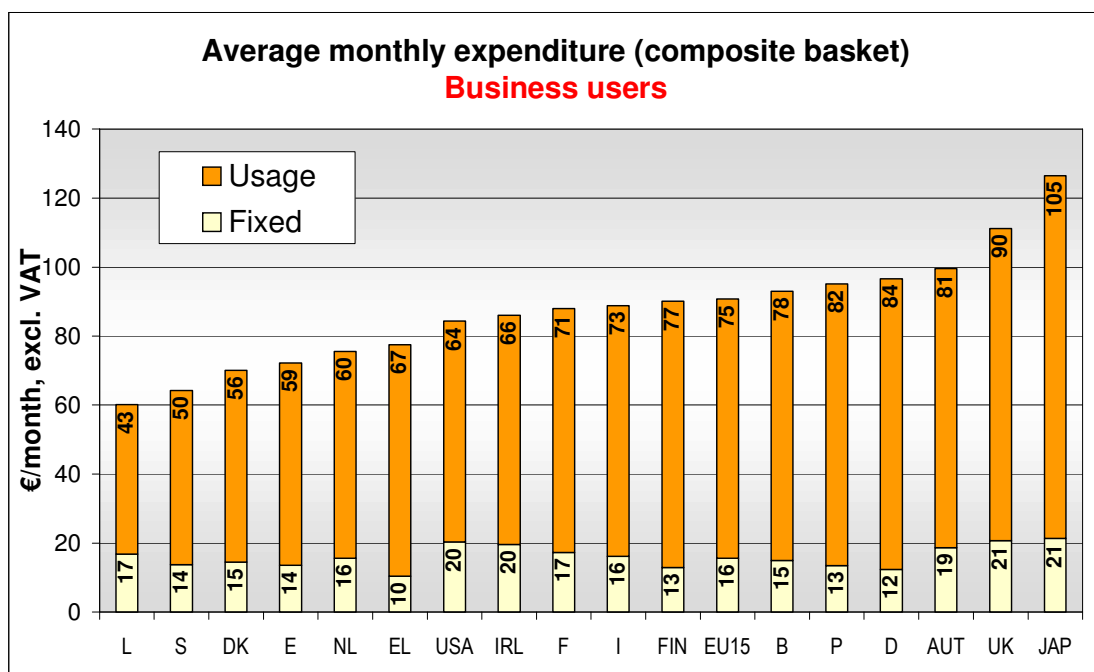


Figure 75



## 6.4. FIXED NATIONAL CALLS

### 6.4.1. Prices charged by the incumbent operators for individual fixed national calls

This section shows the prices charged by the incumbent operators for individual fixed calls. Where the incumbent operator uses a unit-based charging system, the price of calls of different duration and/or distances may in some cases be identical, where both calls are charged the same number of units. Any call set-up charges, minimum charges and/or call specific duration allowances have been taken into account.

Prices refer to peak hours (weekdays 11.00) and are expressed in € including VAT. Except where otherwise specified, the figures refer to August 2003.

Prices are indicated for three-minute and ten-minute calls over two distances: 3 km (equivalent to a local call) and 200 km (equivalent to a national call). In several countries the tariff changes at exactly one of these distances: in these cases, the rates for the lower distance band are used.

The price of a three-minute call is more affected by the magnitude of the call set-up charge than the price of a ten-minute call.

With the exception of Austria and the Netherlands, the standard tariff is used for this analysis. In the Netherlands the basic, residential package is selected. In Austria the Tik-Tak package has been selected for residential users and the Business 1 package for business users. No discount packages are taken into account.

The EU average value is the average of the EU countries weighted according to population in 1999.

Figure 76

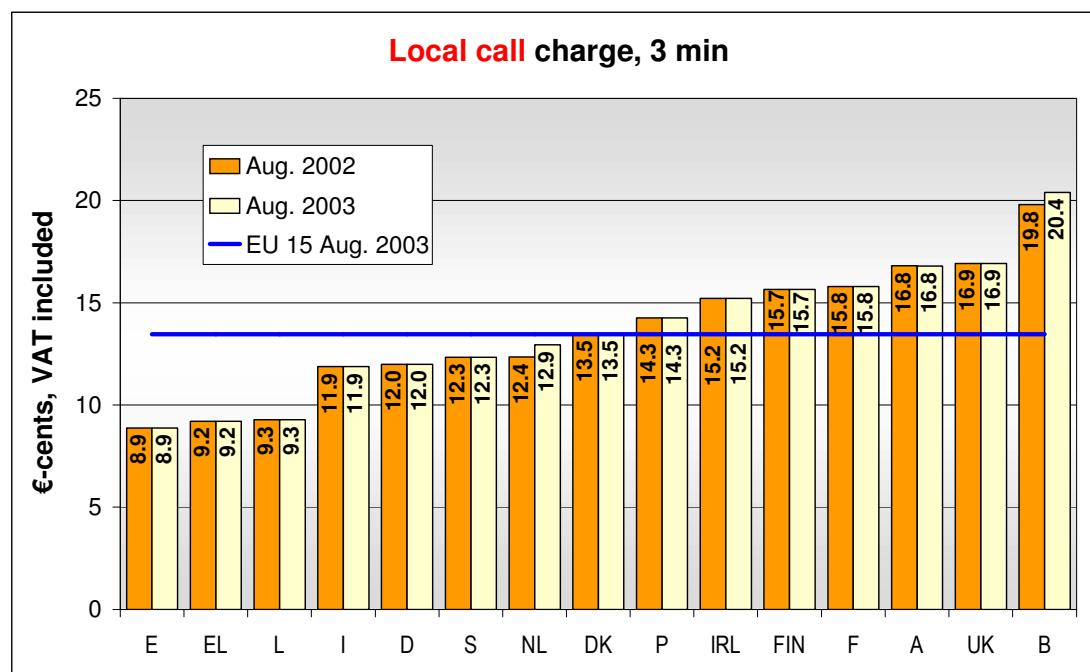


Figure 77

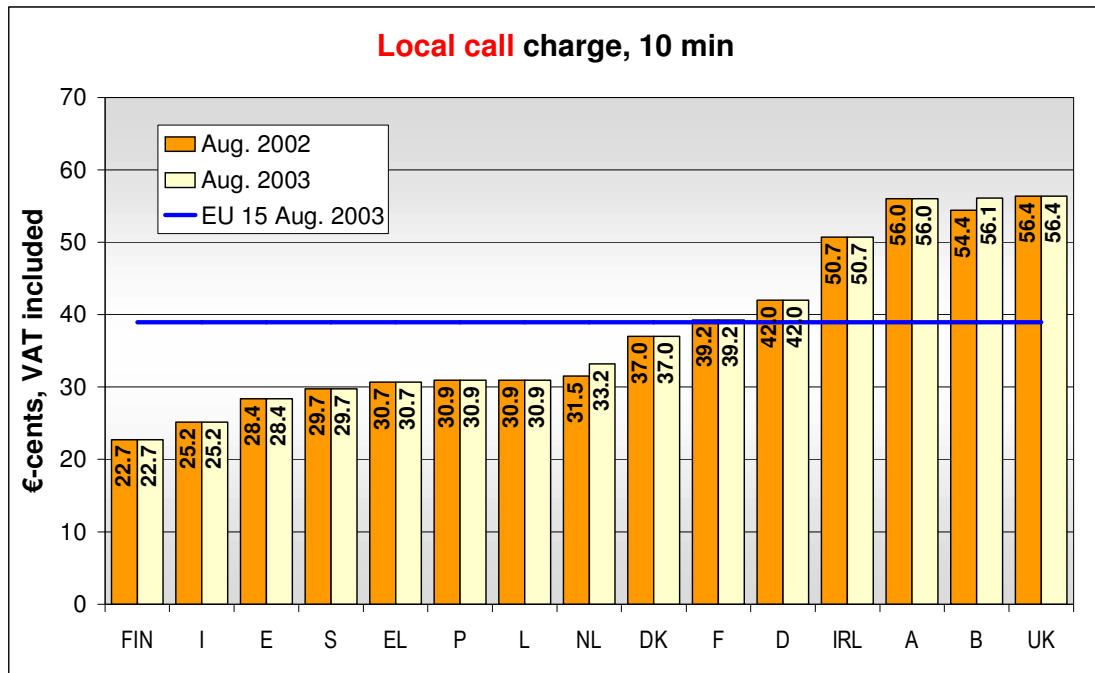


Figure 78

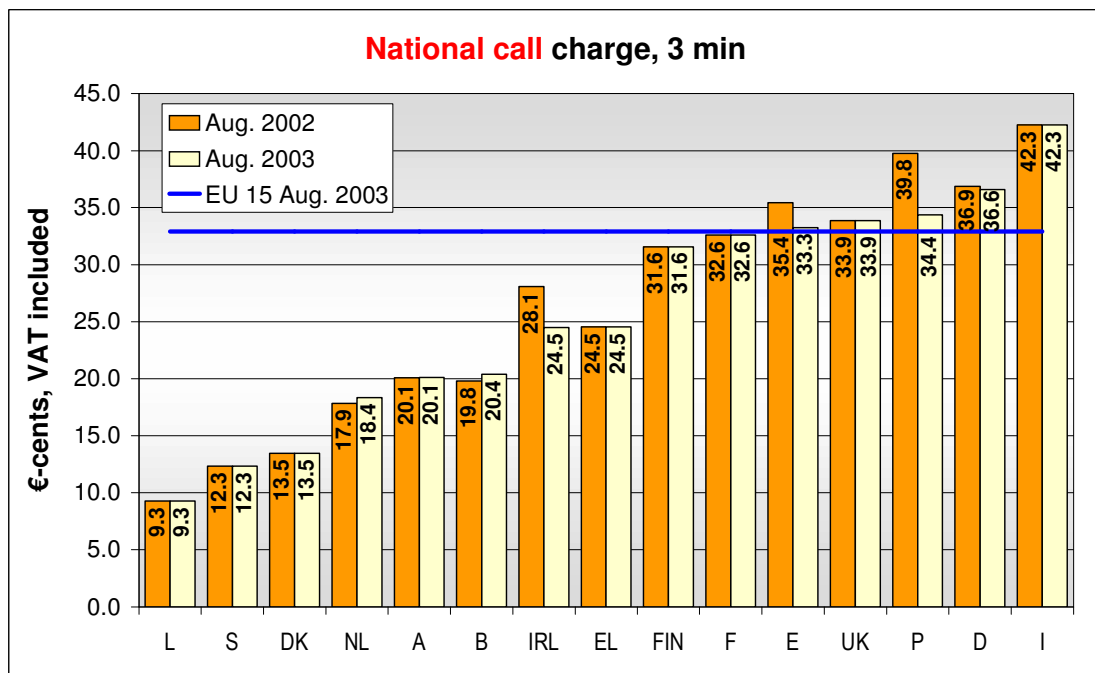


Figure 79

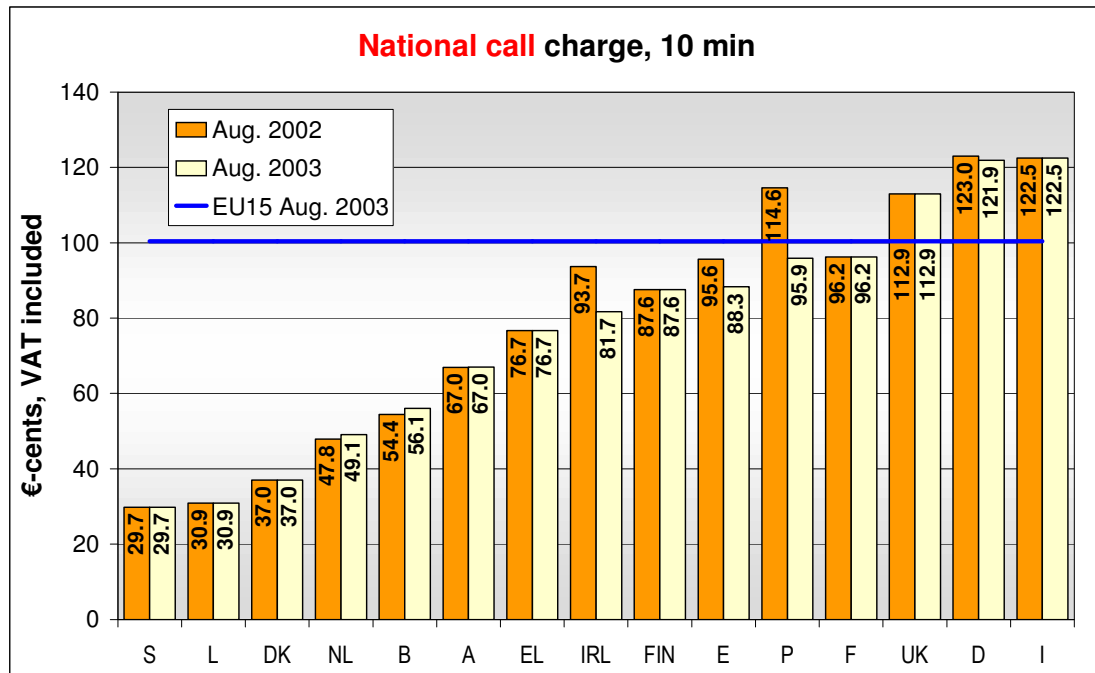


Figure 80

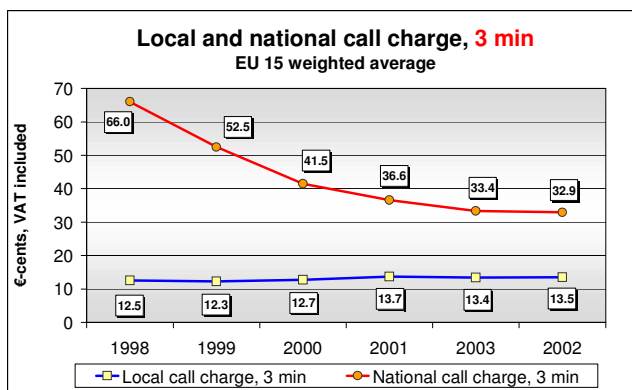
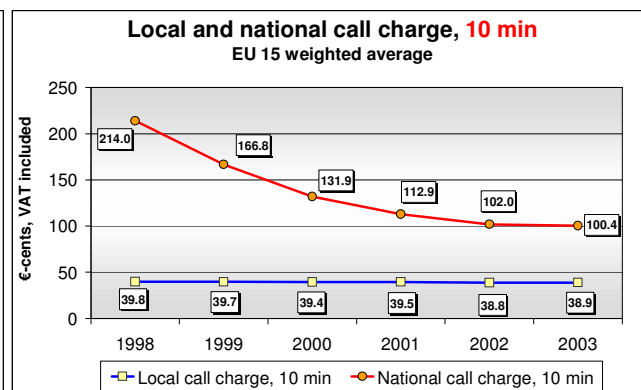


Figure 81



### 6.5. TREND OF THE BASKET FOR FIXED NATIONAL CALLS (NATIONAL BASKET)

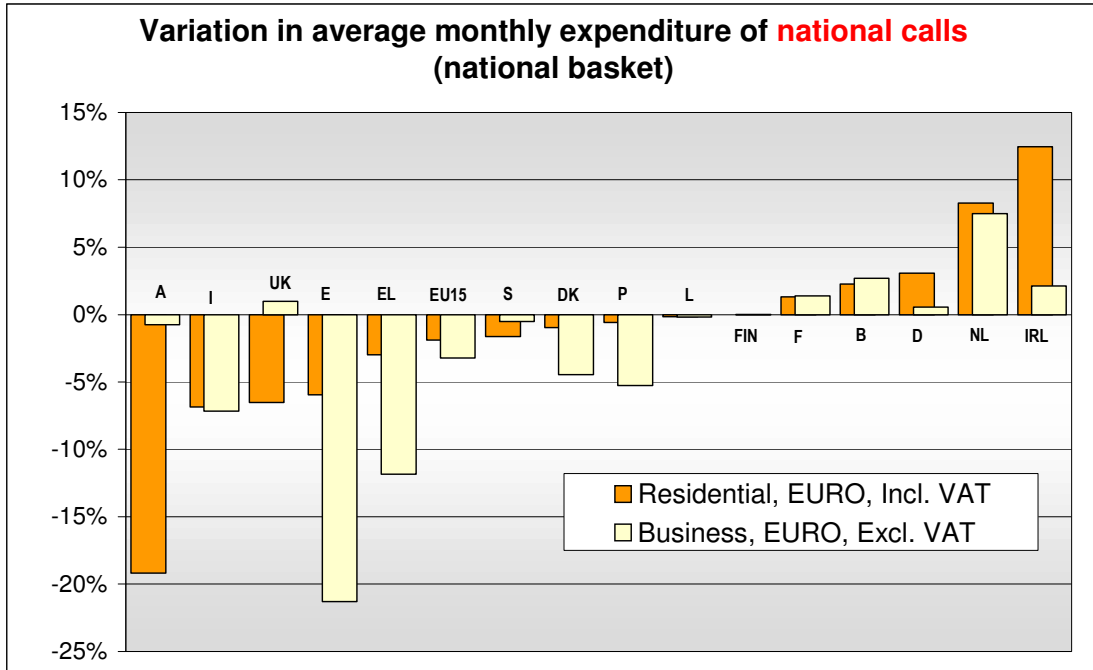
The following chart shows the variation of the monthly expenditure of residential and business users on fixed national calls in each Member State between August 2001 and 2003 (in order to maintain consistency over time, the “old” OECD basket is used, which, unlike the “composite”, does not include international calls).

Figure 83 displays the change in the EU average national basket for residential and business users in the period from August 1998 to August 2003.

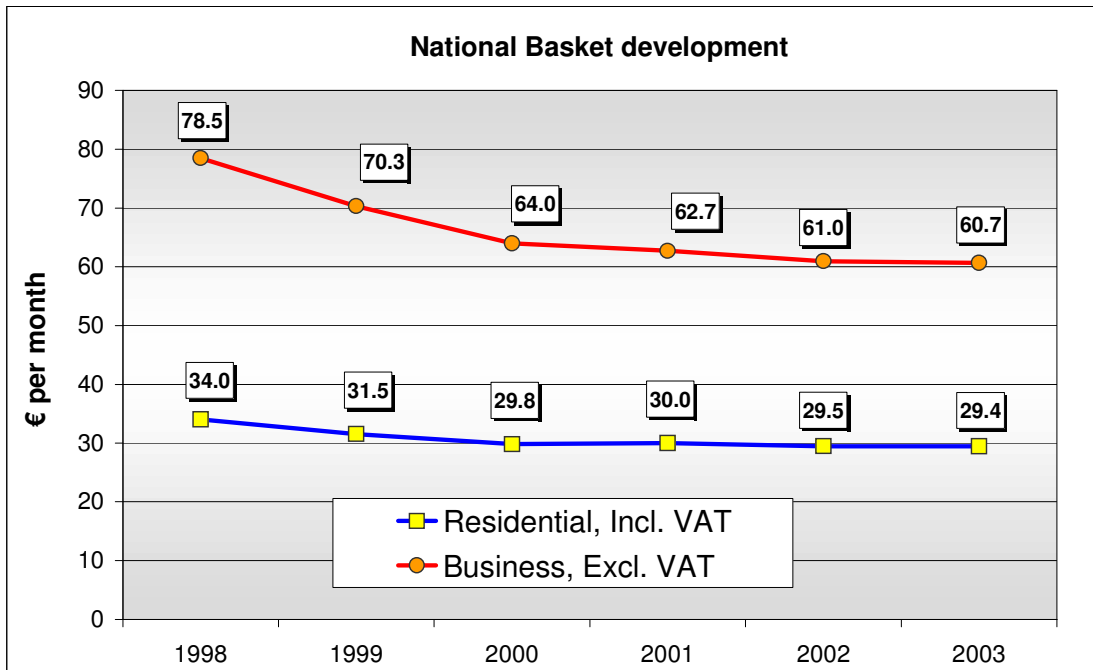
The change in the international basket is shown in section 7.

A full description of the methodology can be found at the end of this report.

**Figure 82**



**Figure 83**



**6.6.ALTERNATIVE NATIONAL OPERATORS**

This section compares the prices charged for public voice telephony services by the incumbent operator by one competitor in each Member State.



Figure 84

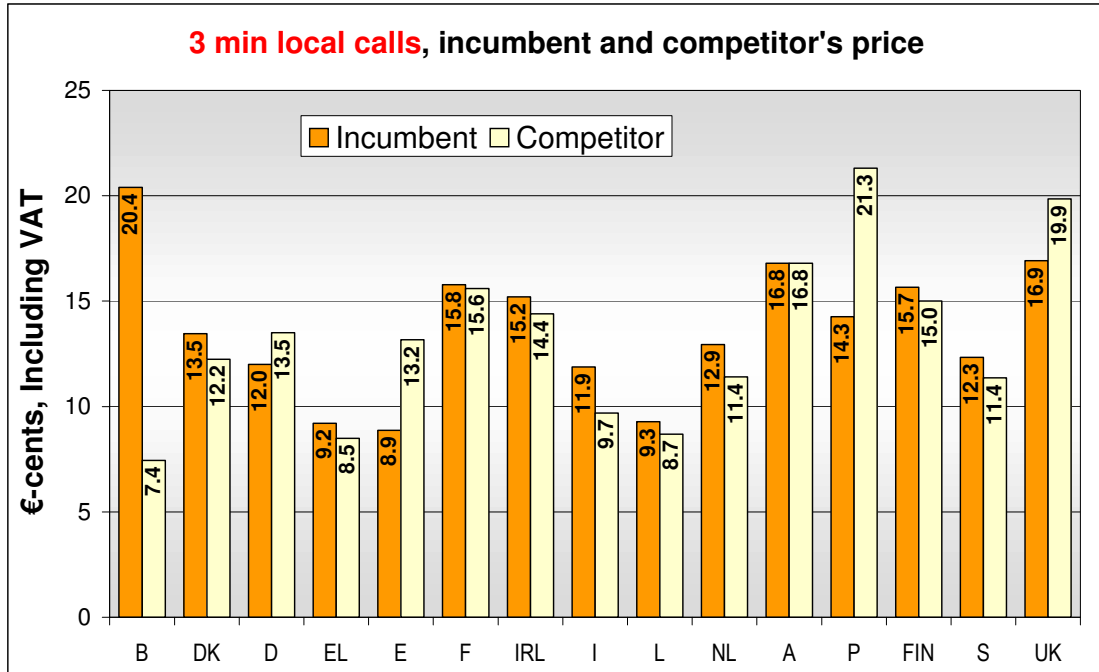


Figure 85

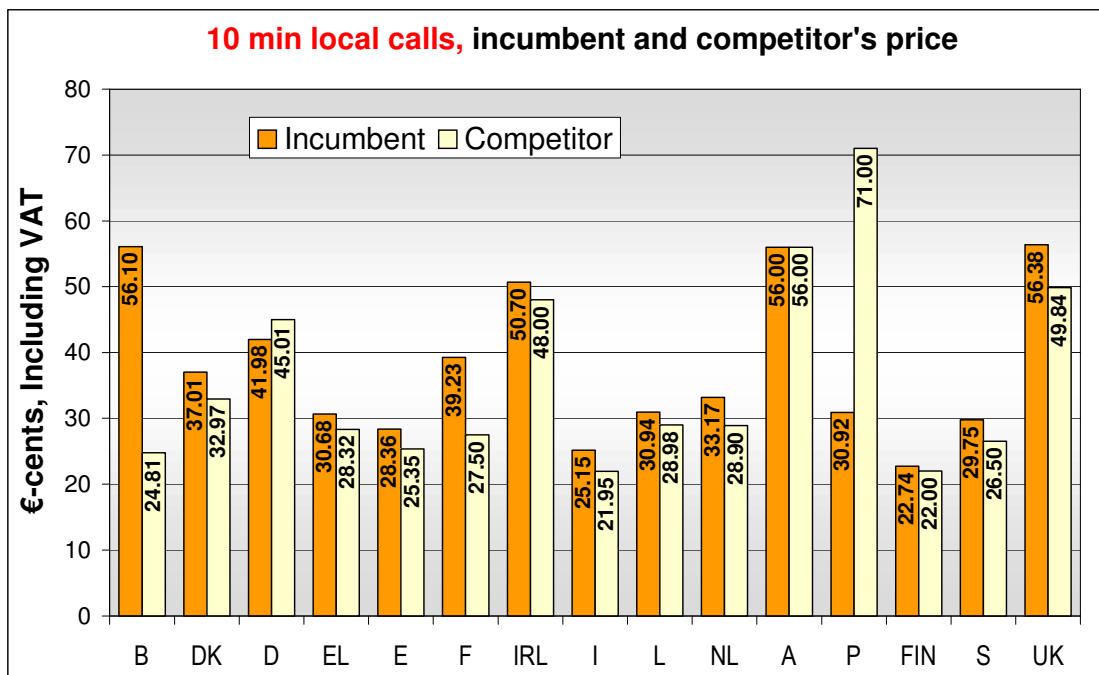


Figure 86

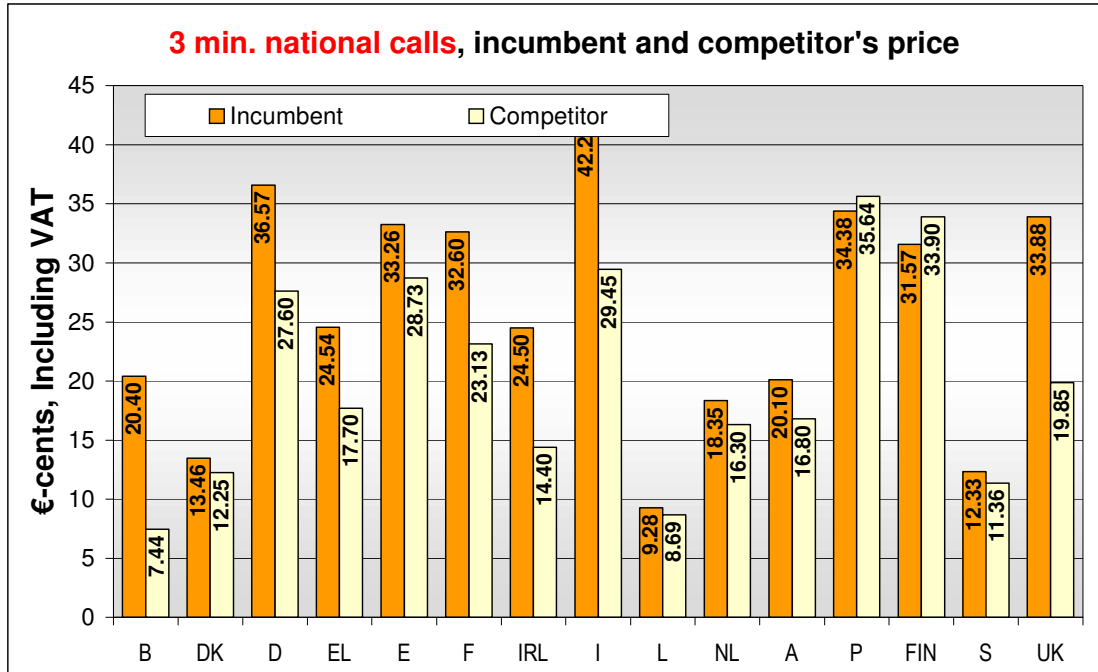
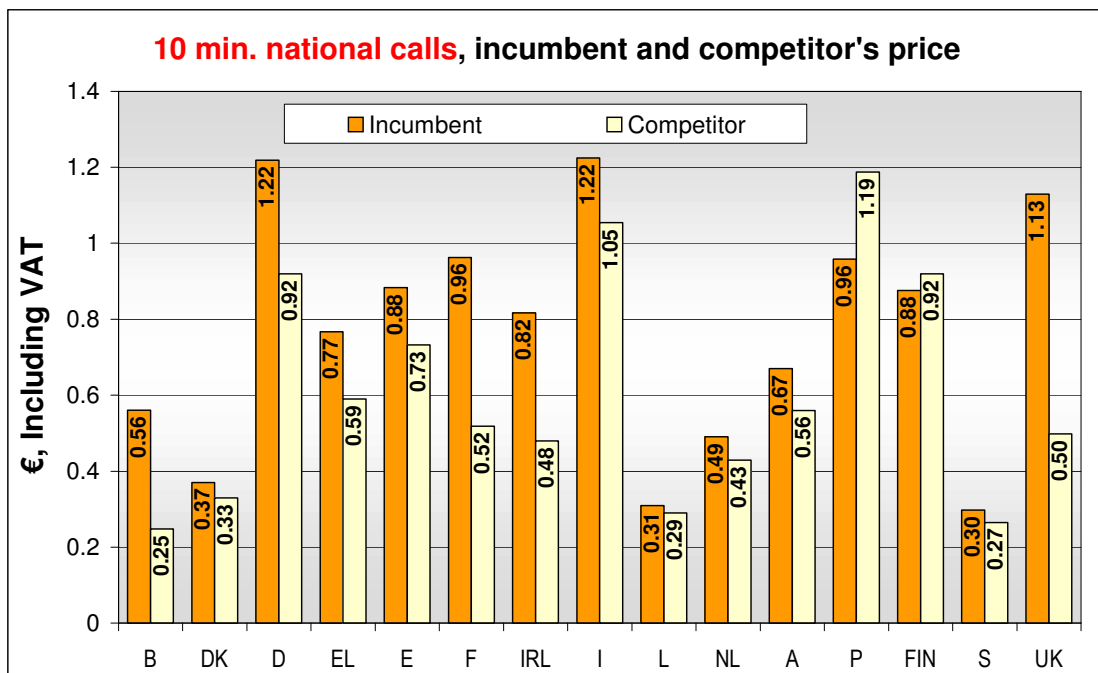


Figure 87



## FIXED INTERNATIONAL CALLS

The following charts show the prices of the international call basket (an estimate of the average cost of an international call in each country) and the actual price of a 10-minute call to specified destinations (within the EU, to Japan and to the USA).

### 6.7.PRICE OF AN AVERAGE FIXED INTERNATIONAL CALL (international call basket)

The basket of international calls for each country provides an estimate of the average cost of an international call.

For the basket comparison of international PSTN call charges, the OECD Traffic weight basket methodology is used. The basket calculates **an average charge** for calls to all OECD destination countries.

The EU average value is the average of the EU countries weighted according to population in 2003.

A full description of the methodology can be found at the end of this report.

Figure 88

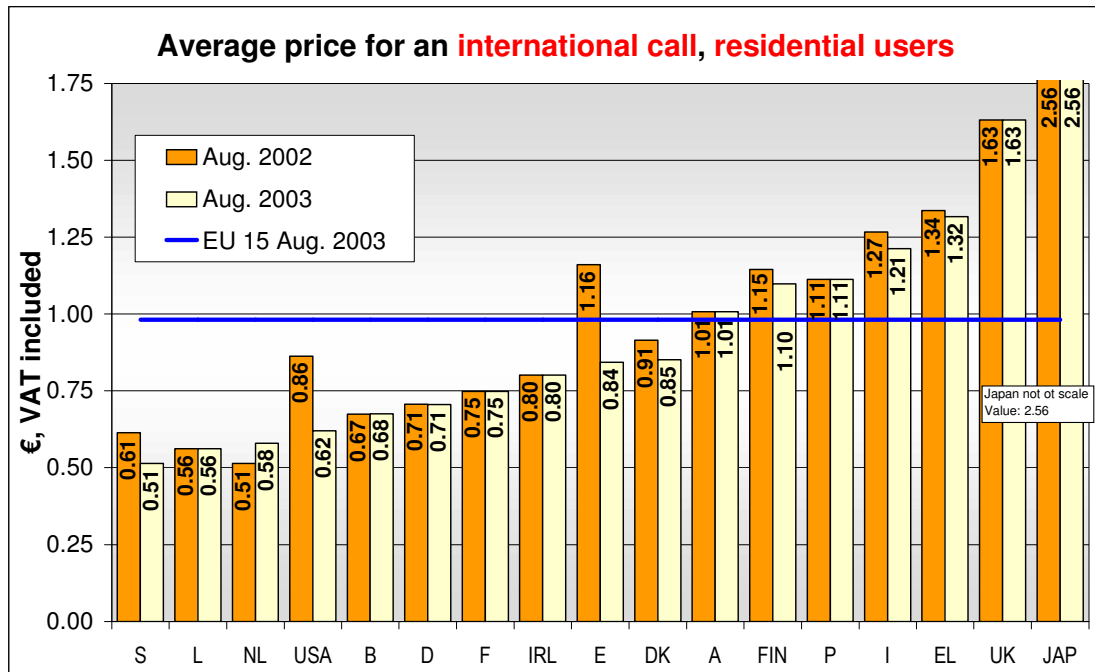
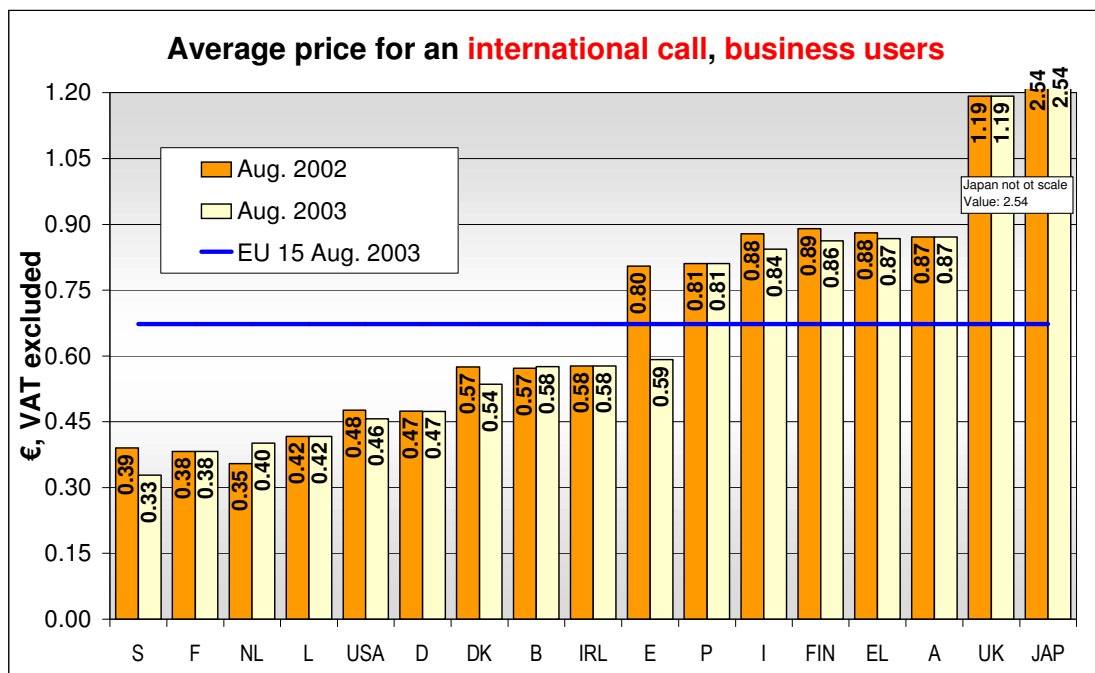
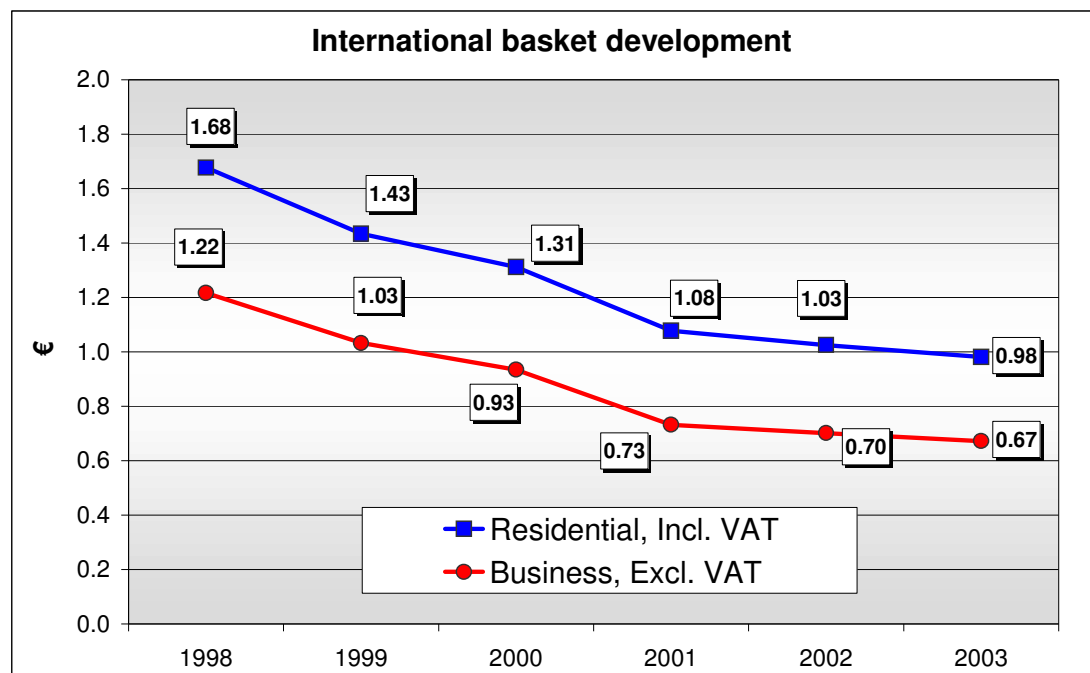


Figure 89



**Figure 90**

### 6.8.PRICE OF CALLS TO EU, JAPAN, USA

The following two charts show the prices of a 10-minute international call (including VAT) during peak hours (weekday 11.00) to four different destinations: neighbouring country<sup>21</sup> (near EU), more distant country<sup>22</sup> (far EU), Japan and the USA.

Figures are expressed in € at August 2003 values and they refer to the European incumbent operators and the EU weighted average.

<sup>21</sup> The neighbouring countries are defined as: France for Belgium (and *vice-versa*), Germany and the United Kingdom; Sweden for Denmark and Finland; Italy for Greece (and *vice-versa*); Portugal for Spain (and *vice-versa*); the United Kingdom for Ireland, the USA and Japan; Germany for Luxembourg, the Netherlands and Austria.

<sup>22</sup> The more distant countries are defined as: Greece for Belgium, Denmark, Germany, France, Ireland, Luxembourg, the Netherlands, Austria, Finland, Sweden, the United Kingdom, the USA and Japan; Denmark for Greece, Spain, Italy and Portugal.

Figure 91

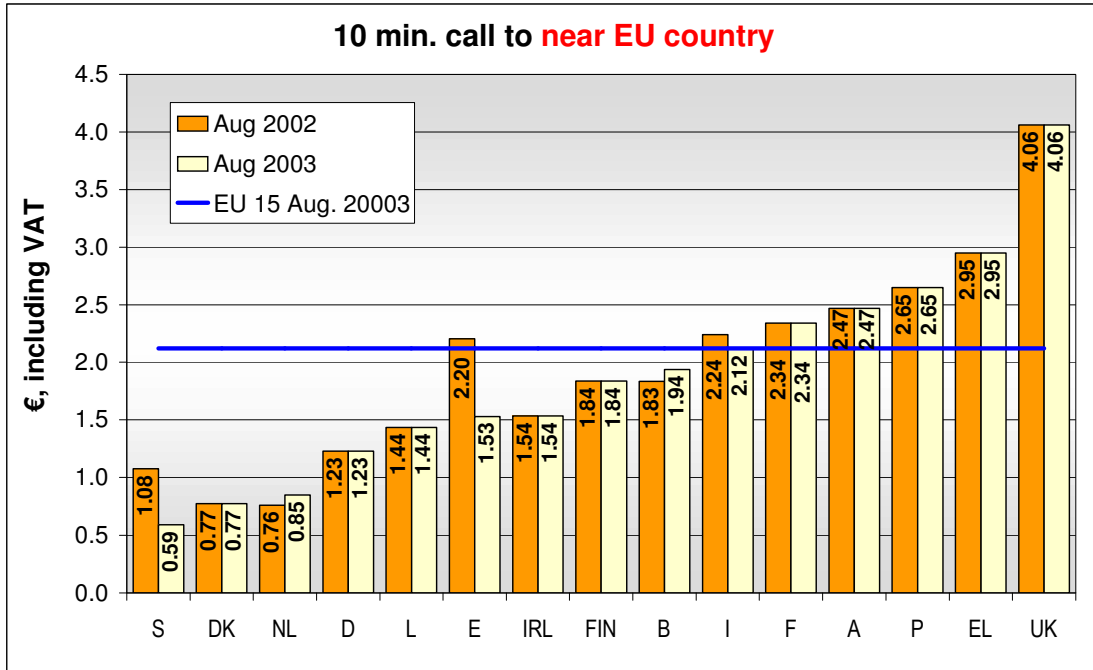


Figure 92

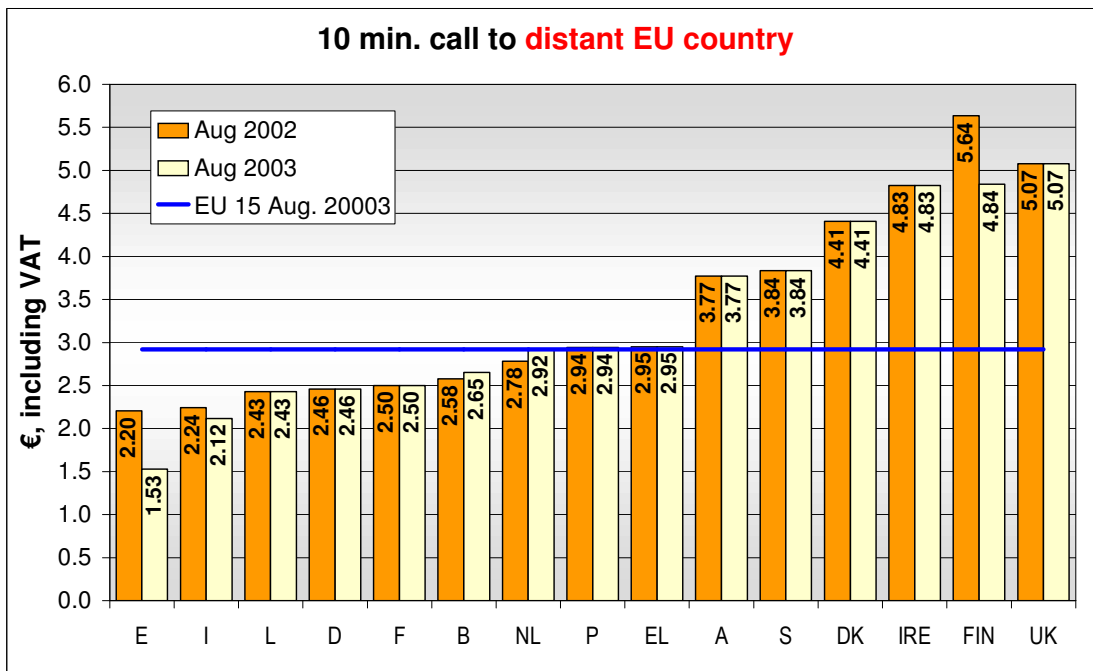


Figure 93

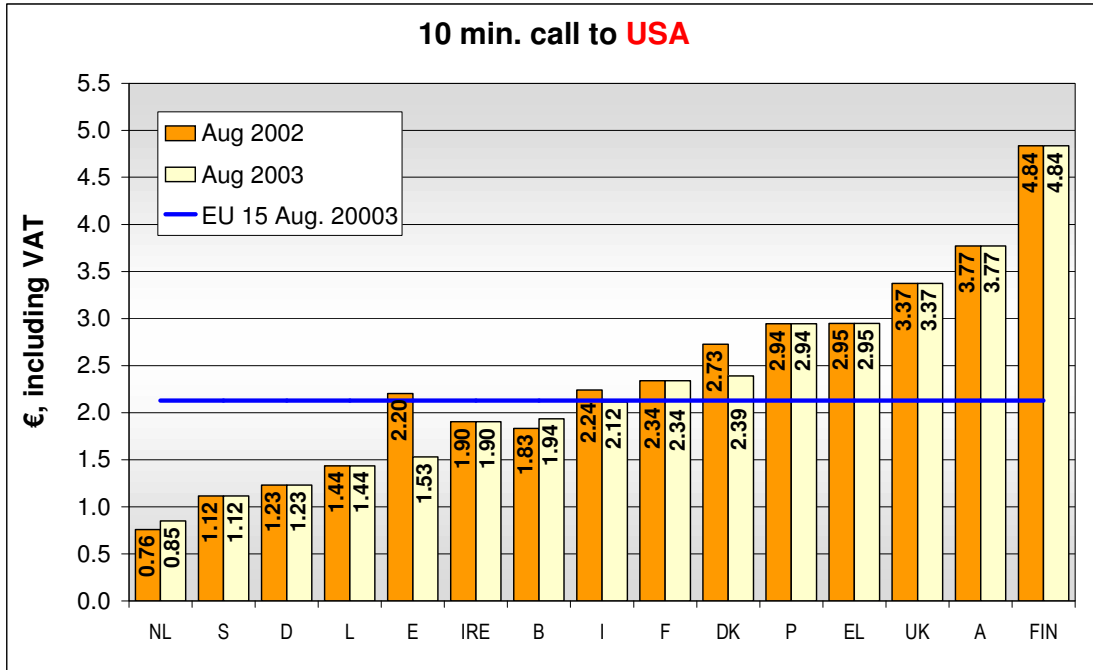
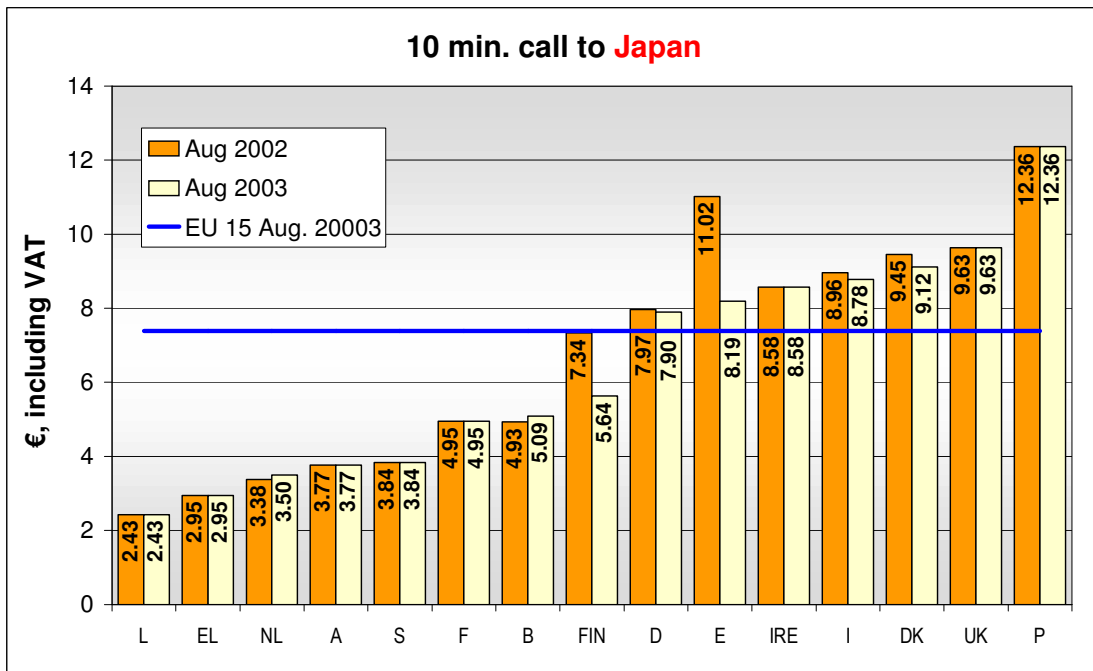


Figure 94



**6.9.ALTERNATIVE OPERATORS. TARIFFS FOR INTERNATIONAL CALLS**

The equivalent prices for competitor providers in the EU countries are shown in the charts below. One competitor per country has been analysed. The prices are shown for a 10 minute call, at peak time weekdays.

Prices include VAT and are applicable for August 2003.

Figure 95

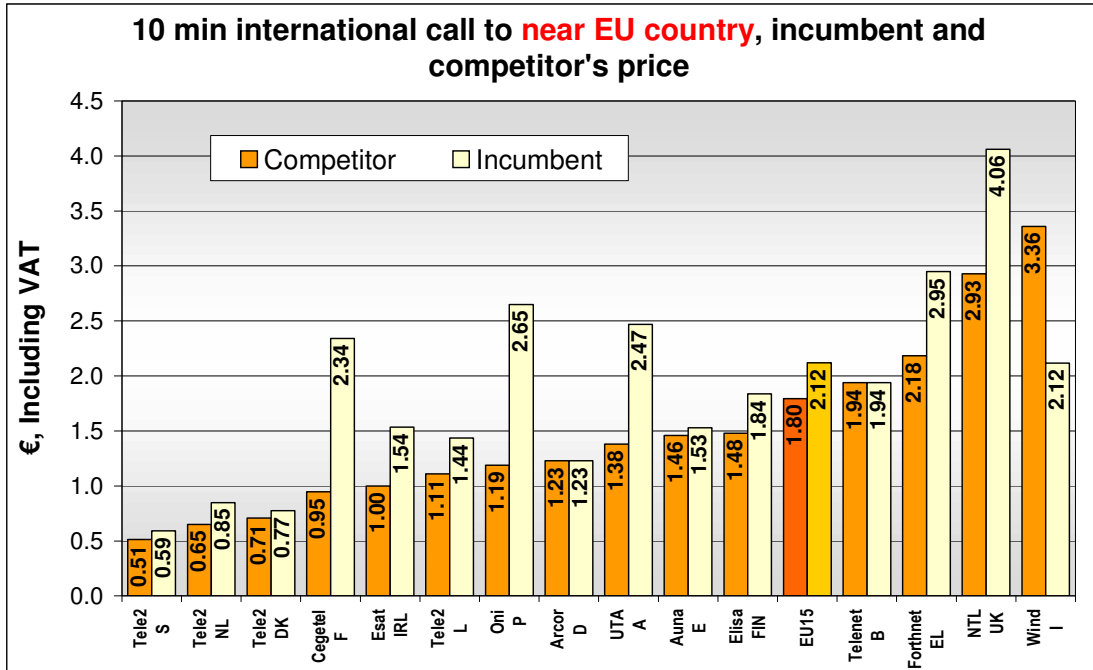


Figure 96

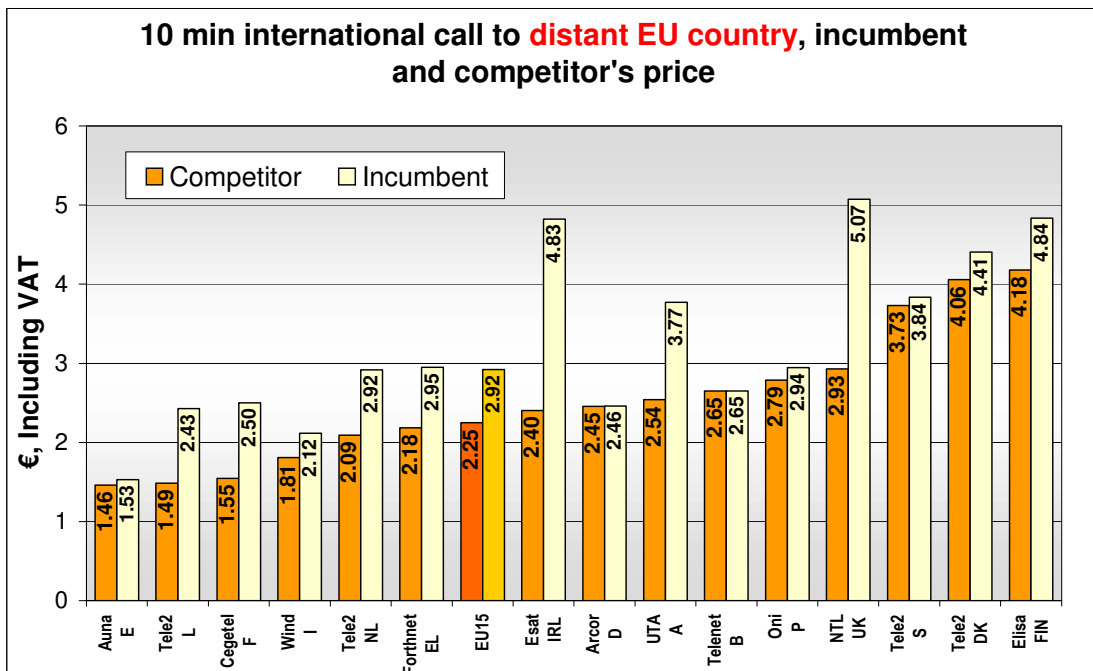


Figure 97

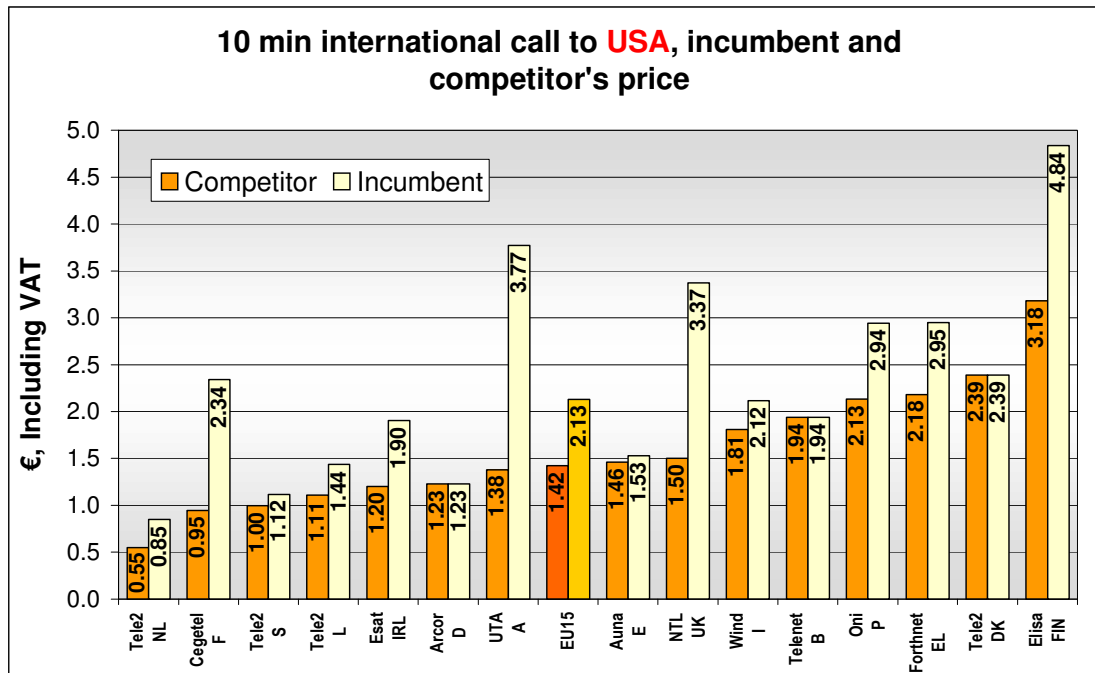
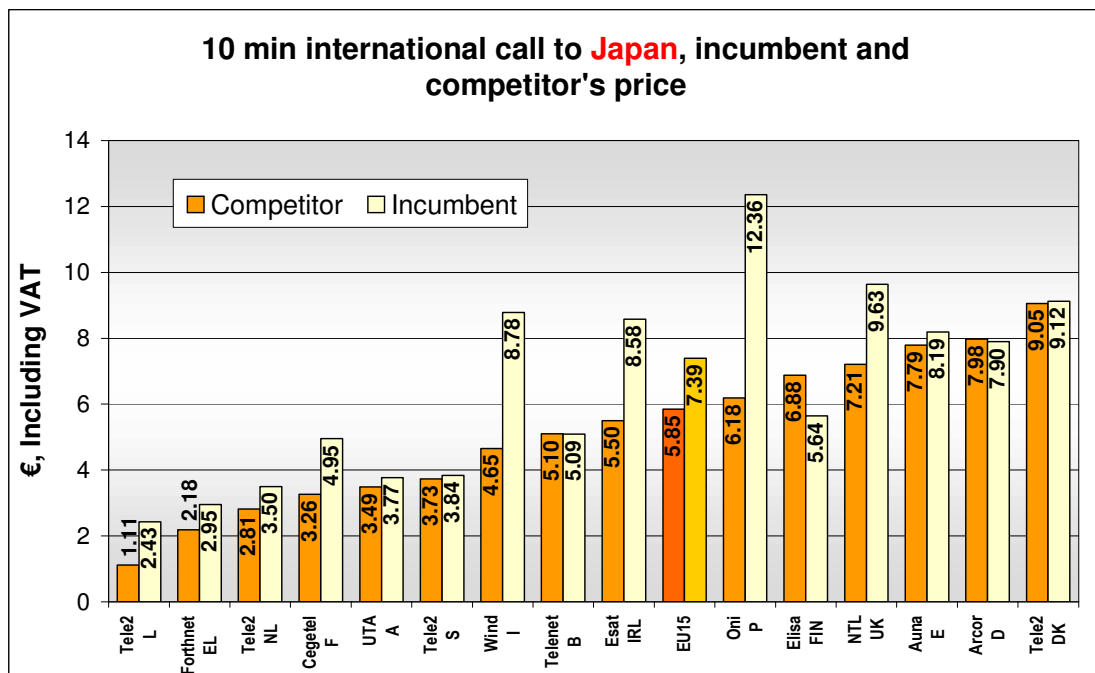


Figure 98







## 7 LEASED LINES RETAIL TARIFFS

This section contains an overview of prices charged by incumbent operators in each Member State for national and international leased line services as at 1 August 2003 to end users. Figures do not cover wholesale prices. Price developments are also analysed over the period August 1998-2003.

The figures and the information are taken from a study carried out by Teligen, HI Europe for the Commission. Data on standard retail prices charged by incumbent operators have been collected from the incumbent operators and communicated to the National regulatory Authorities (NRA), which checked the accuracy of these data before this report was produced.

### 7.1. INCUMBENTS' NATIONAL LEASED LINES

National leased line data are provided from 1998 onwards. 2 distances are covered: 2 km (local circuits), and 200 km. Tariffs are taken from the incumbent operator in each country. Other operators may offer other prices.

In order to properly reflect the tariff structures used in some countries the circuits may be considered in one of two different ways, depending on tariff structure. The one to apply will differ from carrier to carrier. The principles used in this report for calculating the price of a full circuit are:

	1: When tariff specifies local tail prices separately, in addition to main circuit.		2: When tariff specifies a single price for the circuit, end to end, including local tails.	
	Local tail length	Main circuit length	Local tail length	Main circuit length
2 km circuit	1 km	0	0	2 km
200 km circuit	2 km	196 km	0	200 km

Note: The local tail length is per tail, i.e. there will be 2 such tails with each circuit.

Where several tariff options exist depending on type of location, the criteria for choice is as follows:

- 2 km circuits are always within a major city (usually the Capital)
- 200 km circuits are between a major city and a “minor” city

As the definitions vary between countries, the type of tariff option chosen will also vary. The countries where the price may vary with location or other non-distance related definitions, are: Belgium, France, Austria, Finland, Sweden and the UK.

Some operators apply termination charges per local end, without necessarily covering the local tail circuit within that charge.

4 types of circuits are covered: 64 kb/s, 2 Mb/s, 34 Mb/s and 155 Mbit/s. As not all carriers publish tariffs for all these bitrates and all years, there may be some gaps in the information, especially for higher bitrates.

Some carriers offer 2 Mb/s circuits as both structured and unstructured. In this analysis only unstructured circuits are included.

Also, some carriers offer different types of leased lines, often in the form of “basic circuits” and circuits in a managed network. Only “basic circuits” are included in this analysis, as the managed network services are not comparable between carriers.

Lately a few carriers have decided not to publish their prices for some or all types of leased lines. This makes it increasingly difficult to present a full overview of the prices in all 15 EU countries.

For the USA the prices of Verizon intra-LATA circuits for New York state have been used. The bitrates of leased lines offered in some countries may be different from the ones found in most EU member States. Some operators may offer 56 kb/s instead of 64 kb/s, 1.5 Mb/s instead of 2 Mb/s, 45 or 50 Mb/s instead of 34 Mb/s, and 140 or 150 Mb/s instead of 155 Mb/s. Prices shown in the tables and graphs in this section of the report have been adjusted according to the difference in capacity.

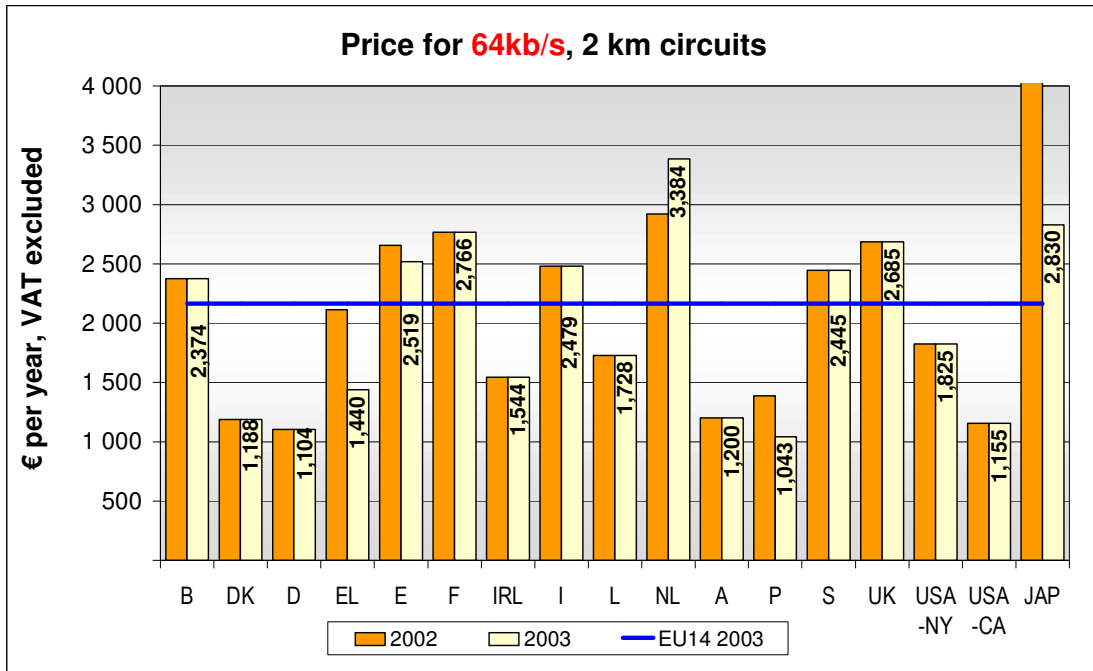
All prices are presented in EURO per month, excluding VAT.

The validity dates of the tariffs used in this section are:

Austria	01/09-01
Belgium	01/07-01
Denmark	01/01-03
Finland	
France	01/07-03
Germany	17/04-02
Greece	01/04-03
Ireland	18/06-03
Italy	01/11-00
Luxembourg	01/01-02
Netherlands	01/05-03
Portugal	01/03-03
Spain	01/01-03
Sweden	01/04-00
UK	01/12-02
USA, Verizon	13/05-02
USA, PacBell	08/08-02

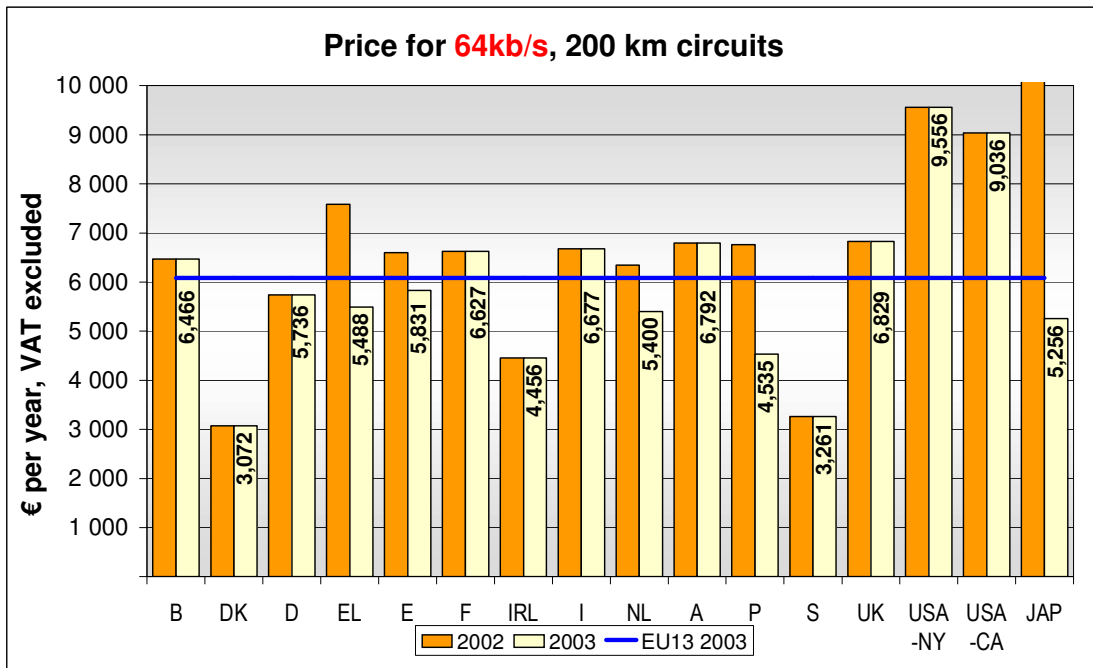
7.1.1. 64 Kbit/s

Figure 99



- Data for Finland not available.

Figure 100

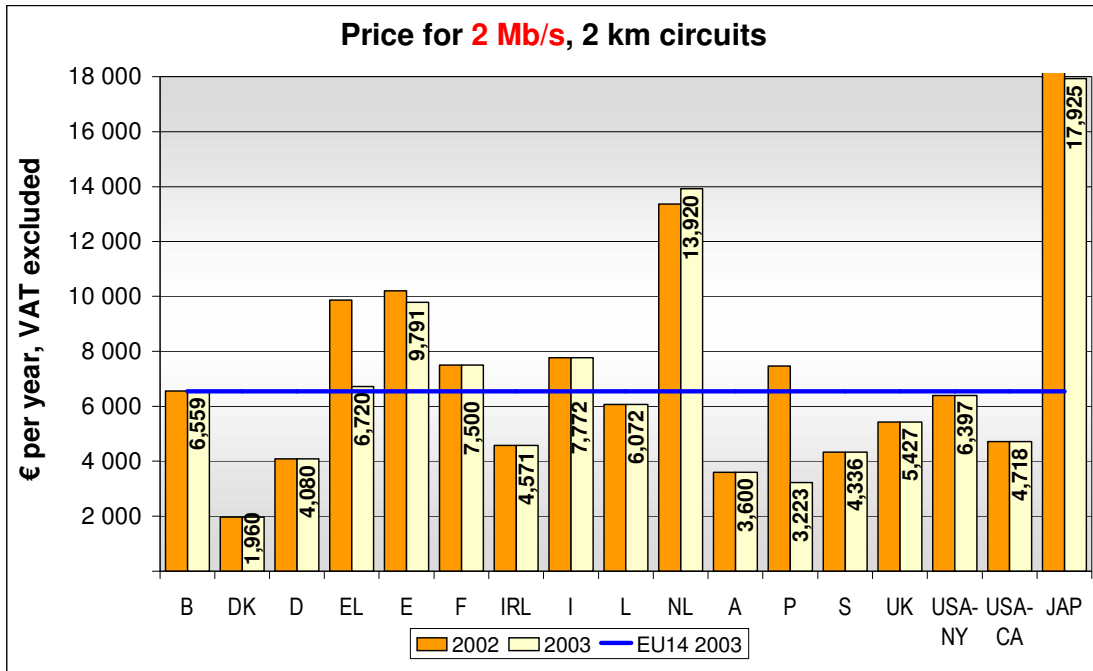


- Data for Finland not available.

- Distances at 200 Km not possible in Luxembourg.

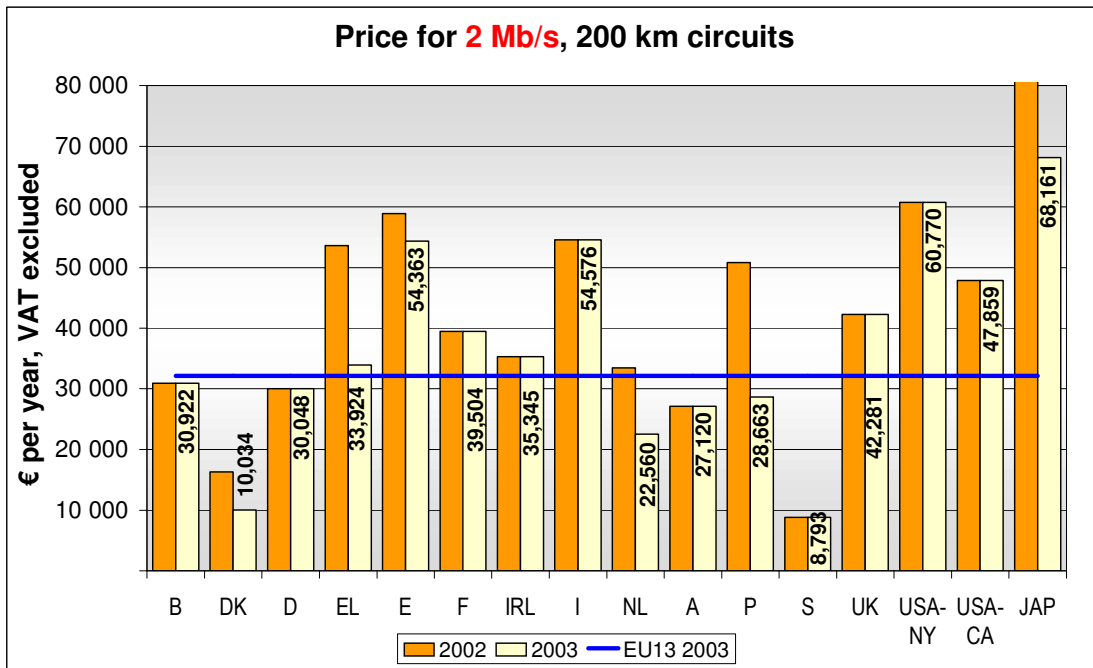
7.1.2. 2 Mbit/s

Figure 101



- Data for Finland not available.

Figure 102

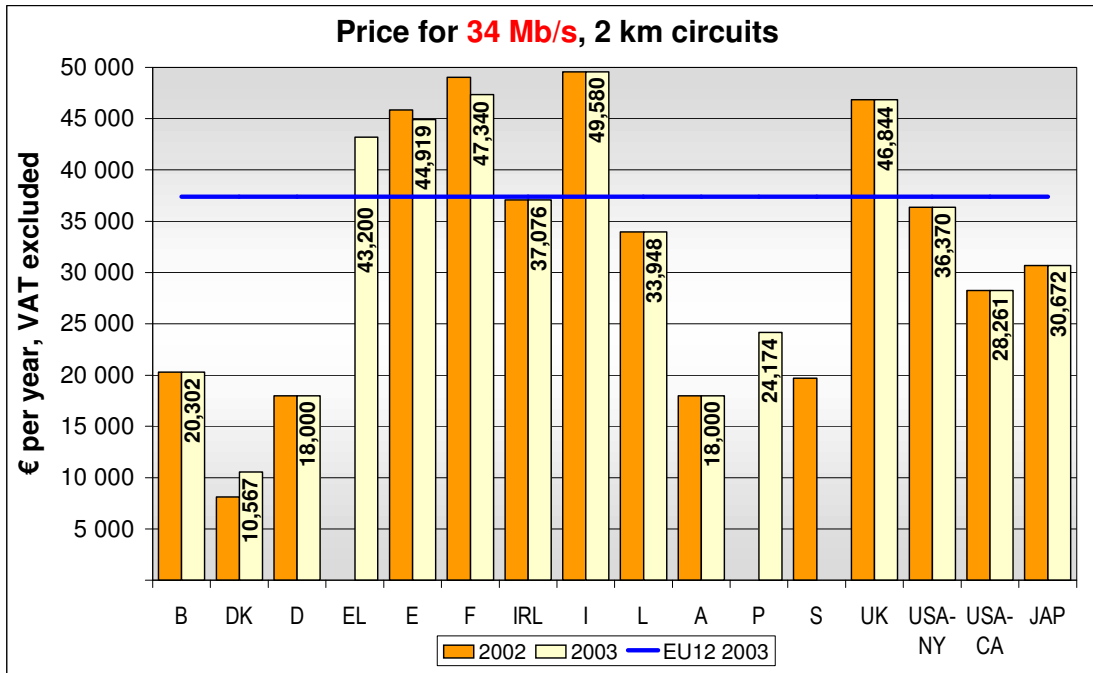


- Data for Finland not available.

- Distances at 200 Km not possible in Luxembourg.

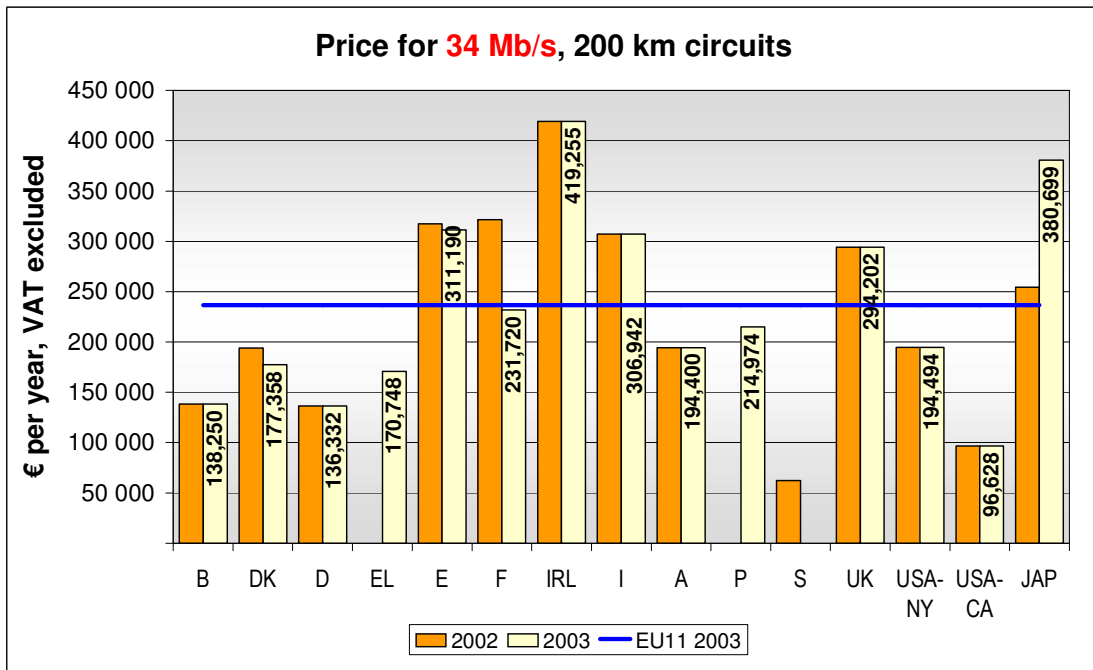
7.1.3. 34 Mbit/s

Figure 103



- Data for NL, S and FIN not available.

Figure 104

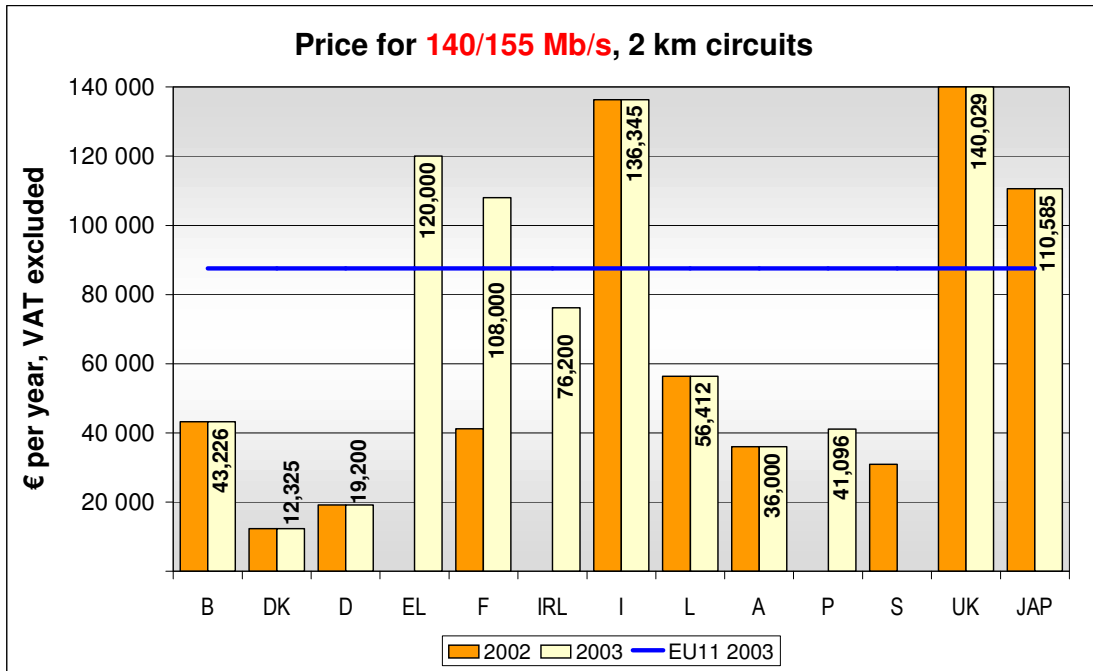


- Data for NL, S and FIN not available.

- Distances at 200 Km not possible in Luxembourg.

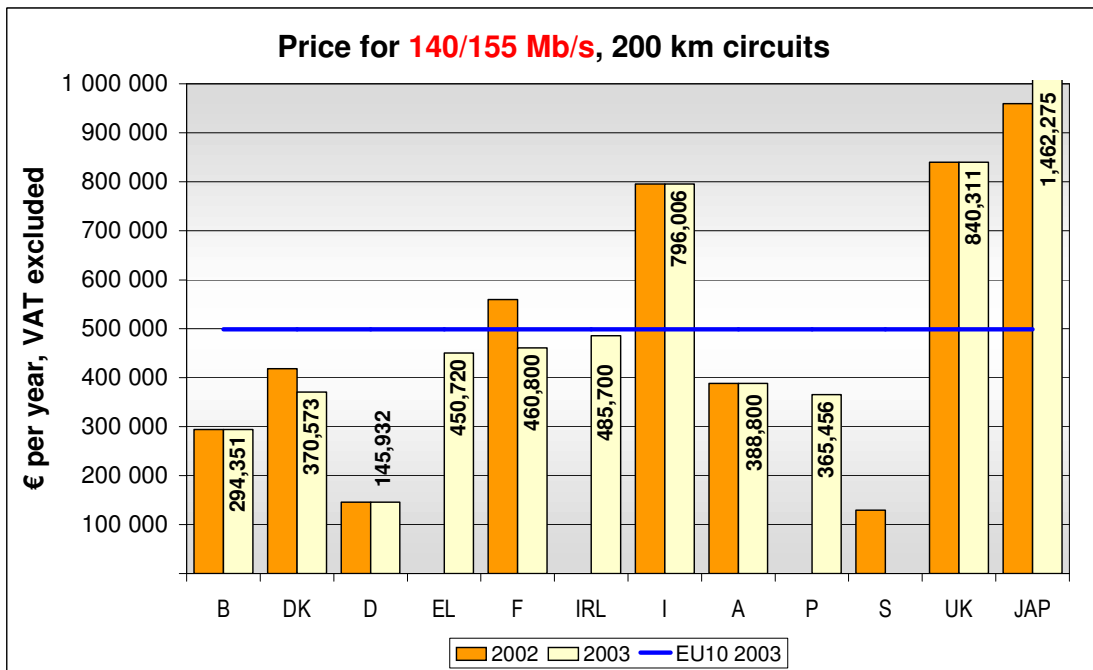
7.1.4. 155 Mbit/s

Figure 105



- Data for E, NL, FIN and S not available.

Figure 106



- Data for E, NL, FIN and S not available.  
 - Distances at 200 Km not possible in Luxembourg.

## 7.2.NATIONAL LEASED LINES PRICE TRENDS (1 AUGUST 1998 - 1 AUGUST 2003)

Figure 107

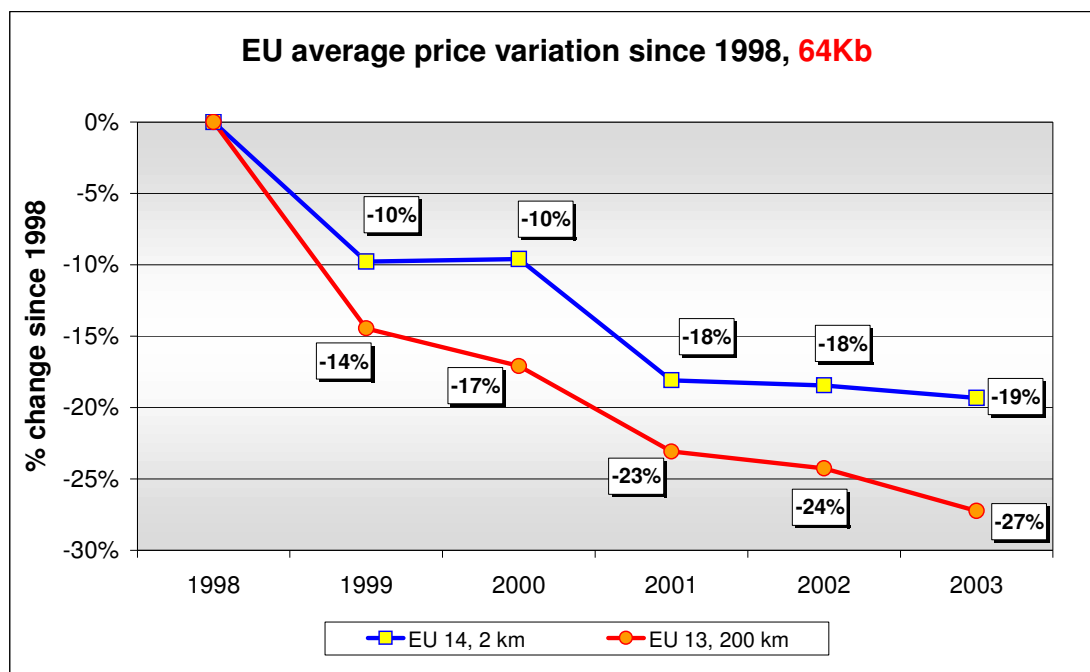
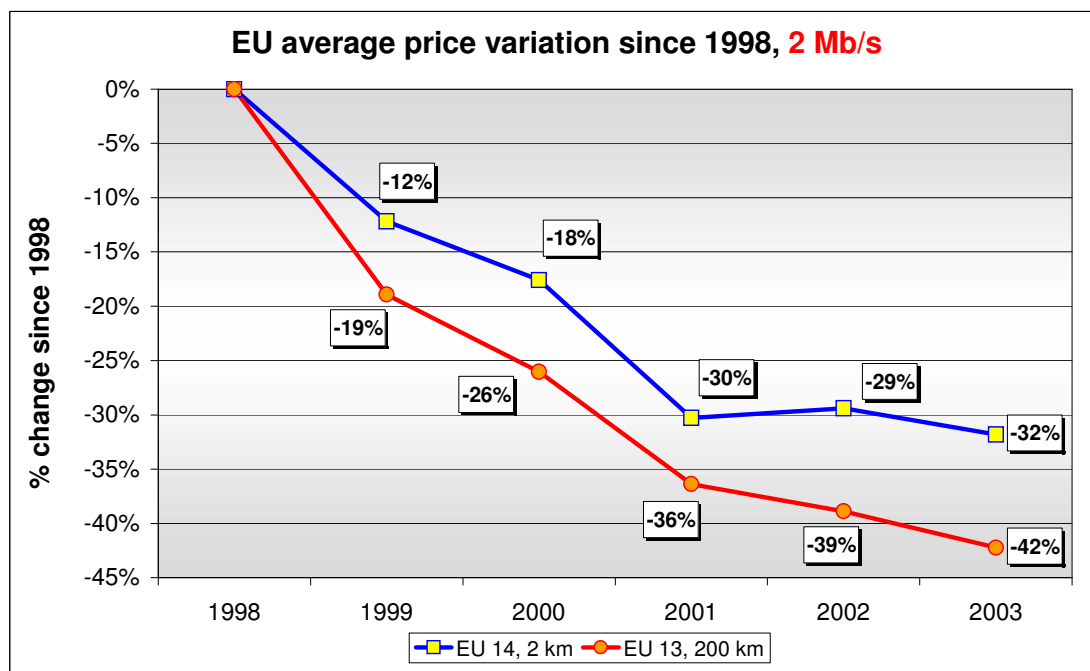


Figure 108



## 7.3.INTERNATIONAL LEASED LINES PRICES

This section examines the standard retail prices (annual rental) for international leased line services (half-circuits in each country) charged by the incumbent operators in each Member State. The corresponding half-circuit into the other country has not been taken into account, as it would severely distort the comparison.



An analysis of the price development over the period from August 1998 to August 2003 is also included.

Three destinations are covered: international half circuits to the nearest EU country (hereafter “near EU”), to the most distant EU country (“far EU”) and to the USA.

Three types of circuits are considered: digital 64 Kbit/s, 2 Mbit/s and 34 Mbit/s. Given that price information on 155 Mbit/s international lines is only available for a few Member States, the analysis of these circuits is omitted.

The data is presented with the following parameters:

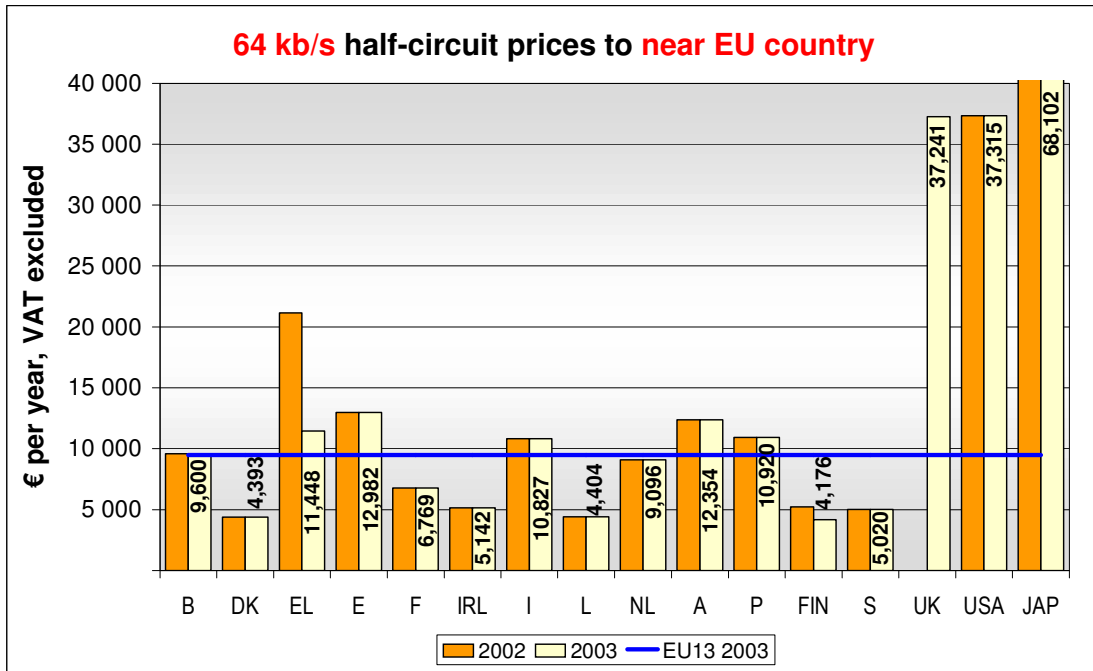
- All charges in Euro per month
- Excluding VAT
- Germany is not included in the analysis because Deutsche Telekom does not publish prices for international half circuits.
- The years from 1998 are covered
- Variable / 1 year contract (shortest term available).
- AT&T prices are used for USA

The validity of the tariffs is summarised below:

	<b>Valid date</b>	<b>Confirmed</b>
Belgium	01/04/2002	08/08/2003
Denmark	01/01/2003	08/08/2003
Germany	01/01/2000	-
Greece	31/03/2003	08/08/2003
Spain	01/01/2003	08/08/2003
France	01/10/2002	08/08/2003
Ireland	29/12/2001	08/08/2003
Italy	01/11/2001	08/08/2003
Luxembourg	01/01/2002	08/08/2003
Netherlands	01/01/2001	08/08/2003
Austria	01/07/1999	08/08/2003
Portugal	02/06/2002	08/08/2003
Finland	01/02/2003	01/08/2003
Sweden	01/01/1999	08/08/2003
UK	18/11/2002	08/08/2003
Japan	01/10/2000	08/08/2003

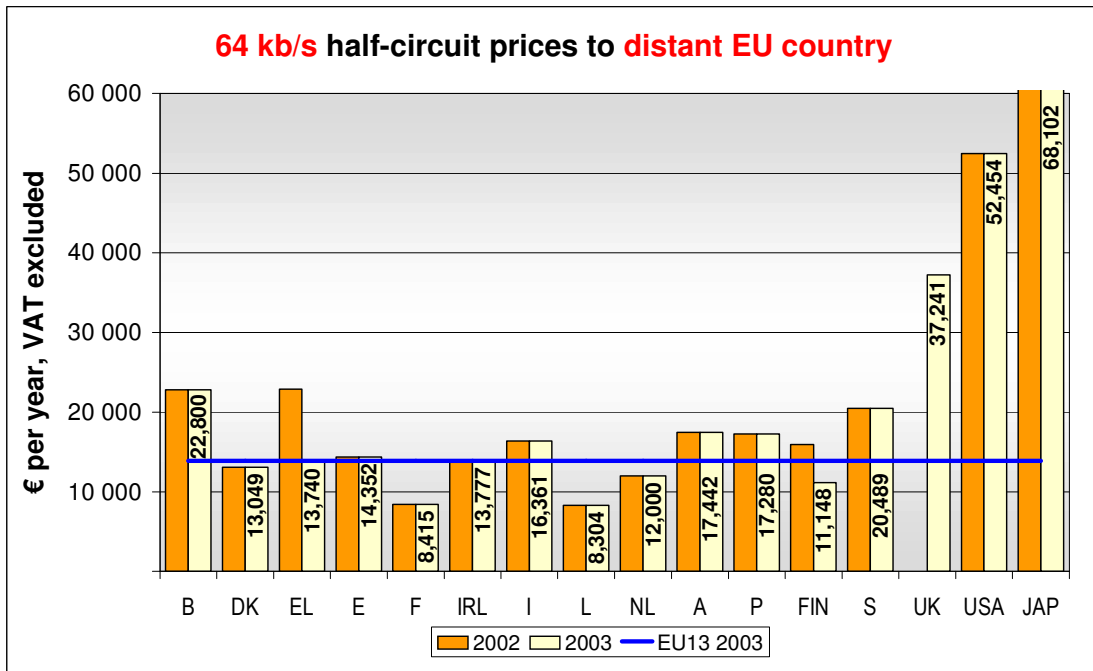
7.3.1. 64 Kbit/s

Figure 109



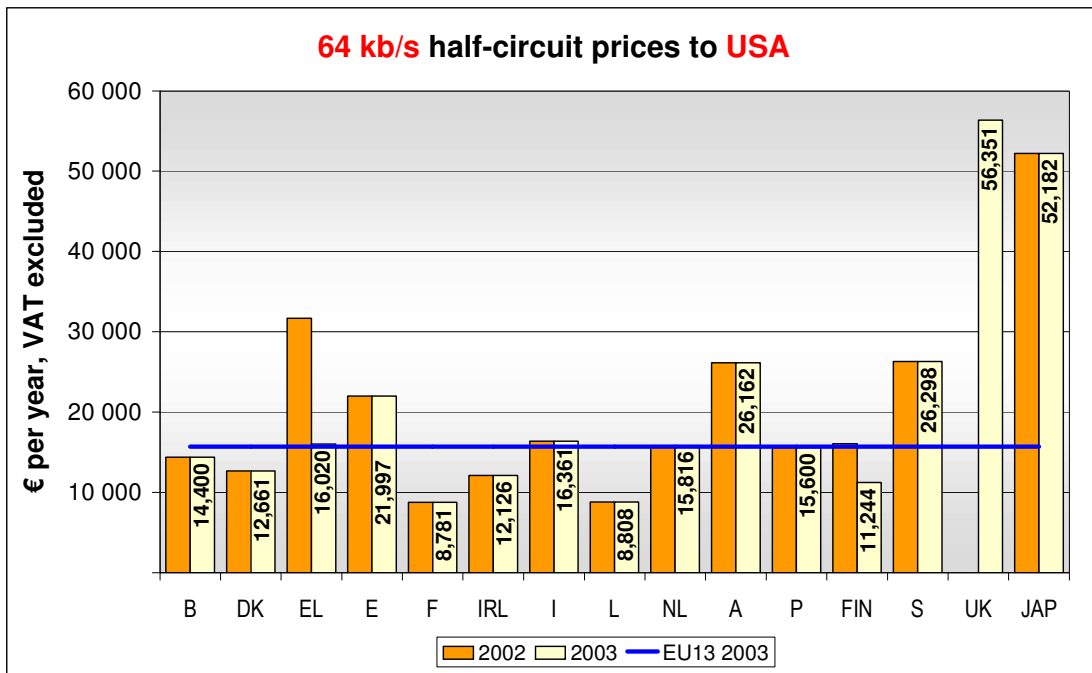
- Data for D not available.
- BT in the UK has stopped providing actual prices, and instead publishes the so-called “Baseline prices”, which are used as a basis for any discounts applied. This is the reason for the seemingly sharp increase in 2003. 2002 prices are therefore not displayed.

Figure 110



- Data for D not available.
- BT in the UK has stopped providing actual prices, and instead publishes the so-called “Baseline prices”, which are used as a basis for any discounts applied. This is the reason for the seemingly sharp increase in 2003. 2002 prices are therefore not displayed.

Figure 111

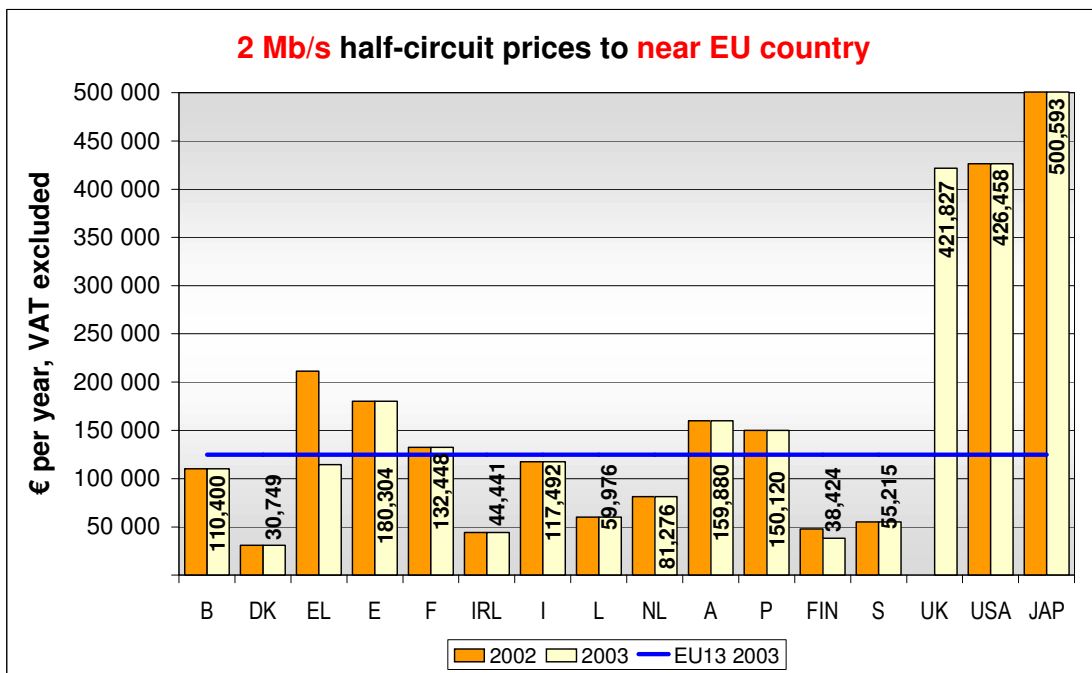


- Data for D not available.

- BT in the UK has stopped providing actual prices, and instead publishes the so-called “Baseline prices”, which are used as a basis for any discounts applied. This is the reason for the seemingly sharp increase in 2003. 2002 prices are therefore not displayed.

7.3.2. 2 Mbit/s

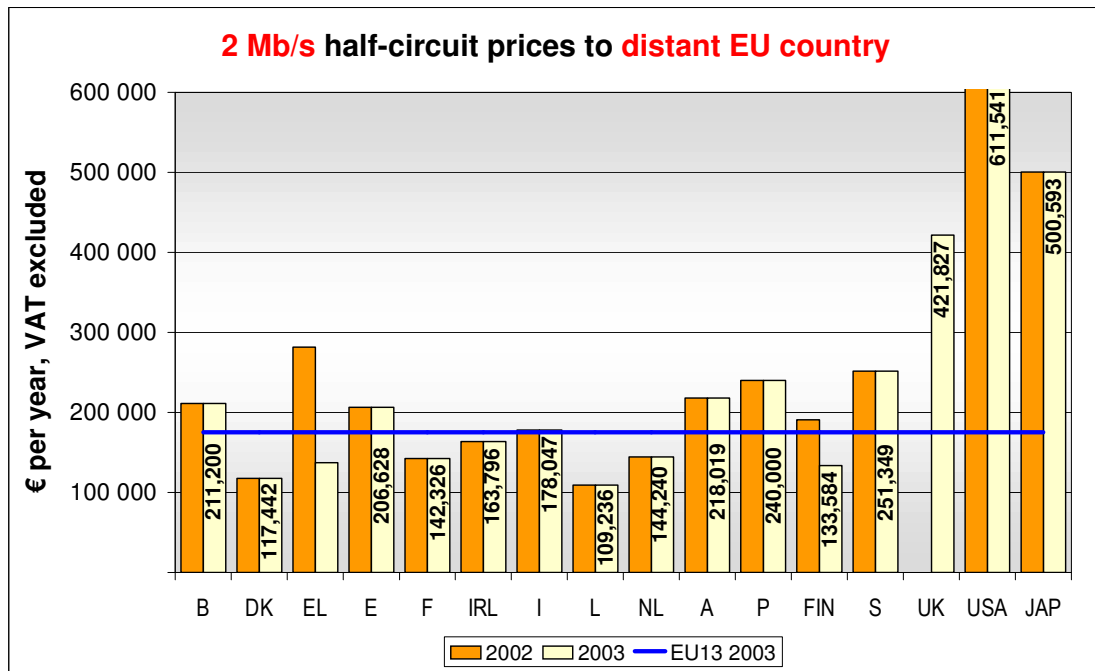
Figure 112



- Data for D not available.

- BT in the UK has stopped providing actual prices, and instead publishes the so-called “Baseline prices”, which are used as a basis for any discounts applied. This is the reason for the seemingly sharp increase in 2003. 2002 prices are therefore not displayed.

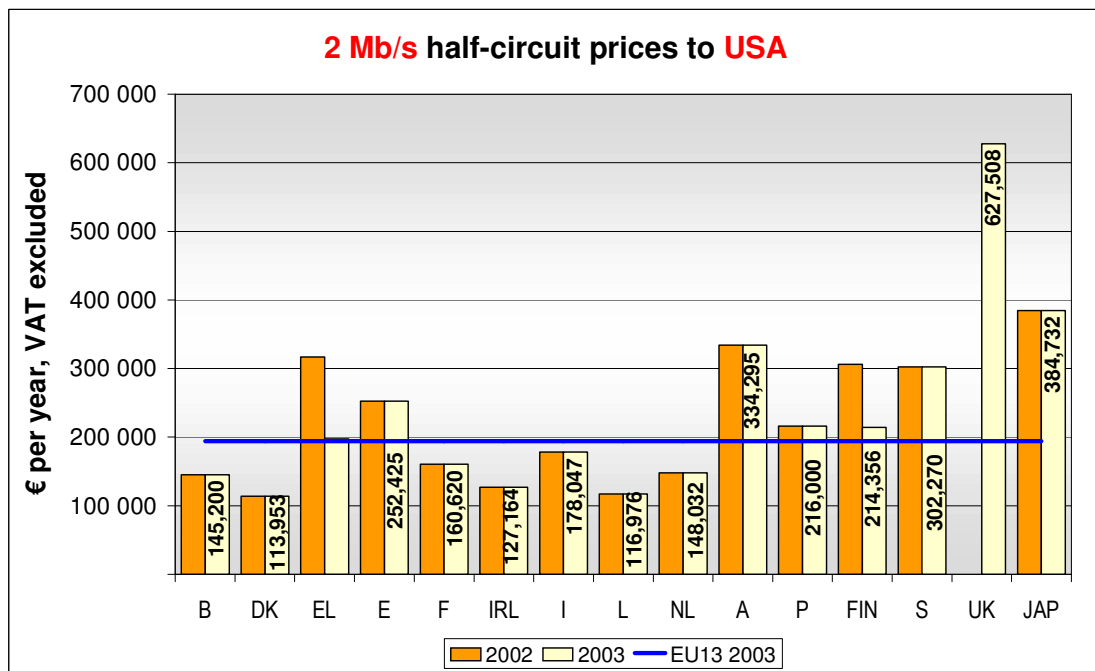
Figure 113



- Data for D not available.

- BT in the UK has stopped providing actual prices, and instead publishes the so-called “Baseline prices”, which are used as a basis for any discounts applied. This is the reason for the seemingly sharp increase in 2003. 2002 prices are therefore not displayed.

Figure 114

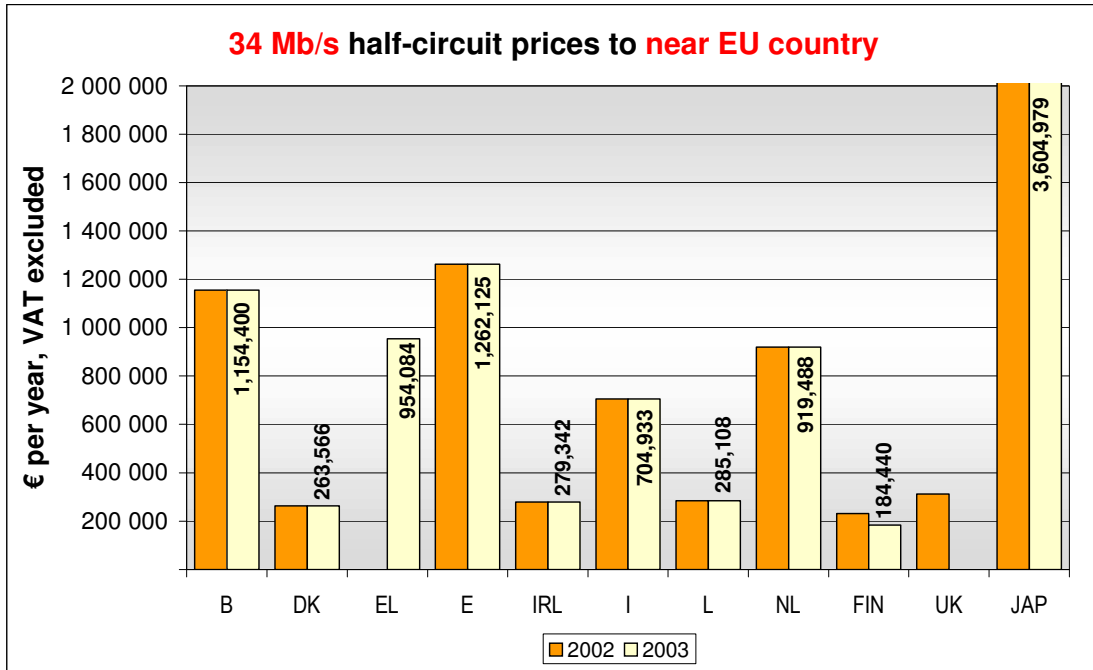


- Data for D not available.

- BT in the UK has stopped providing actual prices, and instead publishes the so-called “Baseline prices”, which are used as a basis for any discounts applied. This is the reason for the seemingly sharp increase in 2003. 2002 prices are therefore not displayed.

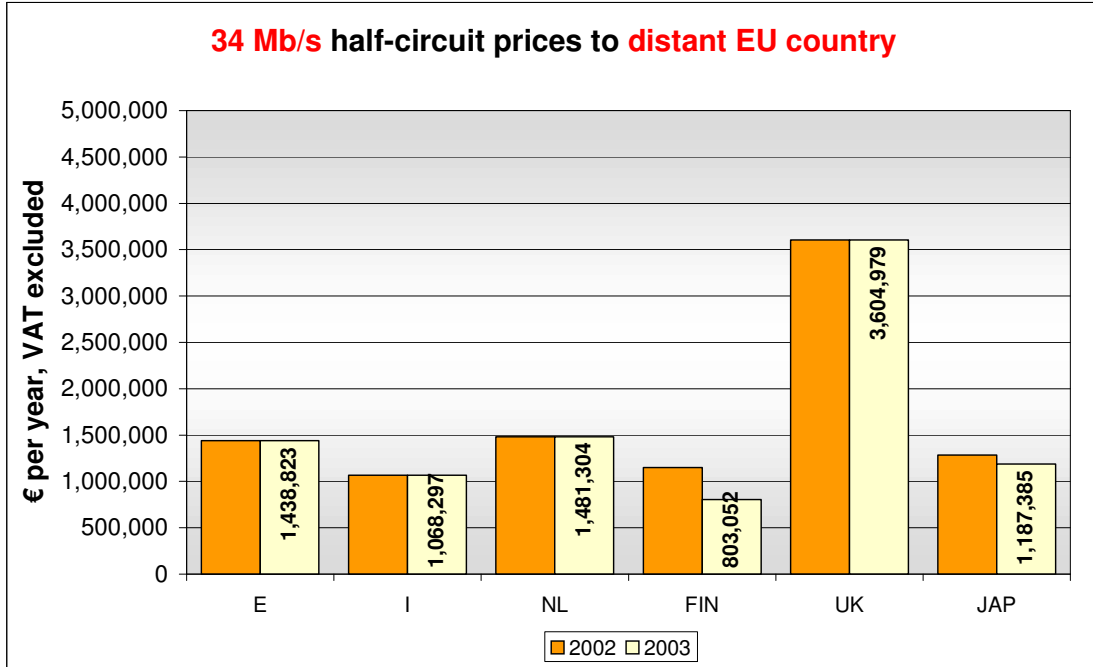
7.3.3. 34 Mbit/s

Figure 115



- Data for D, EL, F, A, P and S not available.

Figure 116



7.4.INTERNATIONAL LEASED LINES PRICE TRENDS (1 AUGUST 1998 - 1 AUGUST 2003)

Figure 117

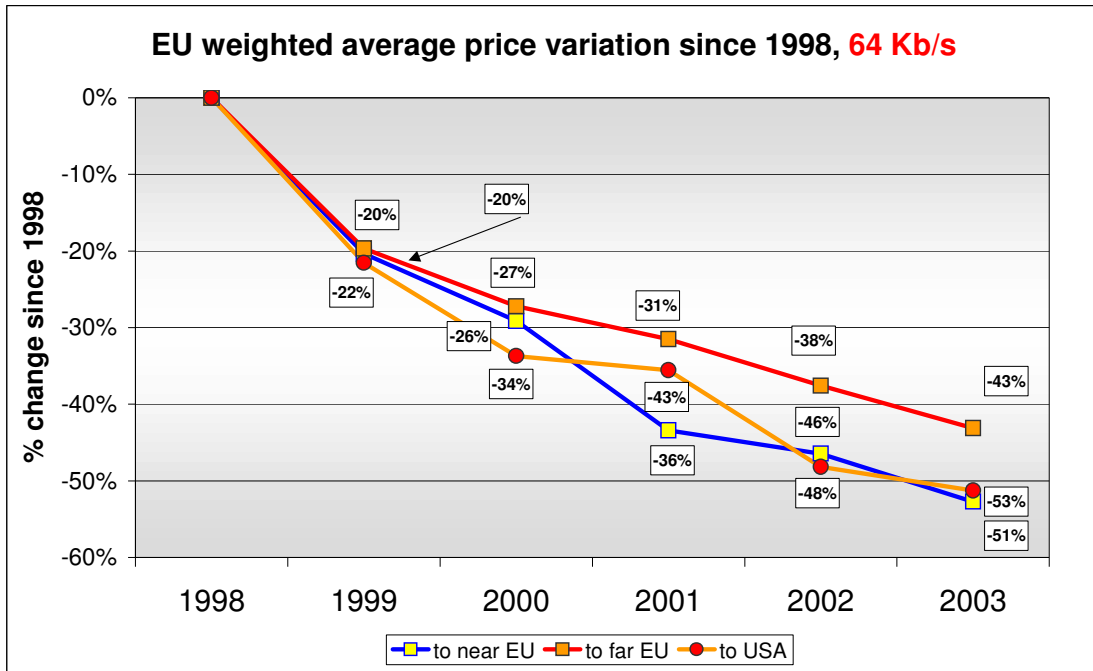
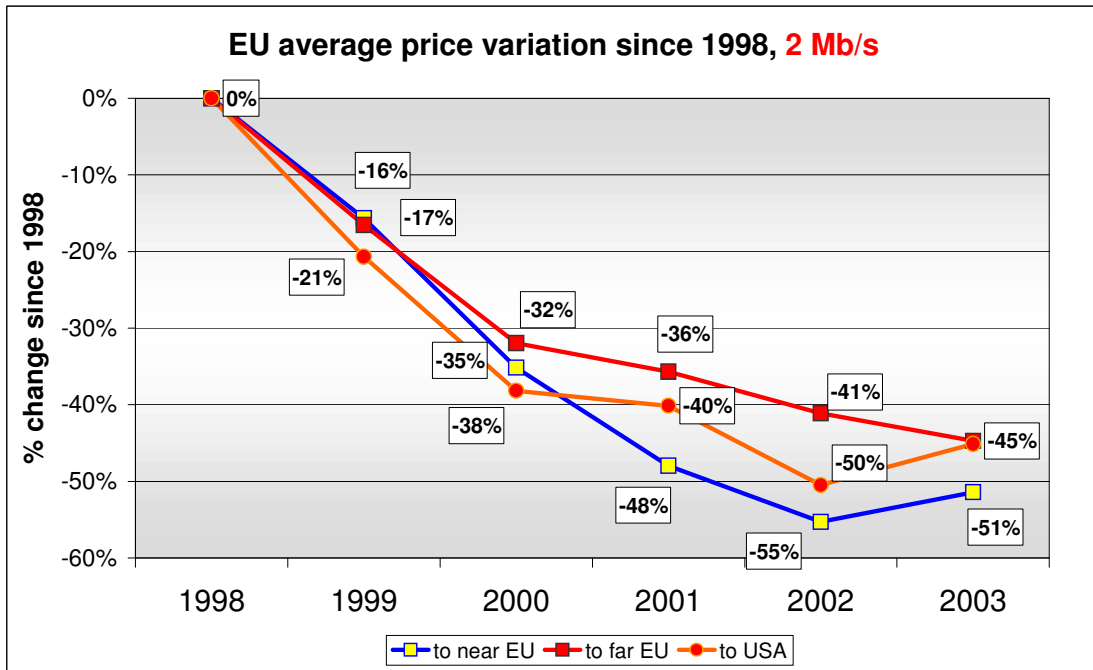


Figure 118





## 8 DIGITAL TELEVISION

This chapter provides information on the EU market for digital television. The following areas are covered:

### **Market penetration.**

### **Operators and interactive TV services.**

### **DTV equipment.**

As it was the case last year, the services of the European Commission sent a questionnaire to Member States requesting relevant information. The quality of the replies received varies, for instance, whereas three MS did not reply, some others provided detailed information. In addition, information from different MS is not always consistent, so that data provided in reply to one particular question may reflect different assumptions and timing. It was therefore difficult to present data received in reply to the questionnaire in a standard format that would facilitate comparison between MS.

As a result of these statistical shortcomings, the EC services decided to prepare certain of the tables and charts on the basis of data from another source.<sup>23</sup> Data received from MS, which in some cases diverge from those in the tables and charts, are reported in footnotes.

The following abbreviations are used in this chapter: digital television (DTV), European Commission (EC), free-to-air (FTA) or “free-to-view” (FTV)<sup>24</sup>, households (HH), integrated digital television receiver (iDTV), interactive television (iTV), Member States (MS), set-top-box (STB), digital subscriber line (DSL).

### **8.1. EU DIGITAL TELEVISION MARKET PENETRATION**

#### **General considerations**

No consistent information was obtained as to the market share of premium digital pay TV, received against payment of a subscription fee, and FTA DTV. Consequently, market penetration data presented here cover both pay and FTV services and comments are provided where additional information is available. In general, it can be assumed that pay-TV operators still account for most of EU DTV penetration.<sup>25</sup> This being said, some MS provided data on the share between pay and FTV DTV for the different delivery networks.<sup>26</sup>

<sup>23</sup> Namely data from a report by independent consultant *Strategy Analytics*: “*Digital TV Devices: European Market Forecast, July 2003*”. Whereas 2003 figures provided by MS reflect the market status when those data were collected, 2003 figures by *Strategy Analytics* are an estimation for the whole year. In addition, information from *Strategy Analytics* does not cover Luxembourg, where data provided by the Member State have been used.

<sup>24</sup> Whereas the two concepts FTA/FTV are used here interchangeably, that is not always the case in other contexts, where they are understood as follows: free-to-view services are normally on satellite and encrypted for rights purposes, but there is no subscription payment, only a once-off payment for the card. Free-to-air services are normally terrestrial, non-encrypted, non-pay.

<sup>25</sup> It was indicated in the 7<sup>th</sup> *implementation report* that consultancy firm ‘IDATE’ estimated that in 2000 only 5% of DTV households received exclusively FTA services. However, in many cases, DTV subscribers receive certain FTA channels in addition to pay channels

<sup>26</sup> Figures are given in millions of HH.



In addition, some MS provided data on the number of households within TV networks coverage.<sup>27</sup>

Unless otherwise specified, percentages of DTV HH are expressed as a percentage of TV HH.

Market penetration data are broken down by TV delivery mechanism (cable, satellite, terrestrial).<sup>28</sup> There should be no overlaps in the market data if the statistics provided correspond to one single TV set (the main TV set in the home). However, this approach may not always have been respected so that there may be some overlapping corresponding to those HH which receive services from different TV networks on secondary TV sets.<sup>29</sup>

---

**Germany:** cable pay-DTV (1.5), satellite pay-DTV (1.1), satellite FTV DTV (1.0), terrestrial pay-DTV (0), terrestrial FTV DTV (0.12)

**Italy:** cable pay-DTV (>0.1), satellite pay-DTV (3.2), satellite FTV DTV (0),

**Netherlands:** cable pay-DTV (0.1), cable FTV DTV (0), satellite pay-DTV (0.4), satellite FTV DTV (0.07).

**Spain:** satellite pay-DTV (2.2).

**Sweden:** cable pay-DTV (0.16), satellite pay-DTV (0.475), terrestrial pay-DTV (0.17).

**UK:** cable pay-DTV (2.1), satellite pay-DTV (6.4), satellite FTV DTV (0.6), terrestrial FTV DTV (1.6), DSL pay-DTV (0.012)

**France:** cable pay-DTV (0.82), satellite pay-DTV (3.2).

**Greece:** satellite pay-DTV (0.2), satellite FTV DTV (0.5)

<sup>27</sup> Figures are given in millions of HH.

**Denmark:** satellite DTV (2.3), terrestrial DTV (0.23).

**Finland:** cable DTV (0.9), satellite DTV (2.32), terrestrial DTV (1.7).

**France:** cable DTV (7.5), satellite DTV (25.2).

**Germany:** cable DTV (20.6), satellite DTV (37.0), DSL (4.0).

**Greece:** satellite DTV (3.8).

**Italy:** cable DTV (1.3), satellite DTV (22.2), DSL (1.2).

**Netherlands:** cable DTV (5.73).

**Portugal:** satellite DTV (5.02).

**Spain:** cable DTV (3.83), satellite DTV (7.46), terrestrial DTV (1.79).

**Sweden:** cable DTV (1.9), satellite DTV (4.0), terrestrial DTV (3.6), DSL (1.1).

**UK:** cable DTV (12.4), satellite DTV (24.0), terrestrial DTV (18.6).

<sup>28</sup> Although satellite, cable and terrestrial are the main platforms for the delivery of digital television, new technologies are evolving, such as digital television over ADSL, which has already been introduced in some Member States. However, the penetration rates for DSL TV are still very low and do not exceed 1% of total EU TV households.

<sup>29</sup> It was not possible to obtain reliable data on secondary TV reception in the EU. However some MS indicated the percentage of HH with more than one TV set. For instance in France there are 59.4% of HH with only one TV set, 30.3% HH with two TV sets, 7.9% HH with three TV sets and 2.4% with four or more TV sets.

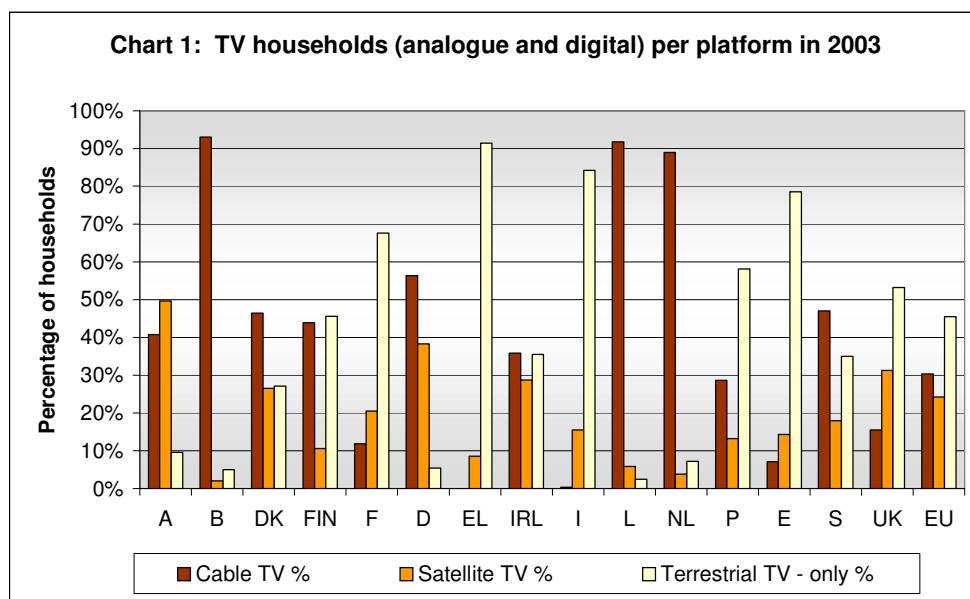
## 1. Market data

<b>Table 1: TV households (analogue and digital) in 2003</b> (in millions and in percentage of national households)							
	Total TV HH	Cable TV		Satellite TV		Terrestrial TV - only	
		TV HH	%	TV HH	%	TV HH	%
Austria	3,2	1,32	40,8%	1,6	49,6%	0,31	9,6%
Belgium	4,2	3,9	93,0%	0,1	2,0%	0,21	5,0%
Denmark	2,3	1,1	46,4%	0,6	26,5%	0,61	27,1%
Finland	2,3	1,0	43,9%	0,24	10,5%	1,04	45,6%
France	24,4	2,9	11,9%	5,0	20,5%	16,51	67,6%
Germany	36,6	20,6	56,3%	14,0	38,3%	1,96	5,4%
Greece	3,0	0,00	0,0%	0,25	8,6%	2,72	91,4%
Ireland	1,31	0,47	35,8%	0,38	28,7%	0,47	35,5%
Italy	20,9	0,06	0,3%	3,2	15,5%	17,59	84,2%
Luxembourg	0,2	0,16	91,7%	0,01	5,8%	0,00	2,4%
Netherlands	7,1	6,3	89,0%	0,27	3,8%	0,51	7,2%
Portugal	3,1	0,90	28,7%	0,42	13,2%	1,82	58,1%
Spain	12,6	0,9	7,1%	1,8	14,3%	9,89	78,5%
Sweden	4,5	2,10	47,1%	0,8	17,9%	1,56	35,0%
UK	24,4	3,8	15,6%	7,6	31,3%	12,98	53,2%
<b>TOTAL EU</b>	<b>149,94</b>	<b>45,4</b>	<b>30,3%</b>	<b>36,3</b>	<b>24,2%</b>	<b>68,2</b>	<b>45,5%</b>

Figures in this table come from *Strategy Analytics: "Digital TV Devices: European Market Forecast, July 2003"*, except for Luxembourg, where figures provided by national authorities for 2002 were used.

No reliable data were available for HH with only terrestrial TV reception. This has been estimated as follows: total TV HH minus satellite and cable HH.

**Figure 119**



<b>Table 2: Digital TV households in 2003</b>									
(in millions and in percentage of national households)									
	Total TV HH	Total Digital TV HH		Cable DTV		Satellite DTV		Terrestrial DTV	
		TV HH	%	TV HH	%	TV HH	%	TV HH	%
Austria	3,2	0,55	17,1%	0,05	1,6%	0,50	15,5%	0,00	0,0%
Belgium	4,2	0,18	4,3%	0,16	3,8%	0,02	0,5%	0,00	0,0%
Denmark	2,3	0,35	15,5%	0,08	3,5%	0,27	11,9%	0,00	0,0%
Finland	2,3	0,21	9,2%	0,02	0,9%	0,10	4,4%	0,09	3,9%
France	24,4	4,62	18,9%	0,92	3,8%	3,70	15,2%	0,00	0,0%
Germany	36,6	5,16	14,1%	1,63	4,5%	3,15	8,6%	0,38	1,0%
Greece	3,0	0,25	8,4%	0,00	0,0%	0,25	8,4%	0,00	0,0%
Ireland	1,3	0,46	35,1%	0,10	7,6%	0,36	27,4%	0,00	0,0%
Italy	20,9	2,85	13,6%	0,00	0,0%	2,85	13,6%	0,00	0,0%
Luxembourg	0,2	0,01	5,3%	0,00	1,0%	0,01	4,2%	0,00	0,0%
Netherlands	7,1	0,69	9,7%	0,11	1,6%	0,55	7,8%	0,03	0,4%
Portugal	3,1	0,51	16,2%	0,02	0,6%	0,49	15,6%	0,00	0,0%
Spain	12,6	2,38	18,9%	0,15	1,2%	2,06	16,4%	0,17	1,3%
Sweden	4,5	1,25	28,0%	0,17	3,8%	0,88	19,7%	0,20	4,5%
UK	24,4	13,14	53,8%	2,29	9,4%	8,04	32,9%	2,81	11,5%
<b>TOTAL EU</b>	<b>149,94</b>	<b>32,6</b>	<b>21,7%</b>	<b>5,7</b>	<b>3,8%</b>	<b>23,2</b>	<b>15,5%</b>	<b>3,7</b>	<b>2,5%</b>

Figures in this table come from *Strategy Analytics: "Digital TV Devices: European Market Forecast, July 2003"*, except for Luxembourg, where figures provided by national authorities for 2002 were used. Figures provided by other national authorities are indicated in footnote.<sup>30</sup>

<sup>30</sup> Figures are given in million HH.

**Finland:** satellite DTV (0.045), cable and terrestrial DTV (0.097).

**France:** cable DTV (0.82), satellite DTV (3.2).

**Germany:** cable DTV (1.62), satellite DTV (2.1), terrestrial DTV (0.12).

**Greece:** satellite DTV (0.7).

**Italy:** cable DTV (>0.1), satellite DTV (3.2).

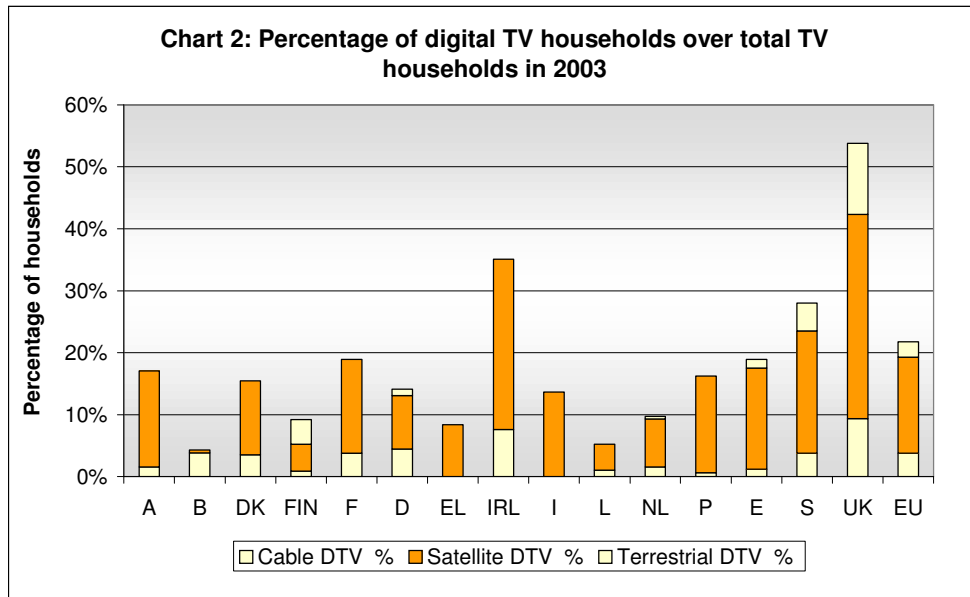
**Netherlands:** cable DTV (0.107), satellite DTV (0.47).

**Spain:** satellite DTV (2.2).

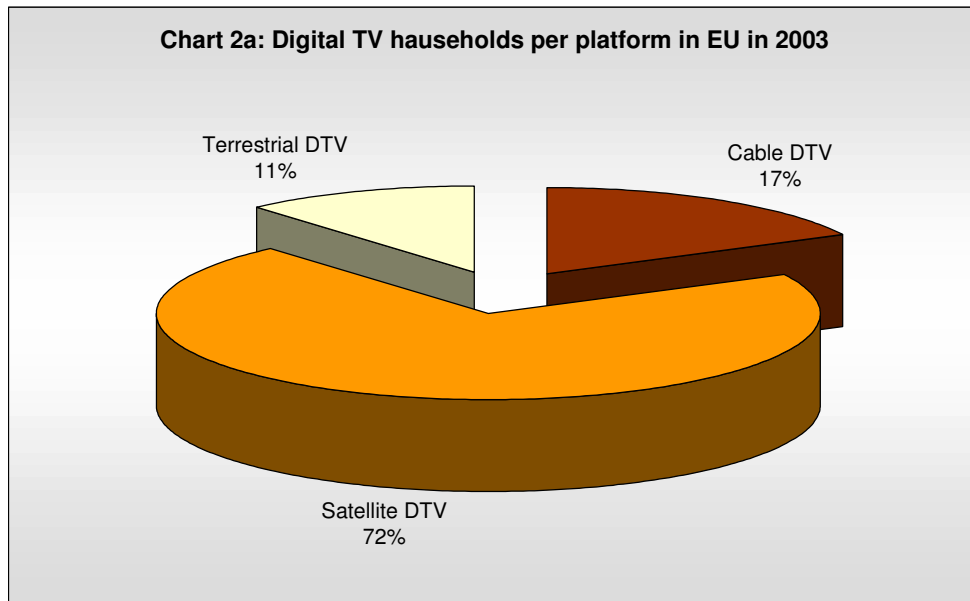
**Sweden:** cable DTV (0.16), satellite DTV (0.475), terrestrial DTV (0.17).

**UK:** cable DTV (2.1), satellite DTV (7.2), terrestrial DTV (1.6), DSL TV (0.012).

**Figure 120**

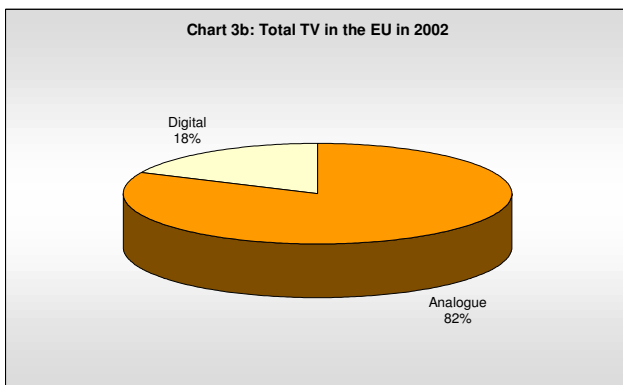


**Figure 121**

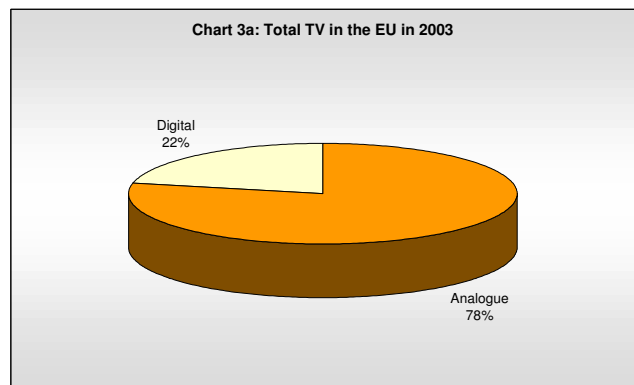


Charts 120 to 127: Percentage of EU digital TV households over total EU TV households in 2002 and 2003 for total TV, cable TV, satellite TV and terrestrial TV

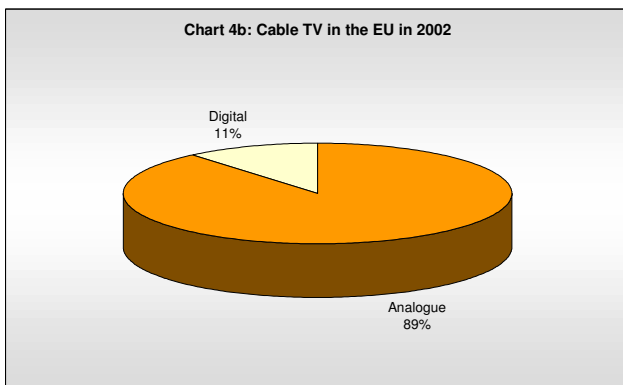
**Figure 122**



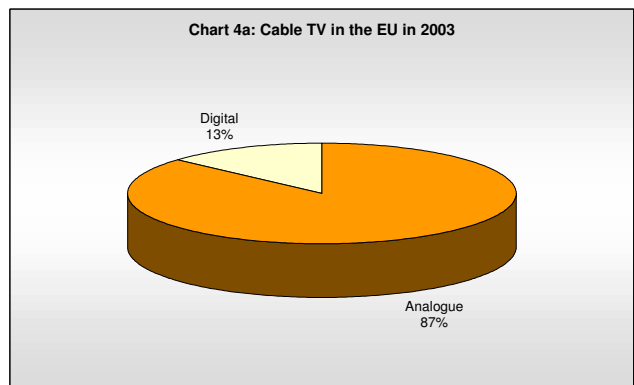
**Figure 124**



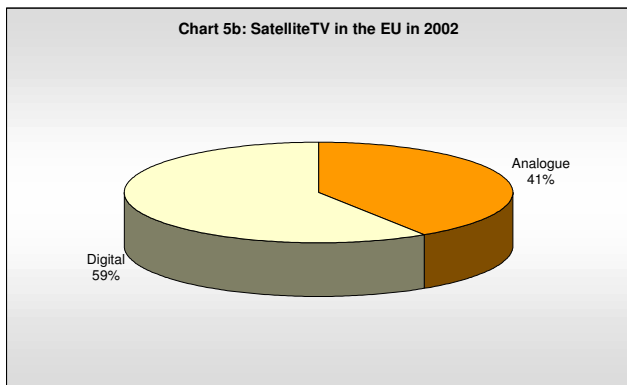
**Figure 123**



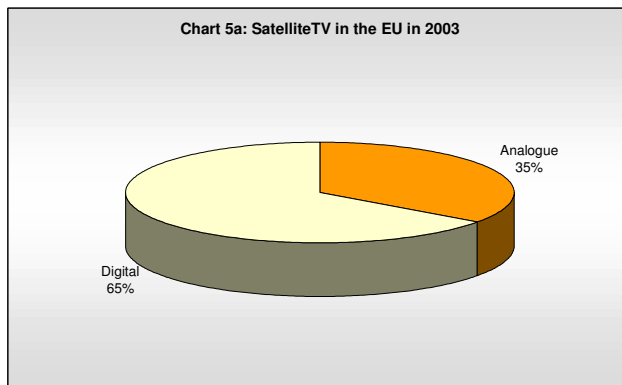
**Figure 125**



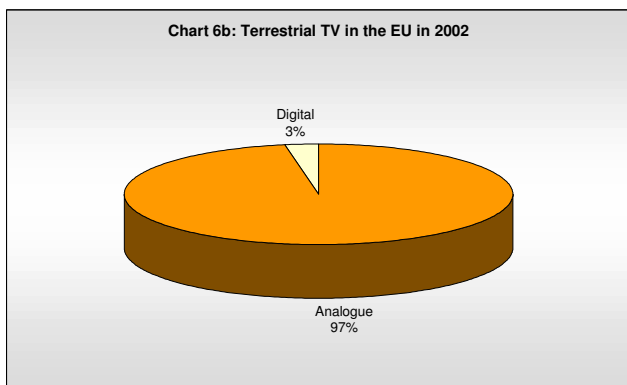
**Figure 126**



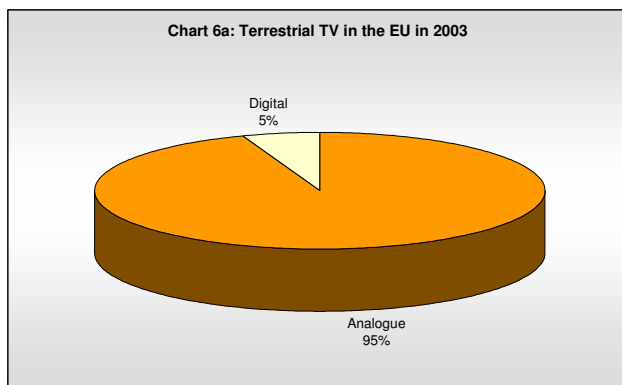
**Figure 128**



**Figure 127**



**Figure 129**



2003 charts were calculated with data from tables 1 and 2. 2003 charts were calculated using data from *Strategy Analytics: "Digital TV Devices: European Market Forecast, July 2003"*

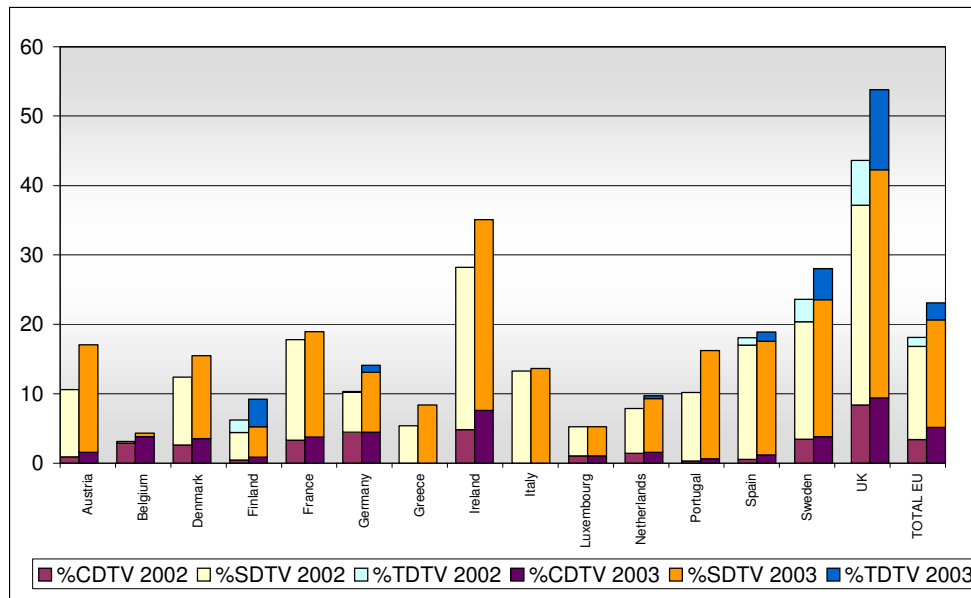
(in millions and in percentage of national HH)																		
	Total HH		Total Digital TV HH				Cable DTV				Satellite DTV				Terrestrial DTV			
			TV HH		%		TV HH		%		TV HH		%		TV HH		%	
	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003
Austria	3,2	3,2	0,34	0,55	10,628%	17,060%	0,03	0,05	0,938%	1,551%	0,31	0,50	9,691%	15,509%	0,00	0,00	0,000%	0,000%
Belgium	4,2	4,2	0,13	0,18	3,118%	4,317%	0,12	0,16	2,878%	3,837%	0,01	0,02	0,240%	0,480%	0,00	0,00	0,000%	0,000%
Denmark	2,3	2,3	0,28	0,35	12,385%	15,468%	0,06	0,08	2,654%	3,536%	0,22	0,27	9,731%	11,933%	0,00	0,00	0,000%	0,000%
Finland	2,3	2,3	0,14	0,21	6,208%	9,216%	0,01	0,02	0,443%	0,878%	0,09	0,10	3,991%	4,389%	0,04	0,09	1,774%	3,950%
France	24,1	24,4	4,29	4,62	17,777%	18,928%	0,80	0,92	3,315%	3,769%	3,49	3,70	14,462%	15,159%	0,00	0,00	0,000%	0,000%
Germany	36,4	36,6	3,75	5,16	10,311%	14,114%	1,62	1,63	4,455%	4,458%	2,10	3,15	5,774%	8,616%	0,03	0,38	0,082%	1,039%
Greece	3,0	3,0	0,16	0,25	5,387%	8,418%	0,00	0,00	0,000%	0,000%	0,16	0,25	5,387%	8,418%	0,00	0,00	0,000%	0,000%
Ireland	1,2	1,3	0,35	0,46	28,226%	35,068%	0,06	0,10	4,839%	7,623%	0,29	0,36	23,387%	27,444%	0,00	0,00	0,000%	0,000%
Italy	20,8	20,9	2,76	2,85	13,276%	13,644%	0,00	0,00	0,000%	0,000%	2,76	2,85	13,276%	13,644%	0,00	0,00	0,000%	0,000%
Luxembourg	0,2	0,2	0,01	0,01	5,256%	5,256%	0,00	0,00	1,048%	1,048%	0,01	0,01	4,208%	4,208%	0,00	0,00	0,000%	0,000%
Netherlands	7,0	7,1	0,55	0,69	7,871%	9,748%	0,10	0,11	1,431%	1,554%	0,45	0,55	6,440%	7,770%	0,00	0,03	0,000%	0,424%
Portugal	3,1	3,1	0,32	0,51	10,191%	16,242%	0,01	0,02	0,318%	0,637%	0,31	0,49	9,873%	15,605%	0,00	0,00	0,000%	0,000%
Spain	12,5	12,6	2,26	2,38	18,074%	18,894%	0,07	0,15	0,560%	1,191%	2,06	2,06	16,475%	16,353%	0,13	0,17	1,040%	1,350%
Sweden	4,4	4,5	1,03	1,25	23,597%	28,014%	0,15	0,17	3,436%	3,810%	0,74	0,88	16,953%	19,722%	0,14	0,20	3,207%	4,482%
UK	24,4	24,4	10,65	13,14	43,612%	53,808%	2,05	2,29	8,395%	9,378%	7,03	8,04	28,788%	32,924%	1,57	2,81	6,429%	11,507%
<b>TOTAL EU</b>	<b>148,97</b>	<b>149,94</b>	<b>27,02</b>	<b>32,61</b>	<b>18,137%</b>	<b>21,748%</b>	<b>5,08</b>	<b>5,70</b>	<b>3,411%</b>	<b>3,803%</b>	<b>20,0</b>	<b>23,23</b>	<b>13,444%</b>	<b>15,491%</b>	<b>1,91</b>	<b>3,68</b>	<b>1,282%</b>	<b>2,454%</b>

Digital television

Figures in this table come from *Strategy Analytics: “Digital TV Devices: European Market Forecast, July 2003”*, except for Luxembourg, where figures provided by national authorities for 2002 were used. In some cases data from both sources differ. However, it has to be remembered that the period covered by both sets of data is different.<sup>31</sup>

**Chart : Evolution in the percentage of digital TV households from 2002 to 2003**

**Figure 130**



<sup>31</sup> Whereas *Strategy Analytics* made estimations for the whole year 2003, MS provided the most up-to-date data available when replying to the questionnaire, i.e. in some cases some months before august 2003. It is therefore normal that the former are bigger than the latter. In addition, as it was mentioned in the last year’s report, it seems that data in the 8<sup>th</sup> Implementation report did not take into account 2002 bankruptcies of terrestrial digital pay-TV operators in the UK and Spain. As a result, the numbers of DTV households have been over-estimated. For that reason the data for 2002 have also been taken from *Strategy Analytics* and not the last year’s report.



**8.2. OPERATORS AND INTERACTIVE TV SERVICES.****TABLE 2: DIGITAL TV OPERATORS AND INTERACTIVE SERVICES**

	DTV operators	Transmission starting date	Network (cable, satellite, terrestrial, DSL)	business model (pay, free-to-air, hybrid)	conditional access technology (CAS)	application programme interface technology (API)	interactive TV services
<b>Denmark</b>							
<b>Finland</b>	Yleisradio Oy	8/2001	Terrestrial	Free-to-air	Conax	MHP	EPG, supertext tv (news, weather, etc.) traffic information, games
	MTV Oy	8/2001	Terrestrial	Free-to-air	Conax	MHP	EPG, MTV3 supertext tv, lottery, banking services, special services related to individual programmes
	Oy Ruutunelonen Ab	8/2001	Terrestrial	Free-to-air	Conax	MHP	EPG, supertext tv
	Sub TV Oy	8/2001	Terrestrial	Free-to-air	Conax	MHP	EPG, MTV3 supertext tv, lottery, banking services, special services related to individual programmes
	Suomen Urheilutelevisio Oy	8/2001	Terrestrial	Free-to-air	Conax	MHP	EPG, MTV3 Textchannel, lottery, banking services
	Canal+ Finland Oy	4/2004	Terrestrial	Pay	Conax	MHP	
	Janton Oyj	4/2004	Terrestrial	Free-to-air	Conax	MHP	
	Turun Kaapelitelevisio Oy	4/2004	Terrestrial	Free-to-air	Conax	MHP	
	Vizor Oy	4/2004	Terrestrial	Free-to-air	Conax	MHP	

## Digital television

	Digita Oy	4/2004	Terrestrial	Free-to-air	Conax	MHP	
	Cable operators <sup>32</sup>	-	Cable	-	-	-	-
	Satellite operators <sup>33</sup>	-	-	-	-	-	-
<b>France</b>	TPS	1996	Satellite	Pay	Viaccess	Open TV	-
	Canal satellite	1996	Satellite	Pay	Mediaguard	MediaHighway	games
	AB Sat	1995	Satellite	Pay	Viaccess	-	
	France Telecom Cable	1997	Cable	Pay	Viaccess	Open TV	
	NC Numericable	1996	Cable	Pay	Mediaguard	MediaHighway	
	Noos	-	Cable	Pay	Viaccess	Open TV	
	UPC France	-	Cable	Pay	Viaccess		
	Valvision	1991	Cable	Pay	Viaccess		
	Vialis	1998	Cable	Pay			
	EST-videocommunication	1999	Cable	Pay	Viaccess		
	Terrestrial operators <sup>34</sup>	2005	Terrestrial	Pay/free-to-air			
<b>Germany</b>	Satellite operators <sup>35</sup>	Since 1997	Satellite	Hybrid	None/Beta crypt/ Nagravision	None/ MHP/ OpenTV	EPG, Online Channel; News Tickers; content related additional information
	Cable operators <sup>36</sup>	Since 1994	Cable	Hybrid	None	None/ MHP/ Betanova	Internet; Betting; F1 Interactive

<sup>32</sup> In addition to the authorised dtv operators mentioned above there are about 50 cable tv service and/or network operators and most of them provide also digital tv channels.

<sup>33</sup> There are also some satellite tv service operators (DTH 2, SMATV >2) providing foreign digital satellite channels.

<sup>34</sup> It is envisaged that 23 terrestrial operators will start transmission in 2005 – 8 FTA (Bollere Media, MCM, NRJ TV, NT1, Tele Monte Carlo, EDI TV, France Television 1, Metropole Television) and 15 pay-TV (Canal +, AB1, Canal J, Cine-Cinema Cable, S.E.C.C., Cuisine.TV, Eurosport France, SESI, La chaine info, Match TV, Paris Premiere, Planete Cable, Sport +, TF6, TPS Star)

<sup>35</sup> More than 100 TV channels.

	Terrestrial operators <sup>37</sup>	2002/2003	Terrestrial	Free-to-air	None	MHP	EPG; Digitext; News-Ticker
<b>Greece</b>	NOVA	1999	Satellite	Pay	Irdeto	OpenTV	Enhanced TV, selection of viewpoint (selection of different coverage cameras), games, teletext, stock market on-line
<b>Italy</b>	Sky Italia <sup>38</sup>	8/2003	Satellite	Pay	Irdeto, Mediaguard, Videguard	OpenTV, MediaHighway	PPV (pay-per-view)
	RTI	1997	Satellite	Free-to-air			
	RAI	1997	Satellite	Free-to-air			
	TV Internazionale	1997	Satellite	Free-to-air			
	Fastweb	2001 <sup>39</sup>	Fiber optic, xDSL	Pay	IP-based		PPV, VOD (Video-on-demand), web DVD
	Other operators		Satellite, xDSL	Free-to-air/Pay			
<b>Netherlands</b>	UPC	1999	Cable	Pay	Cryptoworks	Liberate	Games, enhanced TV
	Essent TV Home	1999	Cable	Pay	Viaccess	OpenTV	Games, enhanced TV
	Casema	1999	Cable	Pay	Viaccess	OpenTV	enhanced TV
	Multikabel	1999	Cable	Pay	Viaccess	OpenTV	Games, enhanced TV
	Kabelfoon	11/2003	Cable	Pay			
	Digitenne	4/2003	Terrestrial	Hybrid	Mediaguard	MHP	
	NOS	4/2003	Terrestrial	Hybrid	Mediaguard	MHP	
	Canal Digital	1998	Satellite	Pay	Irdeto, Mediaguard	Proprietary API	
<b>Sweden</b>	Boxer-TV-Access AB	1999	Terrestrial	Hybrid	Viaccess	OpenTV	EPG

<sup>36</sup> Up to 50 TV channels.

<sup>37</sup> 28 TV channels in the Berlin/Potsdam area.

<sup>38</sup> Sky Italia is a merger of Telepiu and Stream.

<sup>39</sup> Referred to digital TV services based on fiber optic.

Digital television

	Viasat	2000	Satellite	Pay	Viaccess, NDS Videoguard	OpenTV	PPV, EPG
	Canal Digital	1998	Satellite	Pay	Conax	MediaHighway	PPV, EPG, games, news, weather
	UPC	2001	Cable	Pay	Cryptoworks	Liberate	No itv services
	Com heb ab	1997	Cable	Pay	Conax	OpenTV	PPV, EPG, games, subscription management, news, etc.
	Canal Digital (SOL)	1999	Cable	Pay	Conax	MediaHighway	PPV, EPG, games, news, weather
<b>Spain</b>	TVE	4/2002	Terrestrial	Free-to-air			
	Antena 3	4/2002	Terrestrial	Free-to-air			
	Telecinco	4/2002	Terrestrial	Free-to-air			
	Canal +	4/2002	Terrestrial	Hybrid	Mediaguard		
	Net TV	6/2002	Terrestrial	Free-to-air			
	Veo TV	6/2002	Terrestrial	Free-to-air			
	Quiero TV	10/2000	Terrestrial	Free-to-air			
	Onda Seis TV	10/2000	Terrestrial	Free-to-air			
	Rioja TV	2004	Terrestrial	Free-to-air			
	Cope TV	2004	Terrestrial	Free-to-air			
	Digital +	1997	Satellite	Pay	Mediguard/ Nagra	MediaHighway/ OpenTV	Games, assisted navigation, t-commerce, transaction services
	ONO	7/2003	Cable	Pay	Motorola Mediacipher		
	Auna Cable	12/1999	Cable	Pay	NDS Videoguard	NDS Core, Open TV, Core V1.0	
	Telefonica Cable		DSL	Pay			
<b>Portugal</b>	CATVP		Cable/satellite				EPG, VOD, T-commerce, news, selection of different cameras
	Cabovisao		Cable				
	TVTEL Gransde Porto		Cable				
	Pluricanal		Cable				

	Gondomar						
	Pluricanal santerem		Cable				
	Pluricanal Leiria		Cable				
<b>UK</b>	BSkyB	10/198	Satellite	Pay	NDS Videguard	OpenTV	Enhanced TV and interactive <sup>40</sup>
	NTL	1999	Cable	Pay	Nagravision	Liberate 1.2	Enhanced TV and interactive <sup>41</sup>
	Telewest	1999	Cable	Pay	Nagravision	Liberate 1.2	Enhanced TV and interactive <sup>42</sup>
	BBC	11/1998	Terrestrial	Free-to-air	N/a	MHEG 5.1	Enhanced TV
	Crown Castle	10/2002	Terrestrial	Free-to-air	N/a	MHEG 5.1	Enhanced TV
	D3&4	11/1998	Terrestrial	Free-to-air	N/a	MHEG 5.1	Enhanced TV
	SDN	11/1998	Terrestrial	Free-to-air	N/a	MHEG 5.1	Enhanced TV
	Freeview <sup>43</sup>	10/2002					
	Kingston Interactive Television	9/2000	DSL	Pay	N/k	iMagic TV	Enhanced TV, interactive and VoD
	Homechoice	9/2000	DSL	Pay	N/k	N/k	None (VOD only)
	Wightcable	N/k	Cable	Pay	N/k	N/k	None
	Omne	N/k	N/k	N/k	N/k	N/k	N/k

This table contains information provided by certain MS in reply to the questionnaire sent by the EC services, which included a working definition of iTV.<sup>44</sup>

<sup>40</sup> “red button” services, near VOD, EPG, online games, shopping, banking, e-mail, eGovernment (UK online)

<sup>41</sup> “red button” services, near VOD, EPG, online games, shopping, e-mail, limited T-commerce.

<sup>42</sup> “red button” services, near VOD, EPG, online games, shopping, e-mail, limited T-commerce.

<sup>43</sup> ‘Freeview’ was launched on 30 October 2002, as an umbrella brand for UK DTT. It is promoted by DTV Services Ltd, a joint venture between the BBC, Crown Castle International, and BSkyB. It is not, however, a licensed multiplex operator in its own right.

<sup>44</sup> “interactive TV services here refer to services and contents other than traditional linear broadcasting programmes available through the TV set. These services can be either “true” interactive TV services (where the user requests the service through a return channel) or “enhanced” services (where no return channel is involved), and delivered within or outside the main video/audio stream. Examples of these services are: can be online games, enhancements to TV programmes, transactional services, internet services such as web access and e-mail, etc. This definition is indicative and carry no legal value whatsoever. In particular, it does not prejudice in any way the approach of the Commission regarding TV markets segmentation.

## 8.3.DTV EQUIPMENT.

DTV equipment in 2003 (in millions of units and millions of dollars)									
	Installed base (M)			Annual sales (M)			Retail market value (\$M)		
	STB	iDTV	Total	STB	iDTV	Total	STB	iDTV	Total
Austria	0,56	0,00	0,56	0,22	0,00	0,22	48,61	0,00	48,61
Belgium	0,19	0,00	0,19	0,06	0,00	0,06	13,65	0,00	13,65
Denmark	0,38	0,00	0,38	0,11	0,00	0,11	24,45	0,00	24,45
Finland	0,21	0,01	0,22	0,07	0,01	0,07	12,05	7,50	19,55
France	4,92	0,00	4,92	0,81	0,00	0,81	178,10	0,00	178,10
Germany	5,34	0,03	5,37	1,82	0,02	1,84	374,45	30,00	404,45
Greece	0,26	0,00	0,26	0,10	0,00	0,10	22,00	0,00	22,00
Ireland	0,49	0,00	0,49	0,15	0,00	0,15	36,00	0,00	36,00
Italy	3,06	0,00	3,06	0,48	0,00	0,48	105,10	0,00	105,10
Luxembourg	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Netherlands	0,73	0,00	0,73	0,24	0,00	0,24	49,55	0,00	49,55
Portugal	0,51	0,00	0,51	0,21	0,00	0,21	45,60	0,00	45,60
Spain	2,49	0,00	2,49	0,38	0,00	0,38	79,80	0,00	79,80
Sweden	1,32	0,02	1,34	0,33	0,01	0,34	68,20	15,00	83,20
UK	13,51	0,45	13,96	3,57	0,15	3,72	752,10	112,50	864,60
<b>TOTAL EU</b>	<b>33,98</b>	<b>0,51</b>	<b>34,49</b>	<b>8,53</b>	<b>0,19</b>	<b>8,71</b>	<b>####</b>	<b>####</b>	<b>####</b>

All Figures in this table come from *Strategy Analytics*.<sup>45</sup>

Moreover, some MS provided details on DTV equipment installed in HH. For details see footnote.<sup>46</sup>

<sup>45</sup> “Digital TV Devices: European Market Forecast, July 2003”, and “iDTV (Integrated DTV Receivers): European Market Forecast, July 2003”. No data are available on Luxembourg.

<sup>46</sup> Figures are given in units.

**Denmark:** Installed base: STB – n/a, iDTV - 0

**Finland:** Installed base: STB – 134,000, iDTV – 4,000; Sales over the last months (Jan – June 03) 71,000; Average price: STB – 260 €

**France:** Installed base: STB – 4,013,555.

**Germany:** Sales over the last months (2002) – 48,000; Average price: STB – 230 €

**Greece:** Installed base: STB – 700,000; Sales over the last months (?) 50,000; Average price: STB – 200 € (100 € for FTA, 300 € for Pay-TV)

**Italy:** Installed base: STB – 3,500,000

**Netherlands:** n/a

**Portugal:** n/a

**Spain:** n/a

**Sweden:** Sales over the last months – app. 7,000 per month

**UK:** Installed base: STB – 1.23 million, iDTV – 0.37 million; Sales over the last 12 months (to 31/03/2003) STB - 874,000, iDTV – 103,400; Average price: STB – 92 £, iDTV – 896 £

Charts 12 to 14: Digital TV equipment in 2003

Figure 131

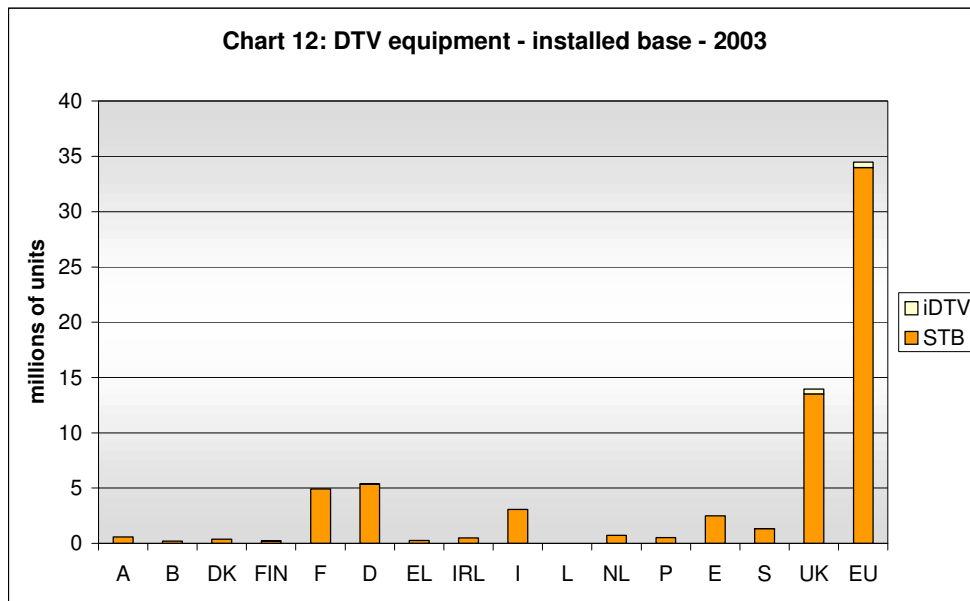
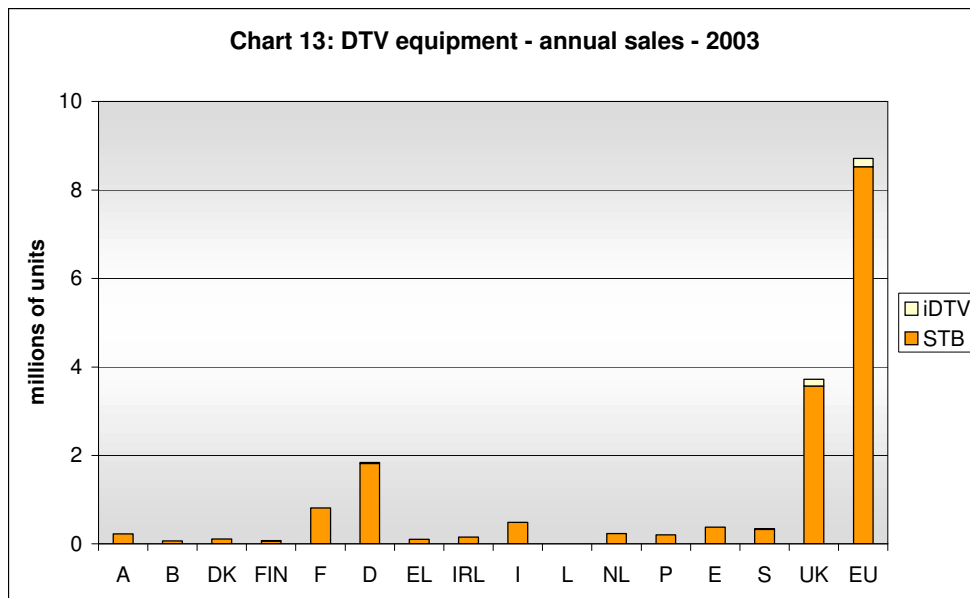
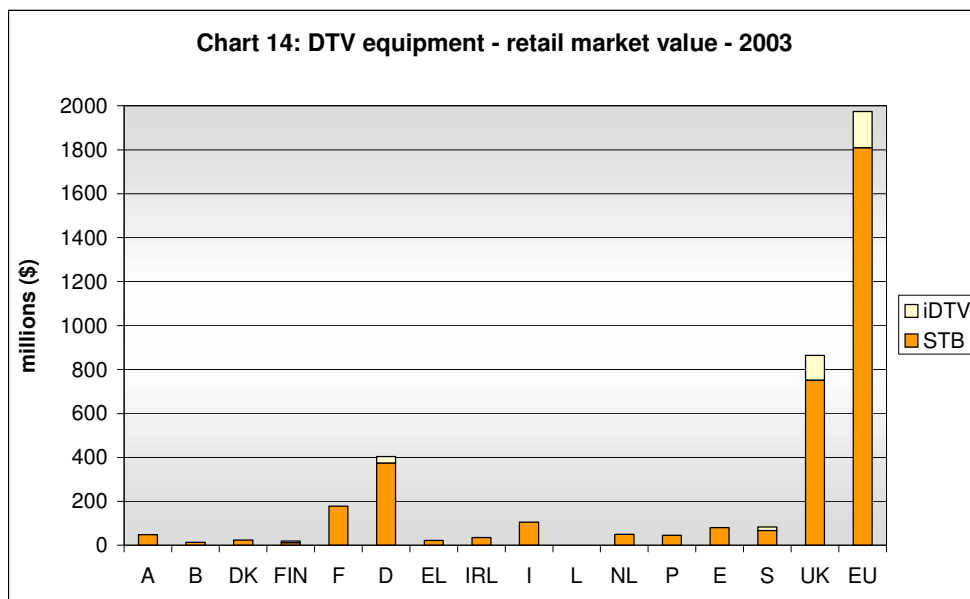


Figure 132



**Figure 133**



**Table: DTV equipment (STB + iDTV)- evolution 2001/2003**

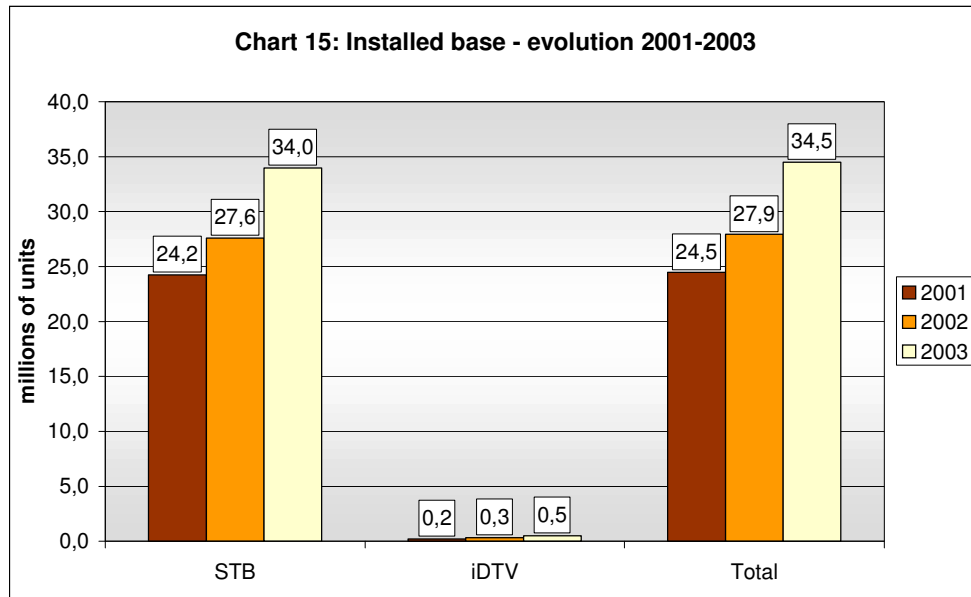
2001						
Installed base		Annual sales (M)		Retail market value (\$M)		
STB	iDVT	STB	iDVT	STB	iDVT	
24,2	0,2	6,6	0,1	2137,3	108,0	
<b>Total 24.47</b>		<b>6.67</b>		<b>2245.25</b>		
2002						
Installed base		Annual sales (M)		Retail market value (\$M)		
STB	iDVT	STB	iDVT	STB	iDVT	
27.6	0.3	4.6	0.1	1218.4	114.0	
<b>Total 27.93</b>		<b>4.76</b>		<b>1332.40</b>		
2003						
Installed base		Annual sales (M)		Retail market value (\$M)		
STB	iDVT	STB	iDVT	STB	iDVT	
34.0	0.5	8.5	0.2	1809.7	165.0	
<b>Total 34.49</b>		<b>8.71</b>		<b>1974.66</b>		

All figures in this table come from *Strategy Analytics*.<sup>47</sup>

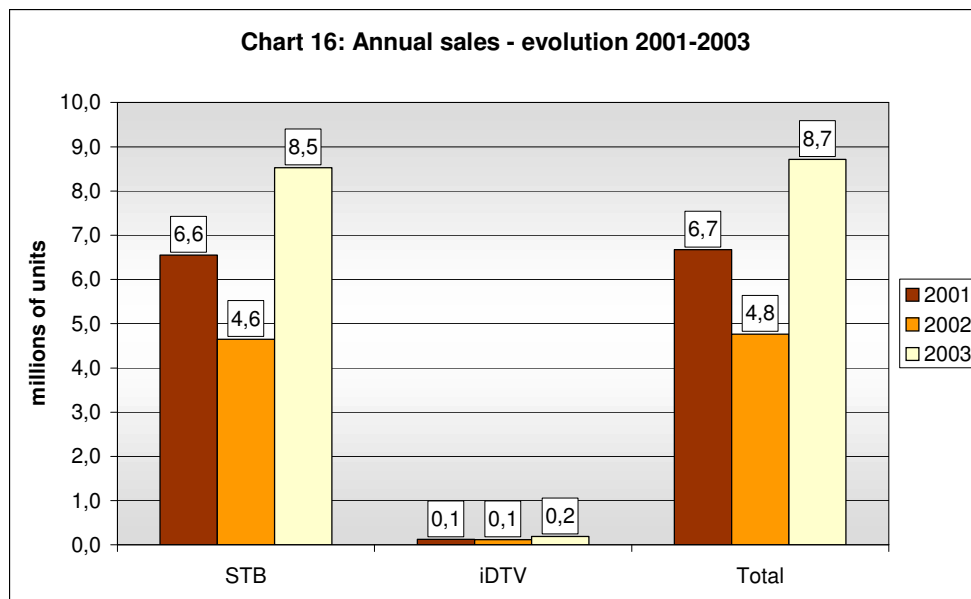
<sup>47</sup> “Digital TV Devices: European Market Forecast, July 2003”, and “iDTV (Integrated DTV Receivers): European Market Forecast, July 2003”. No data are available on Luxembourg.



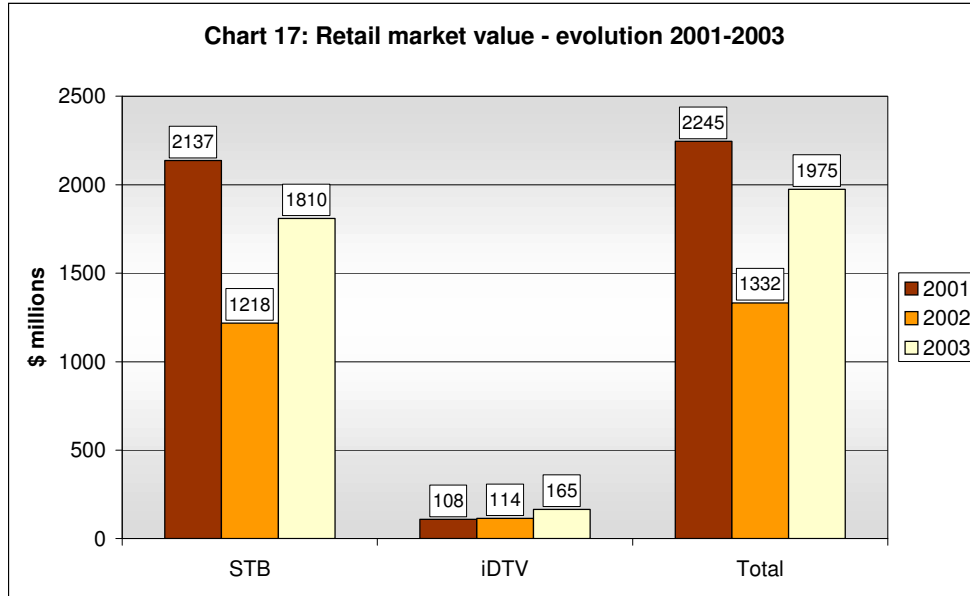
**Figure 134**



**Figure 135**



**Figure 136**



The STB retail market value in year 2003 is smaller than in 2001, although the annual sales in the same period have increased. This indicates the decrease in prices for set-top-boxes in EU.



## 9 EXCHANGE RATES

This section explains the exchange rates used in Annex I.

### 9.1. EXCHANGE RATE USED IN SECTION 6 ON PUBLIC VOICE TELEPHONY TARIFFS AND SECTION 7 ON LEASED LINE TARIFFS.

Exchange rates, national currency to Euro

	Exchange rate to euro <= 2001	Exchange rate to euro => 2002
	EURO	EURO
Austria	0.07267	1
Belgium	0.02479	1
Denmark	0.13458	0.13458
Finland	0.16819	1
France	0.15245	1
Germany	0.51129	1
Greece	0.00293	1
Ireland	1.26974	1
Italy	0.00052	1
Japan	0.00737	0.00737
Luxembourg	0.02479	1
Netherlands	0.45378	1
Portugal	0.00499	1
Spain	0.00601	1.00000
Sweden	0.10818	0.10818
UK	1.42816	1.42816
USA	0.88845	0.88845

### 9.2. EXCHANGE RATE USED IN SECTION 3 ON INTERCONNECTION AND SECTION 5.2 ON PRICES FOR LOCAL LOOP

The exchange rate to Euro used in section 3 on interconnection and section 5.2 on price for local loop are the same in table 5, except for the following:

	EURO
Denmark	0.13457
Sweden	0.108838
UK	1.457433

## 10 OECD TELECOMMUNICATIONS BASKET DEFINITIONS

### 10.1. NATIONAL PSTN BASKET

Business basket results exclude VAT. Residential basket results include VAT.

The nonrecurring charge is calculated as an average between the charge for a new line installation, and the charge for “same day takeover”, i.e. when there is a direct transfer from the previous to the new customer. Valid for both Business and Residential baskets.

Nonrecurring charge calculation	Weight
New line connection charge	50%
Same day takeover connection charge	50%

The nonrecurring charge is depreciated over 5 years. An exception is made for countries where the connection charge has a lifetime value (e.g. Japan, where the connection is a tradable asset). Valid for both Business and Residential baskets.

Nonrecurring charge depreciation	Weight
With normal one-off charge	5
Where connection is a tradable asset	20

Annual rental for the service is included in the basket. Any additional recurring charges (per year) shall also be included (e.g. charges related to the use of specific calling plans).

Where the service (or tariff plan) includes a number of “free” calls or minutes, or any other call-related allowance, the value of this allowance is deducted from the usage. The value of the deducted allowance cannot be higher than the usage. Where the tariff clearly specifies that the allowance is related to specific types of calls (e.g. local, international), the usage in question shall only cover the defined type(s) of calls.

The number of calls to fixed line phones (i.e. excluding calls to mobile phones) is defined as:

Number of national fixed line calls	Calls per year
Business basket	3600
Residential basket	1200

The national usage will have a weighted distribution over 14 distances. Call charges relevant at each of these distances shall be used.

<b>Km</b>	<b>3</b>	<b>7</b>	<b>12</b>	<b>17</b>	<b>22</b>	<b>27</b>	<b>40</b>	<b>75</b>	<b>110</b>	<b>135</b>	<b>175</b>	<b>250</b>	<b>350</b>	<b>490</b>
Bus	53	11	7	4	2.5	3	3.5	3.5	2.5	2	1.5	1.5	1	4
Res	60	14	5	3	1.5	2.5	2.5	2.5	1.5	1.25	1	1	0.75	3.5

Bus = Business basket, Res = Residential basket. All weights in percent of total number of fixed line calls.

## OECD Telecommunications Basket Definitions

The national usage will have a weighted distribution over six time and day points. Call charges relevant at each of these time and day points shall be used.

Day/Time	We 11:00	We 15:00	We 20:00	We 03:00	Sa 11:00	Su 15:00
Bus	45.4	40.6	7	0.8	5.7	0.5
Res	14.3	22.1	31.6	3	13	16

Bus = Business basket, Res = Residential basket. All weights in percent of total number of fixed line calls.  
We = Weekdays, Sa = Saturdays, Su = Sundays.

National call duration will vary with distance and time of day. The charge for each call shall reflect the actual charge for the duration in question, as defined by the tariff. Call setup and minimum charges shall be included.

Day/Time	Weekday daytime			Weekday evenings, nights and weekends		
	3-12 Km	17-40 Km	75-490 km	3-12 km	17-40 Km	75-490 Km
Bus	3.5	3.5	3.5	3.5	3.5	3.5
Res	2.5	3.5	3.5	3.5	6	7

Bus = Business basket, Res = Residential basket. Duration in minutes per call.

Calls to mobile phones may be added to the basket. This is optional, and the presentation of the results must clearly state whether such calls are included or not. The number of calls shall be 10% of the number of national fixed line calls, in addition to the fixed line calls.

Calls to mobile phones	Calls per year	Call duration
Business basket	360	2
Residential basket	120	2

Call duration in minutes per call.

### 10.2. INTERNATIONAL PSTN BASKET

The international PSTN basket, when used separately, shall reflect the cost of a single call, calculated according to the weighting method described below. No fixed charges are included.

Business basket results exclude VAT. Residential basket results include VAT.

Call charges for calls to all other OECD Member States shall be used. Peak and off-peak time call charges are used, defined as the highest (most expensive) charge and the lowest (least expensive) charge.

Call cost is based on average per minute charge. Call setup charges and/or different charges for first and additional minutes are included.

The charges to different destinations are weighted according to the ITU call volume statistics. An average over the latest 5 years of available traffic statistics is used. As there may be gaps in the ITU statistics for certain destinations from some countries, calls on such routes are excluded from the calculation.

Call charges are weighted between peak and off-peak:

	Peak time weight	Off-peak time weight
Business basket	75.0 %	25.0 %
Residential Basket	25.0 %	75.0 %

Call duration differ between peak and off-peak time:

	<b>Peak time</b>	<b>Off-peak time</b>
Business basket	3 minutes	5 minutes
Residential Basket	3 minutes	5 minutes

### 10.3. COMPOSITE NATIONAL – INTERNATIONAL BASKET

This basket is based on a combination of the national and international baskets, as described above. The national basket remains unchanged, and the international basket is scaled using a fixed number of international calls.

Business basket results exclude VAT. Residential basket results include VAT.

The international portion of the basket shall have a number of calls equal to 6% of the national fixed line calls, in addition to the calls defined in the national portion of the basket.

	<b>International calls per year</b>
Business basket	216
Residential basket	72

### 10.4. NEW OECD MOBILE BASKETS

All baskets will include:

- Registration or installation charges with 1/3 of the charges, *i.e.* distributed over 3 years.
- Monthly rental charges, and any option charges that may apply to the package, or package combination.

The three new baskets are:

- Low user basket. The usage level of this basket is low, with a call volume less than half of that in the Medium user basket.
- Medium user basket. This basket will have 75 outgoing calls per month.
- High user basket. The usage level is about twice the Medium user basket.

The usage profiles will also include a number of SMS messages per month.

Call and message volumes for each basket are:

	Outgoing calls /month	SMS per month
Low user	25	30
Medium user	75	35
High user	150	42

The information received showed that there is little difference between the average pre-paid usage and the low user post-paid usage. The low user basket can therefore be used for both pre- and post-paid tariffs, allowing a simple comparison also between the two types.

Only national calls are included in the profiles, with 4 different destinations:

- Local area fixed line calls. This is used to accommodate the tariffs that have separate charges for the local area. When such charges are not available, this proportion of calls is included in the National.

## OECD Telecommunications Basket Definitions

- National fixed line calls. This covers all fixed line calls outside the local area, except in cases as noted above.
- Same network mobile calls (On-net). This includes all calls made to mobiles in the same mobile network as the caller.
- Other network mobile calls (Off-net). This includes calls to all other mobile networks in the caller's country. When the charges are different depending on destination network, the market shares based on subscriber numbers are used for weighting the charges. Up to 3 other networks will be considered in each country.

Distributions per destination for each basket are:

% of total number of calls	Fixed Local area	Fixed National area	On-net mobile	Off-net mobile
Low user	28.0%	14.0%	40.0%	18.0%
Medium user	24.0%	12.0%	43.0%	21.0%
High user	26.0%	14.0%	42.0%	18.0%

As the information received produced little evidence on the split between local and national fixed line calls, the assumption has been used that the ratio would be 2:1 for local:national, i.e. 67% local and 33% national. This assumption is taken from the averages in fixed baskets, and the scarce information received.

Instead of splitting time and day into distinct times and days the following approach will be used:

- Peak time calls at weekdays, most expensive time during daytime.
- Off-peak time calls at weekdays, cheapest time before midnight.
- Weekend time calls, at daytime Sundays.

Distributions over time and day for each basket are:

% of total number of calls	ToD Peak	ToD Off-peak	ToD Weekend
Low user	38.0%	35.0%	27.0%
Medium user	47.0%	30.0%	23.0%
High user	63.0%	22.0%	15.0%

There will be 3 separate call durations:

- Local and national fixed line calls
- Same network mobile calls (On-net)
- Other network mobile calls (Off-net)

Call durations for each basket are:

Minutes per call	Dur Fixed National	Dur Mobile On-net	Dur Mobile Off-net
Low user	1.6	1.4	1.4



Medium user	2.1	1.9	1.9
High user	2.2	2.0	2.1

Any call allowance value included in the monthly rental will be deducted from the usage value once the basket is calculated. The deduction cannot be larger than the actual usage value, i.e. negative usage is not allowed. No transfer of unused value to next month is taken into account.

Any inclusive minutes will be deducted from the basket usage before starting the calculation of usage cost. The inclusive minutes are assumed to be used up with the same calling pattern that is described in the basket, i.e. the same peak/off-peak ratio and the same distribution across destinations. Where the inclusive minutes are clearly limited to specific destinations or times of day this will be taken into account. No transfer of unused minutes is taken into account.

Any inclusive SMS-messages will be deducted from the basket before starting the calculation of the SMS message cost, up to the number of messages in the basket.

For each of the operators covered a set of packages shall be included so that the cheapest package offered by that operator can be calculated for each of the 3 baskets.

Multiple operators in each country shall be included, with at least the two operators with highest number of subscribers in each country. The operators included shall have a total market share of at least 50% based on subscriber numbers.

Basket results are calculated for a period of one year.

**ANNEX 2**

**REGULATORY DATA**

**2003**



## TABLE OF CONTENTS

1.	TARIFFS.....	127
2.	COST ACCOUNTING AND ACCOUNTING SEPARATION.....	130
3.	UNIVERSAL SERVICE SCHEME .....	134
4.	DIRECTORY AND DIRECTORY ENQUIRY SERVICES.....	137
5.	ITEMISED BILLING AND CALL BARRING .....	142
6.	DATA PROTECTION.....	151
7.	NATIONAL REGULATORY AUTHORITIES.....	159
8.	QUALITY OF SERVICE.....	163

## List of tables

Table 1: Fixed public voice telephony tariffs of SMP operators: rebalancing, regulation and report on the evolution of tariffs.....	127
Table 2: Current and planned cost methodologies for calculating interconnection and unbundling charges .....	130
Table 3: Verification of compliance with the cost accounting system .....	132
Table 4: Financing schemes for universal service obligations (USO).....	134
Table 5: Provision of directory and directory enquiry services .....	137
Table 6: Competition in the market of directory services.....	140
Table 7: Availability of itemised billing .....	142
Table 8: Availability of call barring.....	148
Table 9: Unsolicited calls, faxes and electronic mails (part I).....	151
Table 10: Unsolicited calls, faxes and electronic mails (part II) .....	152
Table 11: Storage of data and other provisions of the Data Protection Directive .....	155
Table 12: Calling line identification (CLI) .....	157
Table 13: Powers of the National regulatory Authorities .....	160
Table 14: Quality of service.....	164



## 1 TARIFFS

**Table 1: Fixed public voice telephony tariffs of SMP operators: rebalancing, regulation and report on the evolution of tariffs**

	<i>Tariff rebalancing completed</i>	<i>Type of regulation of end-user voice telephony tariffs of SMP operators</i>	<i>Date and reference of publication of the last report on the evolution of tariffs<sup>48</sup></i>
<b>B</b>	No	Price cap + cost oriented <sup>49</sup>	July 2003 ( <a href="http://www.ibpt.be">www.ibpt.be</a> ) <sup>50</sup>
<b>DK</b>	Yes	Price ceiling only regarding subscription and call setup, while the earlier price cap regulation is lifted as regards the per minute charge	26.3.2003, Tele Yearbok 2002 (published on <a href="http://www.itst.dk">www.itst.dk</a> ) <sup>51</sup>
<b>D</b>	Yes <sup>52</sup>	Price ceiling (Price-cap)/approval by the NRA <sup>53</sup>	Communication N 225/2003; Reg TP-Journal N 16/2003 of 13. August 2003
<b>EL</b>	Yes	NRA approval	EETT Annual report 2002 (published on <a href="http://www.eett.gr">www.eett.gr</a> )
<b>E</b>	Yes	Price-cap	16.7.2003, CMT annual report ( <a href="http://www.cmt.es">www.cmt.es</a> ) <sup>54</sup>
<b>F</b>	Yes	Prior approval of the Ministry (following opinion of ART) in accordance with the ONP conditions	Report 2000: "Le service public de télécommunications", publication every 4 years Opinion ART 01-475, 18.5. 2001
<b>IRL</b>	Retail Price Cap amended February 2003. All sub caps, including one on retail access, removed	Price cap	Review of Price Cap on Certain Telecommunications Services – ComReg Document 03/14, February 2003
<b>I</b>	Yes	Price cap/NRA approval	30.6.2003, AGCOM Annual report ( <a href="http://www.agcom.it">www.agcom.it</a> )

<sup>48</sup> Article 3.2, Dir. 98/10/EC.

<sup>49</sup> The Incumbent has the obligation to reflect the terminating tariffs from the OLO's into his retail tariffs

<sup>50</sup> [www.ibpt.be/Telecoms/ServiceUniversel/rapport2002.pdf](http://www.ibpt.be/Telecoms/ServiceUniversel/rapport2002.pdf)

<sup>51</sup> Please see <http://www.itst.dk/wimpdoc.asp?page=tema&objno=9502404>,

<http://www.itst.dk/wimpblob.asp?objno=97331904>

<sup>52</sup> See Communication N°. 75/2002 in Reg TP-Journal N°. 2/2002 of 06. February 2002 amended by Communication N 201/2003 in Reg TP-Journal N 15/2003 of 30 July 2003.

<sup>53</sup> Examination of evidence of anticompetitive rebates and discrimination.

<sup>54</sup> A comparison of fixed tariff is available on the NRA's website.

	<i>Tariff rebalancing completed</i>	<i>Type of regulation of end-user voice telephony tariffs of SMP operators</i>	<i>Date and reference of publication of the last report on the evolution of tariffs<sup>48</sup></i>
<b>L</b>	No	Tariffs set freely by the operator Proof of cost orientation requested according to Luxembourg legislation: - Règlement grand-ducal of 18 April 2001 amending règlement grand-ducal of 22 December 1997 establishing conditions to deploy and operate fixed telecommunications networks and telephony services, - Règlement grand-ducal of 2 July 1998 establishing conditions to operate telephony services	None
<b>NL</b>	Yes	A. Safeguard price cap for the period 1 July 2002 till 1 July 2006. Tariffs may increase at the same level as the rate of inflation. Safeguard price cap applies to: – subscription – local calls – national calls – fixed to mobile calls. B. Price squeeze C. Ex ante approval by the NRA under ONP conditions (cost orientation)	Several documents published <sup>55</sup>
<b>A</b>	Yes	Ex ante approval by the NRA under ONP conditions	A permanent comparison of the prices of all fixed operators is available at <a href="http://www.rtr.at">www.rtr.at</a>
<b>P</b>	No <sup>56</sup>	Price cap <sup>57</sup>	A study on the evolution of tariffs (1998-2001) is available since July 2002, at <a href="http://www.anacom.pt">www.anacom.pt</a> <sup>58</sup> . An update will shortly be available
<b>FIN</b>	Yes	Freely set by operator <sup>59</sup>	A study of telecommunications prices in 2002 <sup>60</sup> can be requested from the Ministry of Transport and Communications
<b>S</b>	No	Set by operator, tariffs must be cost-oriented	19.03.2003

<sup>55</sup> A: Memorandum of findings “Integral tariff regulation for end-user and interconnection services” of OPTA, 26 April 2002, OPTA/EGM-IBT/2002/201084. Policy framework: The assessment of the upper limit on the cost-orientation of end user tariffs for fixed telephony of KPN for the period of 1 July 2002 until 1 July 2006, 27.6.2002, OPTA/EGM/2002/201218.

B: “Guidelines Price squeeze OPTA and the NMa”, 28 February 2001, OPTA/EGM/2000/200494; “Decision price squeeze”, 28 June 2001, OPTA/EGM/2001/201632; “Actualisatie van constanten in de prijsstreekttoets, OPTA and the NMa”, 19.7.2002, OPTA/EGM/2002/201877.

<sup>56</sup> According to data from PTC, the prices are not yet fully rebalanced. However, there are no restrictions to the elimination of the access deficit.

<sup>57</sup> In accordance with the agreement reached between the Directorate-General of Trade and Competition, ANACOM and Portugal Telecom, concerning fixed telephony services provided in the context of universal service. Prices for fixed telephony services other than the Universal Service are set by the operators, in accordance with the applicable regulatory principles (art. 34/ 1 and 4 of Regulations for the Operation of the Fixed Telephone Service - <http://www.anacom.pt/template20.jsp?categoryId=5188&contentId=16901>).

<sup>58</sup> <http://www.anacom.pt/template15.jsp?categoryId=38416>.

<sup>59</sup> Subject to the obligation of cost orientation for local calls.

<sup>60</sup> Price level of the Finnish telecommunications charges in 2002.



	<i>Tariff rebalancing completed</i>	<i>Type of regulation of end-user voice telephony tariffs of SMP operators</i>	<i>Date and reference of publication of the last report on the evolution of tariffs<sup>48</sup></i>
<b>UK</b>	Yes <sup>61</sup>	Price cap	Several documents published up to 17.3.2003 <sup>62</sup>

---

<sup>61</sup> Residential line rental income is not yet sufficient to cover fully allocated costs. However, the NRA believes that BT's residential line rental charge now covers the incremental cost of providing the line. There are no regulatory constraints preventing BT from further rebalancing of its tariffs.

<sup>62</sup> These include: an annual statistical note (to be published at the end of August 2002) on the median bill of BT's residential consumers; Oftel's Consultative Documents "Competition in the provision of fixed telephony services", 31 July 2001 and 31 January 2002, and Statement 20 June 2002, on the impact of price changes for different customer groups. Furthermore, typical bills payable by residential consumers with different leading suppliers can be compared through a free, industry-funded web-site, endorsed by Oftel at [www.phonebills.org.uk](http://www.phonebills.org.uk).

## 2 COST ACCOUNTING AND ACCOUNTING SEPARATION

**Table 2: Current and planned cost methodologies for calculating interconnection and unbundling charges**

	<i>Cost accounting system actually in place for interconnection by SMP operators</i>		<i>Cost accounting system actually in place for unbundling by SMP operators</i>		<i>Deadline for implementation of a system based on current costs</i>
	<i>Cost base</i>	<i>Cost standard</i>	<i>Cost base</i>	<i>Cost standard</i>	
<b>B</b>	Historic/Current <sup>63</sup> Forward-looking <sup>64</sup>	FDC LRIC	Historic	Retail minus for full unbundling	Implemented for network assets
<b>DK</b>	Forward looking	LRAIC	Forward looking	LRAIC	LRAIC implemented 01.01.2003
<b>D</b>	Forward looking	LRAIC	Forward looking	LRAIC	Implemented
<b>EL</b>	Current	LRAIC+ mark-up	Current	LRAIC+ mark-up <sup>65</sup>	Implemented <sup>66</sup>
<b>E</b>	Multistandard	Multistandard	(67)	(see note <sup>67</sup> )	Implemented
<b>F</b>	LRIC	LRIC + mark up for common costs + specific costs	LRIC	LRIC + mark up for common costs + specific costs	Already implemented in the 2003 price list (done in 2002)
<b>IRL</b>	LRAIC	LRIC + mark up	Current	LRIC + mark up	Subject to Judicial Review Challenge by incumbent
<b>I</b>	Current	FDC	Historic	FDC	Implemented (1st part December 2002; 2nd part August 2003)
<b>L</b>	Historic	FDC			LRIC in principle for the RIO 2001 and 2002

Legend:

Cost base: historic, current, forward-looking

<sup>63</sup> With regard to network assets, historic costs are converted into current costs.

<sup>64</sup> Under development

<sup>65</sup> The current monthly rental and connection fees for LLU are based on the LRAIC methodology implemented with those PSTN cost components which are common with LLU

<sup>66</sup> EETT has issued Decision 266/95/1-11-2002 regarding the LRAIC/CCA methodology ordering the OTE to implement certain amendments to its LRAIC/CCA cost accounting system.

<sup>67</sup> The prices of the unbundled local loops have been set by the Comisión Delegada del Gobierno in December 2001. The collocation prices have been established by CMT, taking into account average costs, on the basis of a study carried out by independent consultants with a specific expertise on the subject, who gave to the CMT the market value of a cost. The associated services and the peak rate (modified by CMT by Resolution of 29 April 2002), have been determined taking as a basis a study of an independent consultant applying the “bottom-up” methodology.

Cost standard:      LRIC: long-run incremental costs                      FDC: fully distributed costs  
                                  LRAIC: long-run average incremental costs                      EDC: embedded direct costs      Cost standard:

	<i>Cost accounting system actually in place for interconnection by SMP operators</i>		<i>Cost accounting system actually in place for unbundling by SMP operators</i>		<i>Deadline for implementation of a system based on current costs</i>
	<i>Cost base</i>	<i>Cost standard</i>	<i>Cost base</i>	<i>Cost standard</i>	
<b>NL</b>	Current	EDC for originating i/c Bottom-up LRIC for terminating i/c	Current	EDC	Implemented
<b>A</b>	Current	LRAIC	Current	LRAIC	Implemented
<b>P</b>	Historic, forward-looking and current <sup>68</sup>	FDC	(69)	(69)	No deadline fixed <sup>70</sup>
<b>FIN</b>	Historic/Current	Company specific <sup>71</sup>	Historic/Curr ent	Company specific	Implemented
<b>S</b>	Historic	FDC	Historic	FDC	Planned for January 2004 in the fixed network. Planned for July 2004 in the mobile network.
<b>UK</b>	BT: Forward looking/ current  Concert: Forward looking/current  Kingston Communications: Forward looking/current	BT: LRIC + FDC  Concert: LRIC + FDC  Kingston Communications: CCA + FDC	BT: Forward looking/current  Concert: N/A  Kingston Com.: Forward looking/current	BT: LRIC + FDC  Concert: N/A  Kingston Com.: CCA + FDC	BT: Implemented  Concert: Implemented  Kingston Communications: Implemented for interconnection. For unbundling, to be implemented within the next 12 months

<sup>68</sup> The interconnection prices were approved taking into account the following elements: i) expected costs: evolution and revision of traffic volumes for the current year; ii) expected efficiency gains; iii) practices in the EU.

<sup>69</sup> When establishing costs/prices for a new service, ANACOM identifies in the accounting system of PTC (ABC), the resources used and the activities necessary to supply the new service. The actual expenses and budget are also used to determine a cost for the local loop.

<sup>70</sup> Without prejudice to footnotes 68 and 69, it should be noted that ANACOM assesses the situation taking into consideration the expected impact generated by the application of systems based on current costs on price variations.

<sup>71</sup> The NRA does not set charges for SMP organisations. Operators set their own prices. There are more than 50 SMP operators in Finland and their interconnection and ULL prices must be cost-based. Cost structures, prices and accounting systems vary between operators. The NRA uses both FDC top down models based on historic costs and a current costs methodology when evaluating the cost orientation of charges.

**Table 3: Verification of compliance with the cost accounting system**

	<i>Verification of compliance with the CAS by a competent and independent body</i>			<i>Statement concerning compliance</i>	
	<i>Voice telephony</i>	<i>Interconnection</i>	<i>Last accounts verified (accounting year)</i>	<i>Date of last publication</i>	<i>Reference in the national Official Journal or other</i>
<b>B</b>	Yes	Yes	2001	December 2002 <sup>72</sup>	<a href="http://www.ibpt.be">www.ibpt.be</a> <sup>73</sup>
<b>DK</b>	Yes	Yes	2001 (VT)/ 2002 (IC)	August 2003	<a href="http://www.itst.dk">www.itst.dk</a> <sup>74</sup>
<b>D</b>	Yes <sup>75</sup>	Yes	2002	July 2003 <sup>76</sup>	Journal of the RegTP N°. 14 /2003 of 16.07.2003, Provision N°. 29
<b>EL</b>	Yes	Yes	2000 <sup>77</sup>	EETT Decision 266/96/1-11-2002 (voice telephony) EETT Decision 267/123/15-11-2002 (interconnection)	OJ. 1440/B/15-11-2002 OJ. 1531/B/9-12-2002
<b>E</b>	Yes	Yes	2001 <sup>78</sup>	13.02.2003	<a href="http://www.cmt.es">www.cmt.es</a>
<b>F</b>	Yes	Yes	2000 <sup>79</sup>	15.06.2001 (financial year 1998) 4.07.2001 (financial year 1999) 12.11.2002 (financial year 2000)	Decision 02-1043 published in the OJ on 25.01.2003
<b>IRL</b>	Yes	Yes	Year ended 31.3.02	30.9.02	<a href="http://www.eircom.ie">www.eircom.ie</a> in the regulatory section
<b>I</b>	Yes	Yes	2000	Decision no.48/03/CONS of 06.03.2003 (Year 2000)	6 March 2003 <a href="http://www.agcom.it">www.agcom.it</a>

<sup>72</sup> For voice telephony for accounting year 1998; for interconnection: an update of the public description of the “top-down model 2000” is foreseen.

<sup>73</sup> For interconnection: news – communications – 01/12/2002 Description of the BIPT cost model for the calculation of the interconnection tariffs for the year 2003 (Dutch or French).

<sup>74</sup> See <http://www.itst.dk/wimpdoc.asp?page=tema&objno=111258557> (VT) and <http://www.itst.dk/tema.asp?page=tema&objno=132298676> (IC).

<sup>75</sup> The voice telephony is regulated in Germany within the Price Cap procedure. Within the framework given thereby, the final customer tariffs are approved within specific procedures.

<sup>76</sup> See Communication N°. 120/2001 in the Journal of the Reg TP N. 5 of 14. March 2001, pp. 647 and 648.

<sup>77</sup> On going auditing by independent auditors (appointed by EETT) of both cost-accounting systems of OTE (FDC for voice telephony and leased lines / LRAIC for interconnection and LLU), based on the accounting year 2001.

<sup>78</sup> The verification for the year 2002 is under way.

<sup>79</sup> The 2001 accounts have been audited but they have not been published yet.

	Verification of compliance with the CAS by a competent and independent body			Statement concerning compliance	
	Voice telephony	Interconnection	Last accounts verified (accounting year)	Date of last publication	Reference in the national Official Journal or other
<b>L</b>	No	No	None	Planned for yearly report 2002 - but not published in the annual 2002 report	The decision to publish the audit report on the cost orientation can be consulted on the web <a href="http://ww.etat.lu/ILR/tele/decis/index.htm">ww.etat.lu/ILR/tele/decis/index.htm</a> Decision 02/50/ILR of 6 May 2002 Guidelines on accounting separation  The obligation is also included in the telecom law: Règlement grand-ducal of 18 April 2001 amending règlement grand-ducal of 22 December 1997 establishing conditions to deploy and operate fixed telecommunications networks and telephony services, And règlement grand-ducal of 2 July 1998 establishing conditions to operate telephony services
<b>NL</b>	Yes	Yes	2000 <sup>80</sup>	2003	Decision OPTA/IBT/2003/202395, also at <a href="http://www.opta.nl">www.opta.nl</a>
<b>A</b>	Yes	Yes	2001 <sup>81</sup>		RASR 3/02, <a href="http://www.rtr.at">www.rtr.at</a>
<b>P</b>	Yes	Yes	2000 <sup>82</sup>	10.09.02	Diário da República nº209, Série III, de 10.09.02 <a href="http://www.anacom.pt">www.anacom.pt</a> <sup>83</sup>
<b>FIN</b>	Yes <sup>84</sup>	Yes	2002	31.12.2002	Summary Report 385/014/2002 to the Ministry of Transport and Communications. Ficora has also published on its website all company specific decisions made on the verification of SMP operators' cost accounting systems.
<b>S</b>	Yes	Yes	2001	19.03.2003	
<b>UK</b>	Concert: Yes Kingston Com.: Yes BT: Yes	Concert: Yes Kingston Com.: Yes BT: Yes	Concert: 31.12.01 Kingston Communications: 31.03.02 BT: 31.03.02	Concert: 30.06.02 Kingston Communications: 31.07.02 BT: 20.12.02	Concert / Kingston Communications / BT: The audit report is contained within the regulatory accounts

<sup>80</sup> However, no public verification took place.

<sup>81</sup> The exact date will be reported within the next two weeks (2002 will be also finished in 2003).

<sup>82</sup> The accounting system of notified operators is audited yearly by independent bodies, selected yearly by ANACOM, via a public tender. Auditors which work for the notified operators are excluded from the tender. The verification of compliance with the CAS referring to 2001 will be completed on short term

<sup>83</sup> <http://www.anacom.pt/template13.jsp?categoryId=42910>

<sup>84</sup> Finland does require cost orientation for local calls, interconnection and ULL. International and long-distance voice telephony calls are not regulated, because there is considered to be effective competition on those markets. In 2002 Ficora carried out 14 economic inspections and in the first half of 2003 8 inspections targeted at operators with SMP. When the new Communications Market Act entered into force on July 25, powers to carry out these inspections will be transferred to independent auditors.

### 3 UNIVERSAL SERVICE SCHEME

**Table 4: Financing schemes for universal service obligations (USO)**

Member State	Year	Does the national framework allow the setting up of a funding scheme for USO?	Have the organisation(s) in charge of USO requested funding? (Specify for every annual exercise)	Has an assessment of USO net cost taken place? If yes, please, specify the net cost	Has the funding scheme been activated? If not, specify the reason <sup>85</sup>	Has an annual report been published giving the calculated cost of USO, and identifying the contributions made by all the parties involved?
B	1999	Yes	No			
	2000	Yes	No			
	2001	Yes	Yes	Still pending		
	2002	Yes	Yes	Still pending	No (negotiations have not taken place yet)	No
DK	1999	Yes	No	No	No, because the USO provider has not requested funding according to Section 20 of Act on Competitive Conditions and Consumer Interests in the Telecommunications Market.	N.a.
	2000	Yes	No	No	See above	N.a.
	2001	Yes	No	No	See above	N.a.
D	1999	Yes	No			
	2000	Yes	No			
	2001	Yes	No			
EL	1999	Yes	No			
	2000	Yes	No			
	2001	Yes	No			
	2002	Yes	No			
E	1999	Yes	Yes	Yes. The net cost calculation presented by the incumbent was not approved.	No	No
	2000	Yes	Yes	Yes € 268 M	It was found that the net cost did not represent an unfair burden	

<sup>85</sup> NRAs may decide not to establish a universal service shared funding mechanism, even when the universal service obligations result in a net cost, when (i) this net cost does not represent an unfair burden for the operators concerned or (ii) it does not justify the administrative costs involved in the funding mechanism.

Member State	Year	Does the national framework allow the setting up of a funding scheme for USO?	Have the organisation(s) in charge of USO requested funding? (Specify for every annual exercise)	Has an assessment of USO net cost taken place? If yes, please, specify the net cost	Has the funding scheme been activated? If not, specify the reason <sup>85</sup>	Has an annual report been published giving the calculated cost of USO, and identifying the contributions made by all the parties involved?
E	2001	Yes	Yes	181.95 M	The incumbent operator has not experienced an appreciable advantage in its competing capacity during 2001 in the corresponding services market due to the bearing of such a burden	n.a.
F	1999	Yes	Yes	Yes = 104,9 million euros (final evaluation after integrating intangible benefits and without the social tariff, not in operation)	Yes	Yes: ruling of ART without publishing operators' contributions
	2000	Yes	Yes	Yes = 128,7 million euros (final evaluation after integrating intangible benefits and the social tariff, which had a small impact)	Yes	Yes: ruling of ART with annex including operators' contributions
	2001	Yes Décret 2003-338 of 10 April 2003 on US financing was published. It takes into account the ECJ's ruling and suppresses obsolete elements like the additional remuneration.	Yes	Yes = 142,1 million euros (final evaluation integrating intangible benefits and social tariffs)	Yes	Yes = publication of final evaluation on 20/07/2003 with annex including operators' contributions
	2002	yes	yes	Yes=296,6 million euros (provisional evaluation, integrating intangible benefits and estimating the impact of social tariffs)	yes	no
IRL	1999	Yes	Yes (6 months only)	Still pending		
	2000	Yes	Yes	Still pending		
	2001	Yes	No			
I	1999	Yes	Yes	Yes € 62,40 M	Yes	Yes
	2000	Yes	Yes	Yes € 58,90 Mro	Yes	Yes
	2001	Yes	Yes	Yes € 40,52 Mio	Yes	Yes
L	1999	Yes	No			
	2000	Yes	No			
	2001	Yes	No			
A	1999	Yes	No (request has later been withdrawn by USP)	no	no	no
	2000	Yes	No			
	2001	Yes	No			
	2002	Yes	No			

Member State	Year	Does the national framework allow the setting up of a funding scheme for USO?	Have the organisation(s) in charge of USO requested funding? (Specify for every annual exercise)	Has an assessment of USO net cost taken place? If yes, please, specify the net cost	Has the funding scheme been activated? If not, specify the reason <sup>85</sup>	Has an annual report been published giving the calculated cost of USO, and identifying the contributions made by all the parties involved?
NL	1999	Yes	No			
	2000	Yes	No			
	2001	Yes	No			
	2002	Yes	No			
	2003	Yes	No			
P	1999	Yes	Yes	Yes	No. The NRA does not admit to evaluate the cost of the provision of USO incurred before the full liberalization of the telecommunications market.	No
	2000	Yes	Yes	Pending analysis	No. The assessment of USO net cost is pending.	No
	2001	Yes	No	No	No, because the organization in charge of USO has not required funding and consequently an assessment of USO net cost has not taken place yet.	No
FIN	1999	No	No			
	2000	No	No			
	2001	No	No			
S	1999	No	No			
	2000	No	No			
	2001	No	No			
UK	1999	Yes	Yes	Yes. Between net cost of £12M and net benefit of £8M.	No. An unfair burden does not exist.	No
	2000	Yes	Yes	Yes. Between net cost of £12M and net benefit of £8M.	No. An unfair burden does not exist.	No
	2001	Yes	Yes	Yes. Between net cost of £12M and net benefit of £8M.	No. An unfair burden does not exist.	No
	2002	Yes	Yes	Yes. Between net cost of £12M and net benefit of £8M.	No. An unfair burden does not exist.	No



## 4 DIRECTORY AND DIRECTORY ENQUIRY SERVICES

**Table 5: Provision of directory and directory enquiry services**

<i>Member State</i>	<i>Is there at least one <u>directory</u> including <u>all subscribers</u><sup>86</sup> (of all operators) available to all users? If not, which type of subscribers are excluded? (Article 6.2.b, Dir. 98/10/EC)</i>	<i>Is there at least one <u>directory enquiry service</u> including <u>all subscribers</u><sup>86</sup> ( for all operators) available to all users? If not, which type of subscribers are excluded? (Article 6.2.c, Dir. 98/10/EC)</i>	<i>Have any specific measures been taken in order to guarantee the provision of these services to disabled users and users with special social needs? Please, specify.</i>
<b>B</b>	Yes <sup>87</sup>	Yes <sup>87</sup>	Directory enquiry service by SMS
<b>DK</b>	Yes	Yes	The universal service obligation shall also include provision of a nation-wide directory enquiry service for numbers in the Danish numbering plan, as well as call completion to the numbers in question at a reduced rate, for blind persons, deaf-and-blind persons, visually impaired persons, persons with reading disabilities, and certain groups of physically disabled persons, who, via the service in question, may be compensated significantly for their handicap <sup>88</sup> .
<b>D</b>	Yes <sup>89</sup>	Yes <sup>90</sup>	There are some provisions for disabled users and users with special social needs <sup>91</sup> .
<b>EL</b>	Not yet in practice <sup>92</sup>	Not yet in practice <sup>92</sup>	Blind/visually impaired are entitled to make 20 calls/month to the phone enquiry service free of charge. US provider is obliged to make a text-only version of his electronic directory available for the use of blind/visually impaired persons

<sup>86</sup> I.e. for subscribers of fixed telephony services, mobile contracts, mobile pre-paid services and personal numbers, except for those who have expressed opposition to being listed.

<sup>87</sup> Except for mobile pre-paid services (there is no legal obligation, so subscriber's data are only included according to the operator's and the client's preference.)

<sup>88</sup> Cf. Section 6 of Executive Order No. 665 of 10 July 2003 on USO Services.

<sup>89</sup> According to TUDLV § 1.2b, the incumbent must provide a printed directory service, which is, in principle, yearly updated, including all the available subscribers' data provided that they have not opposed completely or partially their inclusion.

<sup>90</sup> According to TUDLV § 1.2a, the incumbent must provide a printed directory enquiry service, including all the available subscribers data provided that they have not opposed completely or partially their inclusion. This also applies for foreign numbers.

<sup>91</sup> Cf. § 29 Sozialgesetzbuch I (SGB I).

<sup>92</sup> Provided by EETT Decision 255/83 14.06.02 on U.S.O content. Apart from having proceeded to hearing concerning the breach of the telecommunications regulations and especially EETT USO Regulation, the EETT attends all the meetings among telecoms providers and the USO provider, and intervenes in case of dispute. According to EETT Decision 276/39/2003, "Regulation concerning the administrating-supervision of short codes of the National Numbering plan for the provision of directory enquiry services", the number series 118 has been allocated for the provision of directory enquiry services.

<b>Member State</b>	<b>Is there at least one <u>directory including all subscribers</u><sup>86</sup> (of all operators) available to all users? If not, which type of subscribers are excluded? (Article 6.2.b, Dir. 98/10/EC)</b>	<b>Is there at least one <u>directory enquiry service including all subscribers</u><sup>86</sup> (for all operators) available to all users? If not, which type of subscribers are excluded? (Article 6.2.c, Dir. 98/10/EC)</b>	<b>Have any specific measures been taken in order to guarantee the provision of these services to disabled users and users with special social needs? Please, specify.</b>
<b>E</b>	Not yet in practice <sup>93</sup>	Yes, in the applicable rules <sup>94</sup>	Blind or those living with them are entitled to make 10 phone calls per month to Telefonica's directory enquiry service free of charge in the context of USO <sup>95</sup> .
<b>F</b>	No = mobile subscribers missing (mobile operators do not transmit data to the incumbent; however, 30% of Orange subscribers have voluntarily transmitted their data which are now included in the directory) as well as subscribers of new entrants' which have not signed an agreement with France Télécom  The Décret on universal directory was published in the OJ on 6 August 2003	No	Specific measures are mentioned, but there is no financial compensation foreseen for possible actions. There are, in practice, no specific measures. Among those benefiting from the telephone social discount (known as « tarifs sociaux ») are disabled war veterans who are entitled to an extra discount (+4,56 euros compared to others)
<b>IRL</b>	Yes	Yes	Yes – e.g specific measures for those with visual and hearing impairments (braille bills, specific directory enquiry services for the blind free of charge).
<b>I</b>	Yes <sup>96</sup>	Yes <sup>96</sup>	Yes, operators report annually to the NRA about the measures taken to provide these services to disabled users and users with special needs
<b>L</b>	Yes	Yes	Yes
<b>NL</b>	Yes since sept 2002	Yes	No
<b>A</b>	Yes <sup>97</sup>	Yes	No
<b>P</b>	Yes	Yes	Blind people or visually impaired are entitled to make 20 phone calls per month to the incumbent's directory enquiry service free of charge.
<b>FIN</b>	Yes	Yes	Yes, a special service financed by the Ministry of Social Affairs and Health.
<b>S</b>	No <sup>98</sup>	Yes	Yes. The Swedish NRA has procured a service for free directory enquiries for people with specific functional disabilities.

<sup>93</sup> O.M of 21 December 2001 on USO identifies criteria for the production and updating of directory services within US and identifies the data which are to be included. For mobile subscribers and those to whom special network numbers have been assigned, an opt-in approach applies, while an opt-out approach applies for fixed subscribers. The Spanish regulation, and specifically the Ministerial Order of 21 December 2001, deliberately guarantee subscribers' right (both fixed and mobile) to be included in the directories.

<sup>94</sup> The Spanish regulation guarantees the existence of telephone enquiry service available to all users. The CTE/711/2002 Ministerial Order of 26 March sets the conditions ruling the provision of such a service, allocating the corresponding numbers.

<sup>95</sup> C.f. OM 68/2002.

<sup>96</sup> Provisions have been introduced by regulation 36/02/CONS and 180/02/CONS. As from October 2002 directory and directory enquiry services are available for subscribers of all fixed telephony services. Users and subscribers of mobile services are being included in directory enquiry services. Procedures for collection of data subject consent are already compliant with 2002/58/EC Directive.

<sup>97</sup> Subscriber data are included according to the operator's and the client's preference.

<sup>98</sup> The printed directory provided by a sub-contractor to Telia includes mobile numbers only on subscriber's request and for an extra fee.

<b>Member State</b>	<b><i>Is there at least one <u>directory</u> including <u>all subscribers</u><sup>86</sup> (of all operators) available to all users? If not, which type of subscribers are excluded? (Article 6.2.b, Dir. 98/10/EC)</i></b>	<b><i>Is there at least one <u>directory enquiry service</u> including <u>all subscribers</u><sup>86</sup> ( for all operators) available to all users? If not, which type of subscribers are excluded? (Article 6.2.c, Dir. 98/10/EC)</i></b>	<b><i>Have any specific measures been taken in order to guarantee the provision of these services to disabled users and users with special social needs? Please, specify.</i></b>
<b>UK</b>	No <sup>99</sup>	No <sup>100</sup>	A free directory service is available for those users unable to use a paper directory.

<sup>99</sup> Although no subscribers are formally excluded from the core database, there have been difficulties in ensuring all mobile data is available. Of tel expects that mobile data will be more generally available in the core database towards the end of 2003.

<sup>100</sup> All subscribers have access to a directory enquiry service listing all available numbers. However, there have been difficulties in ensuring mobile subscriber data is available and this data is not comprehensively provided at present. As above, Of tel expects that mobile data will be more generally available in the core database towards the end of 2003.

**Table 6: Competition in the market of directory services**

Member State	How are the relevant subscribers' data provided to all organisations willing to provide directory services/directory enquiry services? (Please, specify)			How are prices for the provision of subscribers' data fixed?
	Database set up by the NRA or independent body (Please, specify)	Database set up by the incumbent	Other. Please, specify.	
B	No	Yes <sup>101</sup>	Operators have to put their data at the directory services providers' disposal on a cost-oriented price	Fixed between the operators under IBPT's control
DK	No	Yes The incumbent's directory enquiry service.	Providers of telecommunications networks or services who reassign subscriber numbers to end-users shall deliver number information data to any parties who wish so.	The payment for delivering number information data shall not exceed the costs of delivering it (the marginal costs).
D	No	Yes		The price for the provision of subscribers' data, if any, must be cost-oriented <sup>102</sup> . The Federal Competition Authority has noted that this is not a tariff of a telecommunications service.
EL	No <sup>103</sup>		The procedure of collecting subscribers' data is described in EETT Decision 255/83 14.06.02 on U.S.O content.	The provision of subscribers' data to the U.S.O provider must be cost oriented <sup>104</sup> .
E	By the NRA <sup>105</sup>			For free
F	No	Yes and commercialised.		Up to now, the tariff was agreed after commercial negotiation. The Ordonnance and Décret on universal service foresee that these tariffs are cost-oriented.
IRL		Yes		Must be fair, cost-orientated and non-discriminatory.
I	No	No	Database set up jointly by all operators (included the incumbent) under a specific agreement, which specifies how subscriber data shall be provided to all organisations operating in directory/directory enquiry services.	For the database set up jointly by operators, prices are defined on a fair and non discriminatory basis.
L	Direct provision from operators to directory service providers.	No		By comparison

<sup>101</sup> The Incumbent set up the data base used by the universal directory enquiry service and the universal directory service. Operators have to put their data at the USO provider's disposal on a cost-oriented price

<sup>102</sup> C.f. TKG § 12 Abs. 1.

<sup>103</sup> Competition in directory services/directory enquiry services does not exist yet. However relevant provisions have been included in EETT Decision 255/83 14.06.02 on U.S.O content.

<sup>104</sup> C.f. EETT Decision 255/83 14.06.02 on U.S.O content.

<sup>105</sup> Although it has been foreseen that telephone service providers must provide CMT with their subscribers' data and CMT must provide the entitled entities with them, no provision have been included as regards how to do it. (Art. 14 RSU) The CMT, by resolution of 27 June 2002, has set up a manual mechanism for the provision of subscribers' data to the directory services providers which will be applied transitorily until an automatic mechanism is set up by CMT.

Member State	How are the relevant subscribers' data provided to all organisations willing to provide directory services/directory enquiry services? (Please, specify)			How are prices for the provision of subscribers' data fixed?
	Database set up by the NRA or independent body (Please, specify)	Database set up by the incumbent	Other. Please, specify.	
NL	No	Incumbent has database for own directory services	Other publishers must get information from incumbent and new entrants separately.	The incumbent buys data from new entrants at cost oriented tariffs. Tariffs are unknown. New entrants do not contribute to publication costs. Other publishers deal with operators at same terms, as provision of data is legal matter
A	No	Yes	Request of data can be made to all operators.	By contract between the parties
P	No	Yes		Price is fixed by the incumbent according to the principles of transparency and equality. This price is under analysis by the Directorate-General for Fair Trade and Commerce (DGCC).
FIN	No	No, database is set up jointly by all operators	All operators shall submit information in a format appropriate for publication.	Prices shall be reasonably proportional to the costs
S			All notified operators are liable to provide available relevant subscribers' data to any party who requests it for the purpose of providing enquiry services.	The Electronic Communications Act, which entered into force 25 <sup>th</sup> of July 2003, prescribes cost-oriented pricing.
UK	N/A	Yes	N/A	The overall framework is one of cost-orientation and non-discrimination. The actual detail of the charges is worked out in cross-industry negotiations. Should a formal dispute arise, Ofcom would seek to investigate further but does not determine charges at this stage.

## 5 ITEMISED BILLING AND CALL BARRING

**Table 7: Availability of itemised billing**

MS	Operator	Which of the following details are shown in the basic level of itemised billing provided at no extra charge? (Please, specify in every cell for each type of calls <sup>106</sup> )					Are additional details provided at extra charge? (Please specify)	Have any specific measures been implemented for disabled users and users with special social needs? (Please specify)
		Partial/full number called	Duration of each call	Date of call	Price of each call	Other (specify)		
B	Incumbent (fixed voice telephony)	Yes <sup>107</sup>	Yes	Yes	Yes	Yes <sup>107</sup>	Yes <sup>107</sup>	Yes <sup>107</sup>
	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes <sup>107</sup>	Yes	Yes	Yes	Yes <sup>107</sup>	Yes <sup>107</sup>	Yes <sup>107</sup>
	Main mobile operator <sup>108</sup>	Yes <sup>107</sup>	Yes	Yes	Yes	Yes <sup>107</sup>	Yes <sup>107</sup>	Yes <sup>107</sup>
DK	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	No additional mandatory requirements	Yes, operators may charge for additional details etc.	No
	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	No additional mandatory requirements	Yes, operators may charge for additional details etc.	No
	Main mobile operator <sup>108</sup>	Yes	Yes	Yes	Yes	No additional mandatory requirements	Yes, operators may charge for additional details etc.	No
D	Incumbent (fixed voice telephony)	Client option	Yes	Yes	Yes	Yes	Yes	Yes <sup>109</sup>
	Main new entrant <sup>108</sup> (fixed voice telephony)	Client option	Yes	Yes	Yes	Yes	Yes	Yes <sup>109</sup>
	Main mobile operator <sup>108</sup>	Client option	Yes	Yes	Yes	Yes	Yes	Yes <sup>109</sup>

<sup>106</sup> I.e. for local, national and international calls, as well as for calls to internet, to mobile number, to premium rate services and any other relevant category. Please specify if a different level of detail is provided depending on the category of call.

<sup>107</sup> No details have been provided by the Belgian authorities.

<sup>108</sup> In case it is not possible to identify one single operator to be considered as "main" operator in the market, please fill in the table for all the leading operators.

<sup>109</sup> Operators offer, on a voluntary basis, an electronic proof of each individual call. This proof is sent by e-mail or can be accessed through the operator's web page. This makes it possible for visually impaired people to enhance the font size of this proof. Blind people can also print the proof on Braille paper or convert it into linguistic signals. The purchase price of the such devices is refunded –depending on the special circumstances of each individual case- by the health insurance companies or by the responsible social security services.

MS	Operator	Which of the following details are shown in the basic level of itemised billing provided at no extra charge? (Please, specify in every cell for each type of calls <sup>106</sup> )					Are additional details provided at extra charge? (Please specify)	Have any specific measures been implemented for disabled users and users with special social needs? (Please specify)
		Partial/full number called	Duration of each call	Date of call	Price of each call	Other (specify)		
EL	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes <sup>110</sup>	No	Yes Basic level of itemised billing to blind / visually impaired persons, including called number, date of call, charge of each call <sup>111</sup> .
	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes <sup>110</sup>		
	Main mobile operator <sup>108</sup>	Yes <sup>112</sup>	Yes	Yes	Yes	Yes <sup>110</sup>		
E	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	No	Yes. Average duration of the call//starting time/ending time	Braille bills or bills with large characters are provided on request. Braille bills are provided in the context of US <sup>113</sup>
	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	No	-	-
	Main mobile operator <sup>108</sup>	Yes	Yes	Yes	Yes	No	-	-
F <sup>114</sup>	Incumbent (fixed voice telephony)	Yes, being a choice to the subscriber the inclusion of the complete or partial number	Yes <sup>115</sup>	Yes	Yes	Time of the call/ Destination or category of the communication/ options, reductions or eventual promotions. Type of tariff <sup>116</sup>	No	No

<sup>110</sup> Starting time of the call, Detailed analysis such as the total number of calls to mobile operators, to fixed operators, to internet etc.

<sup>111</sup> C.f. art. 6 EETT Decision 255/83 14.06.02 on U.S.O content.

<sup>112</sup> However it is not required by the law

<sup>113</sup> O.M. 68/1992.

<sup>114</sup> Provisions regarding telephone bills have been approved by « arrêté » of 1 February 2002 (Official Journal of 8 February 2002). Regarding itemised billing, art. 11 of this ordinance provides that the itemised billing must include, among others, the full list of telephone communications and, regarding each of them, the following details : date; beginning time, identified in hours and minutes ; telephone number called, provided that provisions in Act 78-17 of 6 January 1978 have been modified ; destination or category of the communication ; quantity consumed within a certain unit of reference -in case this quantity refers to a duration, the bill must identify the actual duration and the duration to be paid for when both values are different ; (...); options, reductions and promotions, if applicable ; the bill including taxes. The itemised billing is to be provided free of charge on request. A second part of this arrêté will be applied from 1 September 2003 : it will enable to have on the itemised bill a comparison between billed airtime and actual airtime used

<sup>115</sup> For local calls which duration is less than 1 minute, only the total of calls is to be identified: duration, number of calls and price. For the *commandes* or calls of particular services for *forfaitaires* tariffs, only the total number of calls and the global price have to be identified.

<sup>116</sup> To be applied since 1 September 2002, HT and TTC.

Itemised billing and call barring

MS	Operator	Which of the following details are shown in the basic level of itemised billing provided at no extra charge? (Please, specify in every cell for each type of calls <sup>106</sup> )					Are additional details provided at extra charge? (Please specify)	Have any specific measures been implemented for disabled users and users with special social needs? (Please specify)
		Partial/full number called	Duration of each call	Date of call	Price of each call	Other (specify)		
F	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes, being a choice to the subscriber the inclusion of the complete or partial number	Yes <sup>115</sup>	Yes	Yes	Time of the call/destination or category of the communication/ options, reductions or eventual promotions. Type of tariff <sup>116</sup>	No	No
	Main mobile operator <sup>108</sup>	Yes, being a choice to the subscriber the inclusion of the complete or partial number	Yes	Yes	Yes	time of the call/destination or category of the communication/ options, reductions or eventual promotions. Type of tariff <sup>116</sup>	No	No
IRL	Incumbent (fixed voice telephony)	Yes <sup>117</sup>	Yes	Yes	Yes	Time of call, call category, discount applied	-	Braille bills are available to visually impaired
	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	Time of call, call category	No	-
	Main mobile operator <sup>108</sup>	Yes	Yes	Yes	Yes	Time of call, network called	-	Braille bills are available to visually impaired
I	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	City, Type of Tariff or Discount	No	No
	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	City, Type of Tariff or Discount	Yes <sup>118</sup>	No
	Main mobile operator <sup>108</sup>	Yes	Yes	Yes	Yes	City, Type of Tariff or Discount	No	No
L	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes			
	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes			
	Main mobile operator <sup>108</sup>	Yes	Yes	Yes	Yes			
	Other operators normally offer this service to their customers	Yes	Yes	Yes				

<sup>117</sup> With the exception of calls under EUR0.05244 (ex VAT), which are banded together, and freephone numbers, which are not detailed.

<sup>118</sup> For business users, bills are itemised for each company's location and for each service.



MS	Operator	Which of the following details are shown in the basic level of itemised billing provided at no extra charge? (Please, specify in every cell for each type of calls <sup>106</sup> )					Are additional details provided at extra charge? (Please specify)	Have any specific measures been implemented for disabled users and users with special social needs? (Please specify)
		Partial/full number called	Duration of each call	Date of call	Price of each call	Other (specify)		
NL	Incumbent (fixed voice telephony)	No	No	No	No	Time of the call, type of tariff charged, country of destination	Yes <sup>119</sup> . Partial/full number called, duration of each call, date of call, price of each call	No
	Main new entrant <sup>108</sup> (fixed voice telephony)	It is not possible to identify one operator as the main new entrant for fixed telephony as there are so many in the market.						
	Main mobile operator <sup>108</sup>	Yes	Yes	Yes	Yes	Differs per operator <sup>120</sup>	Differs per operator	No
A	Incumbent (fixed voice telephony)	No	No	No	No	No	Subscribers can get itemised billing for all calls or for each type of call on request at extra charge. Itemised billing contains the partial number called, the duration, the date and the price of each call.	No
	Main new entrant <sup>108</sup> (fixed voice telephony)	Two leading carrier network operators offer itemized billing at no extra charge, while other leading operators do, but only at extra charge.	partial number called	Yes	Yes	Yes	No	No
	Main mobile operator <sup>108</sup>	No	No	No	No	No	Subscribers can get itemized billing for all calls with the mentioned details (number, duration etc.) including SMS at extra charge.	No
P	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes			Yes. Braille bills and mails for blinds

<sup>119</sup> 0,02 Euro are charged per itemised call.

<sup>120</sup> We have assumed KPN as the main mobile operator as it is the only operator with SMP designation. This information for KPN is not known by OPTA. However, other operators, notably Vodafone, also have significant markets shares. If more than one operator is to be considered we note that the requested information differs per operator.

Itemised billing and call barring

MS	Operator	Which of the following details are shown in the basic level of itemised billing provided at no extra charge? (Please, specify in every cell for each type of calls <sup>106</sup> )					Are additional details provided at extra charge? (Please specify)	Have any specific measures been implemented for disabled users and users with special social needs? (Please specify)
		Partial/full number called	Duration of each call	Date of call	Price of each call	Other (specify)		
P	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes			n.d.
	Main mobile operator <sup>108</sup>							Yes. Braille bills and mails for blinds
FIN	Incumbent (fixed voice telephony)	No <sup>121</sup>					Yes Partial or full numbers and the date of each individual call can be itemised on request at extra charge.	
	Main new entrant <sup>108</sup> (fixed voice telephony)	No <sup>121</sup>					Yes Partial or full numbers and the date of each individual call can be itemised on request at extra charge.	
	Main mobile operator <sup>108</sup>	No <sup>121</sup>					Yes Partial or full numbers and the date of each individual call can be itemised on request at extra charge.	
S	Incumbent (fixed voice telephony)	Yes <sup>122</sup>	Yes	Yes	Yes	-	-	-
	Main new entrant <sup>108</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes			
	Main mobile operator <sup>108</sup>	No <sup>123</sup>	No	No	No			
UK	Incumbent (fixed voice telephony) BT Group	Yes but on request (Freephone numbers excluded)	Yes, but on request	Yes, but on request	Yes, but on request	Time of day call was made	No	Large print, Braille, computer disk, talking bills, call my bill and light user scheme.
	Main new entrant <sup>108</sup> (fixed voice telephony) Ntl	No	No	No	No	N/a	Yes ,date, called number (Freephone numbers excluded), time of call, duration and price at a cost of £1 per month	Yes, Braille or large print

<sup>121</sup> Calls are not itemised individually but the basic itemised bill shows the total amount of calls (total minutes and total prices) divided into local, long distance, mobile, international and premium rate calls.

<sup>122</sup> With the exception of local calls

<sup>123</sup> Itemised billing provided by main mobile operator (Telia Mobile) but only at extra charge.

MS	Operator	Which of the following details are shown in the basic level of itemised billing provided at no extra charge? (Please, specify in every cell for each type of calls <sup>106</sup> )					Are additional details provided at extra charge? (Please specify)	Have any specific measures been implemented for disabled users and users with special social needs? (Please specify)
		Partial/full number called	Duration of each call	Date of call	Price of each call	Other (specify)		
UK	Main mobile operator <sup>108</sup> Vodafone (Vf) O2, Orange (Or) T-Mobile (T-M) These operators have an approximately equal share of the UK market.	Vf No O2 Yes* Or Yes* T-M Yes* (*Freephone numbers excluded)	- Vf No O2 Yes Or Yes T-M Yes	Vf No O2 Yes Or Yes T-M Yes	Vf No O2 Yes Or Yes T-M Yeso	Vf n/a O2 # Or # T-M # #Time of day the call was made	Vodafone (£1.50/month), date, called number (Freephone numbers excluded), time of call, duration and price.	Yes, Braille & large print, audio format, Speaking Phone, Pre Pay special top up arrangements, on line bills & Text Bureau

**Table 8: Availability of call barring**

MS	Operator	Is selective call barring generally available on request <sup>124</sup> ?	Which of the following call categories can be barred <u>selectively</u> <sup>125</sup> ?				
			National calls	International calls	Calls to mobile	Premium rate calls	Other (specify)
B	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	
	Main mobile operator <sup>126</sup>	Yes	Yes	Yes	Yes	Yes	
DK	Incumbent (fixed voice telephony)	Yes	No	Yes <sup>127</sup>	No	Yes	All calls
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes	No	Yes <sup>127</sup>	No	Yes	All calls
	Main mobile operator <sup>126</sup>	Yes	No	Yes <sup>127</sup>	No	Yes	All calls
D	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	Yes <sup>128</sup>
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	Yes <sup>128</sup>
	Main mobile operator <sup>126</sup>	Yes	Yes	Yes	No	Yes	
EL	Incumbent (fixed voice telephony)	Yes	No	Yes	Yes	Yes	Yes Dial up to internet
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	
	Main mobile operator <sup>126</sup>	Yes	No	Yes	No	No	All outgoing calls, incoming calls, outgoing / incoming calls in case of roaming
E	Incumbent (fixed voice telephony)	Yes <sup>129</sup>	Yes <sup>129</sup>	Yes	Yes <sup>129</sup>	Yes	
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes <sup>130</sup>	Yes <sup>130</sup>	Yes	No	Yes	

<sup>124</sup> I.e. the facility whereby the subscriber can, on request to the telephone service provider, bar outgoing calls of defined types or to defined types of numbers (Annex I, Part 1, Dir. 98/10/EC).

<sup>125</sup> I.e. can the user bar only the outgoing calls of a defined type or to defined types of numbers?.

<sup>126</sup> In case it is not possible to identify one single operator to be considered as "main" operator in the market, please fill in the table for all the leading operators.

<sup>127</sup> Some operators offer barring of calls to specific countries. Calls to these countries are expensive, and the calls are often generated in connection to visits at certain web-pages (auto-dialers).

<sup>128</sup> No specification has been given by the German authorities.

<sup>129</sup> The Ministerial Order of 21 December 2001 provides that operators with universal service obligations must give the possibility to bar national, international, mobile and premium rate calls.

<sup>130</sup> The Ordinance OM 361/2002, of 14 February 2002, provides that at least it must be possible to bar calls to premium rate numbers and international calls, either for the incumbent or for any other operator.

MS	Operator	Is selective call barring generally available on request <sup>124</sup> ?	Which of the following call categories can be barred <u>selectively</u> <sup>125</sup> ?				
			National calls	International calls	Calls to mobile	Premium rate calls	Other (specify)
E	Main mobile operator <sup>126</sup>	Yes <sup>130</sup>	Yes <sup>130</sup>	Yes	No	Yes	
F	Incumbent (fixed voice telephony)	Yes for fixed (permanently and call by call)	Yes	Yes	Yes	Yes	Local calls
	Main new entrant <sup>126</sup> (fixed voice telephony)	No	No	No	No	No	No
	Main mobile operator <sup>126</sup>	Yes	Yes	Yes	Yes	Yes	All calls <sup>131</sup>
IRL	Incumbent (fixed voice telephony)	Yes	Yes but only with Mobile calls too <sup>132</sup>	Yes	Yes but only with National calls too	Yes	
	Main new entrant <sup>126</sup> (fixed voice telephony)	No					
	Main mobile operator <sup>126</sup>	Yes	N/A	Yes		Yes	
I	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes	No	Yes	No	Yes	
	Main mobile operator <sup>126</sup>	No	-	-	-	-	
L	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	
	Main new entrant <sup>126</sup> (fixed voice telephony)	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	
	Main mobile operator <sup>126</sup>	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	
NL	Incumbent (fixed voice telephony)	Yes	No	Yes	No	Yes	
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes	No	Yes	No	Yes	
	Main mobile operator <sup>126</sup>	Yes <sup>133</sup>	No	Yes	No	Yes	Barring all outgoing calls

<sup>131</sup> The option “only on-going calls” is mentioned in the ‘fiche tarifaire’.

<sup>132</sup> Due to conflict with 3 digit local access codes.

<sup>133</sup> The Dutch authorities have assumed KPN as the main mobile operator as it is the only operator with SMP designation. This information for KPN is not known by OPTA. However, other operators, notably Vodafone, also have significant markets shares. If more than one operator is to be considered they note that the requested information differs per operator.

MS	Operator	Is selective call barring generally available on request <sup>124</sup> ?	Which of the following call categories can be barred <u>selectively</u> <sup>125</sup> ?				
			National calls	International calls	Calls to mobile	Premium rate calls	Other (specify)
A	Incumbent (fixed voice telephony)	Yes	Yes <sup>134</sup>	Yes <sup>135</sup>	Yes	Yes	Barring all active and/or passive calls Selective barring of individual mobile prefix
	Main new entrant <sup>126</sup> (fixed voice telephony)	No information	No information	No information	No information	No information	No information
	Main mobile operator <sup>126</sup>	Yes	No information	No information	No information	Yes	No information
P	Incumbent (fixed voice telephony)	Yes <sup>136</sup>	Yes	Yes	Yes	Audiotext services <sup>137</sup>	
	Main new entrant <sup>126</sup> (fixed voice telephony)					Audiotext services <sup>137</sup>	
	Main mobile operator <sup>126</sup>					Audiotext services <sup>137</sup>	
FIN	Incumbent (fixed voice telephony)	Yes	No <sup>138</sup>	No <sup>138</sup>	No <sup>138</sup>	Yes	
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes	No <sup>138</sup>	No <sup>138</sup>	No <sup>138</sup>	Yes	
	Main mobile operator <sup>126</sup>	Yes	n.a.	No <sup>138</sup>		Yes	
S	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	No	
	Main mobile operator <sup>126</sup>	Yes	Yes	Yes	No	Yes	
UK	Incumbent (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	
	Main new entrant <sup>126</sup> (fixed voice telephony)	Yes	Yes	Yes	Yes	Yes	
	Main mobile operator <sup>126</sup>	Yes	Yes	Yes	Yes	Yes	

<sup>134</sup> National calls can only be barred with premium rate calls and international calls or within the barring of all active and/or passive calls.

<sup>135</sup> (Expensive) international calls can only be barred with premium rate calls.

<sup>136</sup> Selective call barring is available, free of charge, for the calls to other telecommunication services provided to the public and for audiotext services. C.f. art. 13°, n° 1, al. f) of RESFT.

<sup>137</sup> Since the Act n° 95/2001, of 20 August, came into force, service providers must ensure that access to audiotext services –except for “tele-voting” services- is barred. This access will only be provided, generally or selectively, following express request by the user.

<sup>138</sup> According to regulation FICORA 35 H/2003 M, the user can have barring to these services only in combination with barring to other (more expensive) services, such as premium rate calls. Operators are free to provide selective barring for these services if they want to, but this is not common.

## 6 DATA PROTECTION

**Table 9: Unsolicited calls, faxes and electronic mails (part I)**

	<i>Which approach (opt-in/opt-out/none) has been implemented for the following categories<sup>139</sup>?</i>		
	<i>Unsolicited phone CALLS</i>	<i>Unsolicited E-MAILS</i>	<i>Unsolicited FAXES</i>
<b>B</b>	Opt-out	Opt-In	Opt-in <sup>140</sup>
<b>DK</b>	Regarding consumers: opt-in <sup>141</sup> . Regarding others than consumers: opt-out	Modified Opt-in <sup>142</sup>	Opt-in
<b>D</b>	Opt-in <sup>143</sup>	Opt-in <sup>143</sup>	Opt-in <sup>143</sup>
<b>EL</b>	Opt-in for unsolicited calls for advertising purposes	Opt-in for unsolicited e-mails for advertising purposes	Opt-in for unsolicited faxes for advertising purposes
<b>E</b>	Opt-in	Opt-in	Opt-in
<b>F</b>	Opt-out	None	Opt-in (Ordonnances of 23 August 2001 and 25 July 2001)
<b>IRL</b>	Opt-out	Currently being decided	Opt-out for business and opt-in for individuals
<b>I<sup>144</sup></b>	Opt-in	Opt-in	Opt-in
<b>L</b>	Opt in draft law (document parlementaire 5181)	Opt in draft law (document parlementaire 5181)	Opt in draft law (document parlementaire 5181)
<b>NL</b>	Opt-in	Opt-out	Opt-in
<b>A</b>	Opt-in <sup>145</sup>	Opt-in <sup>145</sup>	Opt-in <sup>145</sup>
<b>P</b>	None	Opt-out <sup>146</sup>	Opt-in <sup>147</sup>
<b>FIN</b>	Opt-out	Opt-in	Opt-in

<sup>139</sup> According to Article 12 (97/66/EC), for the purposes of direct marketing, Member States can choose between an “opt-in” or “opt-out” approach for unsolicited calls and unsolicited e-mails. An “opt-in” approach is required for unsolicited faxes.

<sup>140</sup> In case of distance selling contracts.

<sup>141</sup> As regards book -, paper – and magazine – and insurance sales, opt-out has been implemented.

<sup>142</sup> Denmark has adopted an opt-in model with modifications. The Danish Marketing Practices Act (section 6a, para. 1) requires that the customer, prior to receiving the “call using mail”, has requested the call. A new section 6a, para.2, effective from 25 July 2003, modifies the rule in para. 1, allowing unsolicited e-mail without the customer actively requesting it, when a number of clearly defined conditions are met. The customer must be able to opt-out easily and free of charge at any time. The new para 2 only applies to e-mail.

<sup>143</sup> Based on case law under unfair competition law. There is a principle of consent for unsolicited e-mails in case law, but it has not yet been confirmed by the highest court.

<sup>144</sup> The new personal Data Protection Code published on 29 July 2003 will also transpose Directive 2002/58/EC. Most new provisions will come into force on 1 January 2004.

<sup>145</sup> For calls and faxes the opt-in scheme will not be changed by the new Telecommunications Act 2003. For e-mails and SMS the old law (which was in force until August 1) had an opt-in scheme and the new Telecommunications Act 2003 will have an opt-in scheme for consumers and an opt-out scheme for other recipients.

<sup>146</sup> The called party has the right to refuse, free of charge, the reception of direct marketing unsolicited calls by means different from automatic calling machines or fax.

<sup>147</sup> Also applicable to direct marketing actions using automatic calling machines.

	<i>Which approach (opt-in/opt-out/none) has been implemented for the following categories<sup>139</sup>?</i>		
	<i>Unsolicited phone CALLS</i>	<i>Unsolicited E-MAILS</i>	<i>Unsolicited FAXES</i>
<b>S</b>	Opt-out <sup>148</sup>	Opt-out	Opt-out <sup>148</sup>
<b>UK</b>	Opt-out	Opt-out <sup>149</sup>	Opt-in <sup>150</sup>

**Table 10: Unsolicited calls, faxes and electronic mails (part II)**

	<i>Is the “opt-in/opt-out” approach applicable to natural and legal persons<sup>151</sup>? (only natural/natural and legal)</i>	<i>Requirements for consent<sup>152</sup></i>	<i>Which institutions manage opt-out lists for e-mails?</i>	<i>Is consultation of opt-out lists required prior to sending unsolicited e-mails?</i>
<b>B</b>	Legal: opt-out Natural: opt-in	Not regulated	Not regulated	Not regulated
<b>DK</b>	Natural and legal (requirements concerning legal persons only regarding emails and faxes)	Oral or Written (active)	Central Office of Civil Registration	Not relevant
<b>D</b>	Natural and legal	Oral or written (active)	Private associations or other private third parties	No, consultation of opt-out lists is voluntary
<b>EL</b>	Only natural unless the legal representative of a legal person states that they do not wish to have unsolicited calls (opt-out)	Written (passive)	N.A.	No
<b>E</b>	Natural and legal	Unequivocal consent	Federación de Comercio Electrónico y Marketing Directo	No, unsolicited electronic communications are prohibited, unless deliberately authorised or requested by the addressees (Ley 34/2002, de 11 de julio, de Servicios de la Sociedad de la Información y de Comercio Electrónico)

<sup>148</sup> This applies to unsolicited calls made by sales representatives of the calling company. For unsolicited automatic calls to natural persons, Sweden has adopted an opt-in model.

<sup>149</sup> Where e-mail addresses constitute personal data because they incorporate an individual’s name, any processing must be done in accordance with the requirements of the Data Protection Act 1998. Any business that continues to process an e-mail address that constitutes personal data, in order to send unsolicited marketing communications, after being instructed by the individual concerned to stop, will be in breach of the Act’s fair processing requirements. New opt-in rules to be introduced later in 2003.

<sup>150</sup> Corporate subscribers are not entitled to register with the Telephone Preference Service although they have the right to opt-out on a case-by-case basis by instructing particular callers not to ring. Corporate subscribers are entitled to opt-out of unsolicited faxes both on a case by case basis or by registering with the Fax Preference Service.

<sup>151</sup> According to the directive, NRA is requested to specify whether the chosen approach is limited to natural persons only or extended to natural and legal persons.

<sup>152</sup> In this column, NRAs are requested to specify if the consent to be obtained from the user is to be *written* or *oral* and, if written, to specify if consent can be *passive* (e.g. the user does not delete a pre-ticked box corresponding to the declaration of consent) or is to be *active* (e.g. the user must tick the box corresponding to the declaration of consent).



	<i>Is the “opt-in/opt-out” approach applicable to natural and legal persons<sup>151</sup>? (only natural/natural and legal)</i>	<i>Requirements for consent<sup>152</sup></i>	<i>Which institutions manage opt-out lists for e-mails?</i>	<i>Is consultation of opt-out lists required prior to sending unsolicited e-mails?</i>
<b>F<sup>153</sup></b>	Natural and legal	Written (active)	Not yet determined at this stage	No
<b>IRL</b>	Opt-out for business and opt-in for individuals	Simple notification	Irish Direct Marketing Association (IDMA) <sup>154</sup>	No
<b>I</b>	Natural and legal	Oral or Written (active) <sup>155</sup>	None <sup>156</sup>	No <sup>157</sup>
<b>L</b>	Natural and legal (draft law document parlementaire 5181)	Prior consent(oral or written (active)(draft law document parlementaire 5181)	none	Not relevant
<b>NL</b>	Yes, applicable to the « subscriber » in accordance to the definition of Article 2 of the directive/	Not regulated	DMSA Nederlandse Associatie voor Direct Marketing, Distance Selling en Sales Promotion	Self-regulation applies <sup>158</sup>
<b>A</b>	Natural and legal <sup>159</sup>	Oral <sup>160</sup> or written (passive <sup>161</sup> )	RTR-GmbH	Unsolicited e-mails are forbidden <sup>162</sup>
<b>P</b>	Natural and legal	Written (active)	Not available	No <sup>146</sup>
<b>FIN</b>	Natural / natural and legal <sup>163</sup>	Oral or written <sup>164</sup>	SSML (The Finnish Direct Marketing Association)	No
<b>S</b>	Only natural persons	Not regulated	Not regulated	Yes

<sup>153</sup> P&T Code (Title I), amended by *ordonnance* n°2001-670 of 25/07/01, now foresees that direct marketing is forbidden unless the subscriber has given his agreement. (art. L. 34-4-1.)

<sup>154</sup> Lists managed on their behalf by the DMA based in the US. The IDMA is affiliated to the DMA.

<sup>155</sup> Consent is written if the type of message received allows getting information on sensitive data concerning the recipient. In the remaining cases, it will be sufficient for the entity obtaining the data subject’s consent to write it down.

<sup>156</sup> The Italian Data Protection Authority (Garante per la protezione dei dati personali) started the procedure leading to adoption of a Code concerning processing of personal data on electronic networks, which may include specific provisions on opt-out list – e.g. as regards ads sent to customers in connection with products or services that are similar to those already being supplied (see Article 13(2) of Directive 2002/58/EC). This will be without prejudice to the general opt-in principle.

<sup>157</sup> Parties that adhered to the *Stitching Reclame Code* commit themselves to the application of codes of conduct concerning unsolicited mails and sms.

<sup>158</sup> Parties that adhered to the *Stichting Reclame Code* commit themselves to the application of codes of conduct concerning unsolicited mails and SMS.

<sup>159</sup> The provisions of the old Telecommunications Act (which was in force until August 1) do not differentiate between natural and legal persons. The new Telecommunications Act has an opt-in scheme for unsolicited calls and faxes (no distinction between natural and legal persons) and it differs between consumers (opt-in) and other recipients (opt-out) for unsolicited e-mails and SMS.

<sup>160</sup> However, even oral consent must have been provided before the reception of the unsolicited call. This will not be changed by the Telecommunications Act 2003.

<sup>161</sup> The law does not explicitly require “active” consent, so therefore generally the inclusion of a declaration of consent in a document to be signed by the user (in such a way that the latter would have to delete the passage if he wishes to refuse consent) is accepted. This is not changed by the Telecommunications Act 2003.

<sup>162</sup> Consultation of the opt-out list managed by RTR-GmbH is required by the E-Commerce Act, but was not important, because unsolicited e-mails were generally prohibited by the old Telecommunications Act (which was still in force on August 1). According to the new Telecommunications Act unsolicited e-mails to non-consumers are legal and consultation of the opt-out list becomes relevant.

<sup>163</sup> For natural persons, an “opt-in” regime applies, except for unsolicited phone calls to which an “opt-out” regime applies. The “opt-out” regime also applies to legal persons.

<sup>164</sup> No specific form is prescribed by law for written consensus, which is normally passive.

Data protection

	<i>Is the “opt-in/opt-out” approach applicable to natural and legal persons<sup>151</sup>? (only natural/natural and legal)</i>	<i>Requirements for consent<sup>152</sup></i>	<i>Which institutions manage opt-out lists for e-mails?</i>	<i>Is consultation of opt-out lists required prior to sending unsolicited e-mails?</i>
<b>UK</b>	Legal persons have opt-out rights in some cases <sup>150</sup>	Not regulated	The Direct Marketing Association (e-Mail Preference Service or e-mps)	Self regulation–consultation required under industry codes of practice

**Table 11: Storage of data and other provisions of the Data Protection Directive**

MS	Maximum period permitted for the storage of data for:		Charge for subscribers to be omitted from the directory	Availability and cost of stopping automatic forwarding by a third party	Itemised billing	
	Billing	Other purposes <sup>165</sup>			Possibility to receive non-itemised bills	Number of digits from the called number deleted
B	To the end of the dispute period	Min. 1 year (secondary legislation still needed to determine exact period)	2,6 € /month	Free of charge	Yes	No rules exist
DK	5 years <sup>166</sup>	Max. 1 year (secondary legislation still needed to determine exact period)	Free of charge	Free of charge	Yes	No deletion for private customers, two for business customers
D	6 months after sending of bill	--	Free of charge	Free of charge, where technically possible	Yes	Three last digits/complete itemisation on request
EL	The period during which the bill may be lawfully challenged or payment may be pursued	--	0.96 € /month <sup>167</sup>	Free of charge	Yes	Three last digits upon request
E	5 years	Max. 1 year (for information society services, secondary legislation is still needed to determine the exact period)	Free of charge	Free of charge	Yes	Defined number <sup>168</sup>
F	1 year		Free of charge	Available <sup>169</sup>	Yes	Last four
IRL	Currently being looked at <sup>170</sup>	--	Free of charge	Free of charge if available	Yes	No deletion
I	5 years <sup>171</sup>	-- <sup>172</sup>	Free of charge	N/A <sup>173</sup>	Yes	Last three/complete itemisation in certain cases <sup>174</sup>

<sup>165</sup> Article 14(1) of Directive 97/66/EC.

<sup>166</sup> The end of the period during which the bill may be lawfully challenged or payment may be pursued.

<sup>167</sup> ETT is entitled to express its opinion on the level of the charge.

<sup>168</sup> To be specified in secondary legislation.

<sup>169</sup> Information given for France Télécom.

<sup>170</sup> Operators are obliged to comply with the requirements of Article 6 of the Directive. The general rules of the statute of limitations in case a bill is challenged is maximum 6 years.

<sup>171</sup> According to Civil Code, which provides that the bill may be lawfully challenged or payment may be pursued within five years. As of 1 January 2004, it will only be possible to retain the data for no longer than 6 months, subject to such additional retention period as may be necessary in connection with a judicial claim.

<sup>172</sup> As of January 2004, it will be possible to store the data for thirty months with a view to detecting and suppressing criminal offences.

<sup>173</sup> Under section 8 of legislative decree no. 171/1998, the provider must allow subscribers, free of charge, to stop automatic call forwarding by third parties.

<sup>174</sup> In case of complaints for specific calls as well as if a subject requests access to the data concerning him/her. As of 1 January 2004, the Italian Data Protection Authority (Garante per la protezione dei dati personali) may authorise a provider to report the full numbers in a bill if it is established that alternative payments methods are fully available – including anonymous methods – such as credit cards, debit cards or pre-paid cards, this being an obligation applying to all operators. .

MS	Maximum period permitted for the storage of data for:		Charge for subscribers to be omitted from the directory	Availability and cost of stopping automatic forwarding by a third party	Itemised billing	
	Billing	Other purposes <sup>165</sup>			Possibility to receive non-itemised bills	Number of digits from the called number deleted
L	until the end of the dispute period (draft law document parlementaire 5181)	Max 1 year (draft law document parlementaire 5181)	Free of charge	Not available	Yes	No deletion; draft law doc parlementaire 5181
NL	Not specified in the law <sup>175</sup>	Three months for ISPS and pre-paid cards	Free of charge	Free of charge	Yes	No deletion
A	Company specific <sup>176</sup>	As long as the data is needed for the relevant purpose	Free of charge	Free of charge <sup>177</sup>	Yes	Company specific <sup>178</sup>
P	6 months	--	Free of charge	Free of charge	Yes	Four
FIN	Min. 3 months after maturity date of the bill; max 3 years after bill has been paid in full	--	Free of charge	Free of charge	Yes	Three last digits/complete itemisation in certain cases
S	The period during which the bill may be lawfully challenged or payment may be pursued	As long as the data is needed for the relevant purpose	Not regulated (free of charge with incumbent operator)	Free of charge	Yes	Not regulated (generally no deletion)
UK	6 years <sup>179</sup>	Under discussion (between 6-12 months)	Free of charge	Free of charge	Yes	No deletion

<sup>175</sup> The forthcoming legislation regarding traffic and billing data states that the period for which the billing information may be stored is the period in which the bill can be lawfully challenged or the payment may be pursued.

<sup>176</sup> According to the conditions stipulated in the contracts with the operators, but a maximum of 3 years is fixed by law.

<sup>177</sup> Information given for Telekom Austria

<sup>178</sup> Legislation does not set the precise number of digits to be deleted, which could be two or more. Many companies, including Telekom Austria, delete the last three digits.

<sup>179</sup> Limitation period for contractual disputes.

**Table 12: Calling line identification (CLI)**

	<i>Availability and cost</i>		<i>Availability and cost for the called subscriber to:</i>			<i>Availability to and cost for the organisation dealing with emergency calls of overriding the elimination of the presentation of the CLI</i>
	<i>For the calling user to eliminate the presentation of the CLI on a per-call basis</i>	<i>For the subscriber to request the service provider to (temporarily) override the elimination of the presentation of the CLI<sup>180</sup></i>	<i>Eliminate the presentation of the connected line identification to the calling user</i>	<i>Prevent the presentation of the CLI of incoming calls</i>	<i>To reject incoming calls where the presentation of the CLI has been eliminated by the calling user</i>	
<b>B</b>	Free of charge	Available	Free of charge	Free of charge for a reasonable use	Available	Free of charge
<b>DK</b>	Free of charge	Not available	Free of charge	Free of charge	Free of charge	Free of charge
<b>D</b>	Free of charge	Available, cost not regulated	Free of charge	Free of charge	Free of charge, (in mobile telephony based on terminal equipment)	Free of charge
<b>EL</b>	Free of charge	Available for limited time period and for specific reasons, costs not yet regulated	Free of charge	Available with simple means, free of charge <sup>181</sup>	Available with simple means <sup>181</sup>	Free of charge
<b>E</b>	Free of charge	Free of charge	Not available	Free of charge	Available	Available <sup>182</sup>
<b>F</b>	Free of charge	Answer from FT	Answer from FT	Answer from FT	Yes, but not free of charge <sup>183</sup>	Free of charge
<b>IRL</b>	Free of charge	Not available	Free of charge	Free of charge	Not available	Free of charge
<b>I</b>	Free of charge	Available (€ 77.46 for 1-5 days, € 103.29 for 6-10 days, € 129.11 for 11-15 days, excluding tax) <sup>184</sup>	Free of charge	Available by default <sup>185</sup>	Not available <sup>186</sup>	Free of charge
<b>L</b>	Free of charge	Foreseen in the draft law doc parlementaire 5181	Available free of charge draft law doc parlementaire 5181	Available free of charge draft law doc parlementaire 5181	Available free of charge draft law doc parlementaire 5181	Available free of charge draft law doc parlementaire 5181
<b>NL</b>	Available, free of charge	Not available	Available for ISDN only (part of CLI service)	Free of charge	Not available	Available No standard tariff applies

<sup>180</sup> For tracing malicious or nuisance calls.

<sup>181</sup> Facility mandated by the law, but not yet implemented.

<sup>182</sup> Paragraphs 1 and 2, article 75 of Royal Decree 1736/1998, of 31 July.

<sup>183</sup> France Telecom offers a service enabling its subscribers to reject calls where the presentation of the CLI has been eliminated or calls marked with an R (calls from a list established by the subscriber).

<sup>184</sup> As of 1 January 2004, operators may charge amounts not exceeding the costs actually incurred by them.

<sup>185</sup> Telecom Italia only offers CLI upon subscription

<sup>186</sup> This service is available free of charge from mobile telephony service providers.

	Availability and cost		Availability and cost for the called subscriber to:			Availability to and cost for the organisation dealing with emergency calls of overriding the elimination of the presentation of the CLI
	For the calling user to eliminate the presentation of the CLI on a per-call basis	For the subscriber to request the service provider to (temporarily) override the elimination of the presentation of the CLI <sup>180</sup>	Eliminate the presentation of the connected line identification to the calling user	Prevent the presentation of the CLI of incoming calls	To reject incoming calls where the presentation of the CLI has been eliminated by the calling user	
<b>A</b>	Free of charge	Available (€ 6.54 + € 0.73 per day+€1.45 per identification) <sup>187</sup>	Available: €6.54 (single payment)	Free of charge	Free of charge <sup>188</sup>	Available: €4.36 (single payment)
<b>P</b>	Free of charge	Available <sup>189</sup>	Free of charge	Free of charge	Available	Available
<b>FIN</b>	Free of charge	Free of charge <sup>190</sup>	Free of charge	Free of charge	Available	Available <sup>191</sup>
<b>S</b>	Free of charge	Not regulated <sup>192</sup>	Free of charge	Free of charge	Available	Not regulated
<b>UK</b>	Free of charge	Available free of charge when calls are subject to formal investigation <sup>190</sup>	Provided free of charge on ISDN networks	Available <sup>193</sup> , free of charge	Available on analogue services (BT charges £ 9.99 a quarter, some other operators provide it free of charge) <sup>194</sup>	Free of charge

<sup>187</sup> Information given for Telekom Austria

<sup>188</sup> Available since 1<sup>st</sup> quarter of 2001.

<sup>189</sup> Although this facility is foreseen by the law, there is no information on its actual availability.

<sup>190</sup> Calling line identification available to law enforcement authorities.

<sup>191</sup> Override category available, but organisation pays installation costs.

<sup>192</sup> The charge of the incumbent operator (TeliaSonera) for malicious call identification is SEK 500 including 5 successful tracings for a two-week period. Extra tracings: SEK 50 each.

<sup>193</sup> If specifically requested from service provider.

<sup>194</sup> Not available on digital services (GSM, ISDN) because there is ambiguity as to whether this facility must be provided as a network service as opposed to being delivered through a terminal equipment solution. Hopefully the situation will change when 2002/58/EC is implemented.

## **7 NATIONAL REGULATORY AUTHORITIES**

**Table 13: Powers of the National Regulatory Authorities**

<i>MS</i>	<i>Licensing</i>	<i>Numbering</i>	<i>Broadcasting</i>	<i>Rights of way</i>	<i>Price controls (end user tariffs)</i>	<i>Monitoring USO</i>	<i>Access and interconnection</i>	<i>Dispute resolution</i>	<i>Application of competition law</i>	<i>Market monitoring and enforcing compliance with regulations</i>	<i>Frequency allocation and spectrum management</i>
<b>B</b>	BIPT	BIPT	Communities	Communities	BIPT / NCA	BIPT, Government	BIPT	BIPT / NCA	NCA	BIPT	Allocation: BIPT Assignment: BIPT
<b>DK</b>	NITA <sup>195</sup>	NITA	NITA, Ministry of Culture	NITA, Local authorities	NITA	NITA	NITA	NITA	NCA	NITA	Allocation: NITA <sup>195</sup> Assignment : NITA
<b>D</b>	RegTP <sup>196</sup>	RegTP	RegTP, Regional Broadcasting Institutions	RegTP, other authorities <sup>197</sup>	RegTP	RegTP	RegTP	RegTP	RegTP: sector specific rules in the telecommunications sector Bundeskartellamt (national competition authority): competition law	RegTP	Allocation: Federal Government: Table of frequency allocations indicating the frequency bands to be allocated to individual radio services and other electromagnetic wave applications. Assignment: RegTP ( further allocation of the frequency bands to individual frequency uses and determinations on such uses).
<b>EL</b>	EETT	EETT	EETT, Ministry (Ministry of Transport and Communications and Ministry of Press)	Local and other authorities <sup>198</sup>	EETT	EETT	EETT	EETT	EETT	EETT	Allocation: Ministry of Transport and Communications Assignment: EETT

<sup>195</sup> Within the framework of the frequency policy mandate given to NITA.

<sup>196</sup> See also Communication N. 189/2003 in the Reg TP-Journal N°. 14/2003 of 16.July 2003, Page 764.

<sup>197</sup> Consent to the exercise of the right of way transferred/assigned by RegTP on a case by case basis.

<sup>198</sup> Office of Town and Country Planning, Office for Nuclear Energy



MS	Licensing	Numbering	Broadcasting	Rights of way	Price controls (end user tariffs)	Monitoring USO	Access and interconnection	Dispute resolution	Application of competition law	Market monitoring and enforcing compliance with regulations	Frequency allocation and spectrum management
E	SETSI and CMT	MCYT/SETSI: Administration <sup>199</sup>  CMT: Management <sup>200</sup>	MCYT/SETSI: Preparation and proposal of the rules on audio-visual services, inspection and regulation CMT: Competition safeguard on conditional access services	MCYSETSI, Regulation and management of matters related to rights of way CMT: Dispute resolution between operators on shared use of infrastructures. <sup>201</sup>	/SETSI, Ministry of Economy, consultation CMT	/SETSI and CMT <sup>202</sup>	CMT and SETSI	CMT: Disputes between operators MCYT/SETSI: Disputes between users and operators	CMT, Competition Authority	CMT	SETSI
F	Ministry on proposal of ART	ART	CSA and Ministry of Culture	Local authorities	Ministry on basis of Avis of ART	ART	ART	ART	Conseil de la Concurrence	ART	Allocation: ANFR <sup>203</sup> Assignment: ART
IRL	ComReg	ComReg	Minister for Communications, Marine and Natural Resources. Broadcasting Commission of Ireland. ComReg (transmission and distribution networks)	Local authorities	ComReg	ComReg	ComReg	ComReg	Competition Authority	ComReg	Allocation: ComReg and Minister for Communications, Marine and Natural Resources Assignment: ComReg and Minister for Communications, Marine and Natural Resources
I	Ministry	AGCOM	AGCOM Ministry	Local authorities AGCOM	AGCOM	AGCOM	AGCOM	AGCOM	NCA	AGCOM	Allocation: Ministry Assignment: Ministry, AGCOM
L	Ministre délégué aux Communications	ILR	Service des Média et des Communications			ILR	ILR	ILR et tribunaux luxembourgeois	Ministère de l'Economie - Direction de la Concurrence et de la Protection du consommateur	ILR	Allocation: Ministry Assignment: ILR

<sup>199</sup> Administration of the national numbering plan, as the establishment and change of: The national numbering plan; Types of usage for designated number ranges; Rules for administration of the national numbering plan; Rules for management of the national numbering plan

<sup>200</sup> Management of the national numbering plan as the whole of: assignment of numbers for designated ranges; surveillance of usage of assigned ranges; withdrawal of assigned numbers

<sup>201</sup> The NRA issuing the license is also the authority granting the associated rights of way

<sup>202</sup> Generally the powers with regard to universal service obligations correspond to the SETSI. The powers of the CMT are limited to the funding of the USO in accordance with Article 39 of the General Law of Telecommunications.

<sup>203</sup> Agence National Francaise pour Radiofrequence

National regulatory authorities

<i>MS</i>	<i>Licensing</i>	<i>Numbering</i>	<i>Broadcasting</i>	<i>Rights of way</i>	<i>Price controls (end user tariffs)</i>	<i>Monitoring USO</i>	<i>Access and interconnection</i>	<i>Dispute resolution</i>	<i>Application of competition law</i>	<i>Market monitoring and enforcing compliance with regulations</i>	<i>Frequency allocation and spectrum management</i>
<b>NL</b>	OPTA (registration)	OPTA, Ministry	Two Ministries (DGTP <sup>204</sup> , Education and Culture), OPTA, Broadcasting Authority	Ministry (DGTP)	OPTA	Ministry (DGTP)	OPTA	OPTA	National Competition Authority (NMA)	OPTA	Allocation: DGTP Assignment: DGTP
<b>A</b>	TKK	Allocation: RTR, Management: BMVIT	Komm Austria	TKK	TKK	TKK	TKK	TKK	Competition Authorities, TKK	TKK	Allocation: TKK Assignment: BMVIT
<b>P</b>	ANACOM (Exception: Ministry, in case of the granting of radiofrequencies by public tender)	ANACOM	ANACOM (Network licencing) AACS (Access to the activity)	Local authorities	ANACOM	ANACOM	ANACOM	ANACOM	Competition Authority	ANACOM	Allocation: ANACOM Assignment: ANACOM
<b>FIN</b>	MINTC	FICORA	FICORA	FICORA	FICORA		FICORA	FICORA	Competition Authority	FICORA	Allocation: FICORA Assignment: FICORA
<b>S</b>	PTS	PTS	Radio and TV Agency	PTS, local authorities	PTS	PTS	PTS	PTS	Competition Authority	PTS	Allocation: PTS Assignment: PTS
<b>UK</b>	DTI	OFTTEL	ITC and OFTEL	Secretary of State (DTI)	OFTTEL	OFTTEL	OFTTEL	OFTTEL	OFTTEL and OFT	OF TEL	Allocation: RA Assignment: RA

<sup>204</sup> Director General for Telecommunications and Post in the Ministry of Transport

## 8 QUALITY OF SERVICE

Table 14: Quality of service

Member State	Does the NRA set QoS performance targets for:		Do SMP/US operators measure QoS pursuant to the following standards? (yes/no)			Have measurements of QoS for year 2002 been published by		Date of latest publication and reference in the national Official Journal or other	Which measures are taken in case of persistent failure to meet performance targets? (Article 12.3, Dir. 98/10/EC)	Are independent audits of performance data carried out? (Article 12.4, Dir. 98/10/EC)
	SMP/US <sup>205</sup> operators?	Other fixed operators?	ETSI ETR 138	ETSI EG 201	Other	SMP/US operator?	the NRA?			
B	Yes	No	Yes	To be studied	N/A	No	Yes	Report on the Universal Service July 2003 ( <a href="http://www.ibpt.be">www.ibpt.be</a> )	Compensation: max. 1% of the annual turnover concerning the universal service (art. 17 of annex of act of 21/03/1991)	No
DK	Yes	No	Yes <sup>206</sup>	Yes <sup>207</sup>	No	No.	No.	None	Sanctions according to Section 22-23 of Act on Competitive Conditions and Consumer Interests in the Telecommunications Market.	No, but possible according to Section 15 (6) of Executive Order on USO.
D	Yes <sup>208</sup>	No	No	Yes <sup>209</sup>	Yes <sup>210</sup>	No	Yes	Official Publications of the RegTP N°. 17 of 27.08.2003	See footnote <sup>211</sup>	No
EL	Yes	Yes	N/A	Yes <sup>212</sup>	N/A	-	-	None		
E	Yes	No	No	Yes	No	Yes <sup>213</sup>	Yes <sup>214</sup>	<a href="http://www.setsi.mcyt/sgcinfor/calidad/informe.htm">www.setsi.mcyt/sgcinfor/calidad/informe.htm</a>	Disciplinary measures included in the General Law of Telecommunications	Yes

<sup>205</sup> Operators having significant market power in the provision of fixed telephone networks and/or voice telephony services or having been designated in accordance with Article 5 of Directive 98/10/EC.

<sup>206</sup> Measurements carried out before 1 March 2002.

<sup>207</sup> Measurements carried out After 1 March 2002

<sup>208</sup> According to Paragraph 2 of the USO Ordinance, quality of the voice telephony services within US is based on the standards achieved by 31 December 1997. There is no description or characterisation of this standard.

<sup>209</sup> RegTP's ordinance 169/1999 provides for the adaptation of ETSI EG 201 769 to the special conditions of services and networks of the nation-wide telephone service providers.

<sup>210</sup> New parameters in Annex III of the Voice telephony Directive 98/10/EC will be measured on the basis of the definitions provided in ordinance 9/1999 and in ordinance 169/1999.

<sup>211</sup> If a universal service is performed insufficiently or inadequately, the regulatory authority can initiate a proceeding according Article 18 and the followings of TKG to dermine an operator to perform the universal service.

<sup>212</sup> In the course of implementation.

<sup>213</sup> [www.telefonica.es/telefonafija/popup\\_parametros.htm](http://www.telefonica.es/telefonafija/popup_parametros.htm)

<sup>214</sup> Measurements for third and fourth quarters have been published.

Member State	Does the NRA set QoS performance targets for:		Do SMP/US operators measure QoS pursuant to the following standards? (yes/no)			Have measurements of QoS for year 2002 been published by		Date of latest publication and reference in the national Official Journal or other	Which measures are taken in case of persistent failure to meet performance targets? (Article 12.3, Dir. 98/10/EC)	Are independent audits of performance data carried out? (Article 12.4, Dir. 98/10/EC)
	SMP/US <sup>205</sup> operators?	Other fixed operators?	ETSI ETR 138	ETSI EG 201	Other	SMP/US operator?	the NRA?			
F	Yes	No	No	Yes <sup>215</sup>	n.a.	No	No	OJ of 13 November 2002 amending the obligations imposed on France Telecom to implement the modifications of annex III of Directive 98/10/EC.	None	Yes <sup>185</sup>
IRL	No	No	Partially <sup>216</sup>	N/A	MLOP <sup>216</sup>	No	Yes	13/6/2003 - Fixed Telephony Operator Performance Data for July to Dec 2002 <a href="http://www.comreg.ie/publications/default.asp?nid=101011&amp;ctype=5">http://www.comreg.ie/publications/default.asp?nid=101011&amp;ctype=5</a>  13/6/03 – SMP to OLO and USO operator performance data for July to December 2002 <a href="http://www.comreg.ie/publications/default.asp?S=&amp;NavID=&amp;ctype=5&amp;NID=101013">http://www.comreg.ie/publications/default.asp?S=&amp;NavID=&amp;ctype=5&amp;NID=101013</a>	No performance targets are set, however, where an operator fails to comply with the MLOP QoS definitions then this addressed with the individual operator with a view to ensuring compliance	Yes Each participating operator submits their QoS data to an independent accuracy auditor who is appointed to by the operator.  On completion of the accuracy audit, data is then submitted to MLOP forum comparability auditor who assesses the comparability of operator returns.
I	Yes <sup>217</sup>	Yes <sup>217</sup>	Yes	No <sup>218</sup>	N/A	No	No	Published by SMP operator in its semestral report (up to 1 <sup>st</sup> half 2001)	AGCOM may adopt specific measures, in accordance to individual licence conditions	No

<sup>215</sup> According to Commission's Decision of 22 December 2000 amending annex III to Directive 98/10/CE

<sup>216</sup> The Measuring Licence Operator programme establishes a framework for measuring the quality of service provided by fixed line telecommunications operators to their customers. ODTR's MLOP programme has set parameters which are partially based upon ETR 138.

<sup>217</sup> As for 2004, operators are asked to identify quality parameters, to freely choose the corresponding performance targets, to commit themselves to these targets and to publish the result yearly.

<sup>218</sup> As from 24 July 2003 ETSI EG 201.769 –1 will replace ETR 138

Quality of service

Member State	Does the NRA set QoS performance targets for:		Do SMP/US operators measure QoS pursuant to the following standards? (yes/no)			Have measurements of QoS for year 2002 been published by		Date of latest publication and reference in the national Official Journal or other	Which measures are taken in case of persistent failure to meet performance targets? (Article 12.3, Dir. 98/10/EC)	Are independent audits of performance data carried out? (Article 12.4, Dir. 98/10/EC)
	SMP/US <sup>205</sup> operators?	Other fixed operators?	ETSI ETR 138	ETSI EG 201	Other	SMP/US operator?	the NRA?			
NL	Yes	Yes	Yes <sup>219</sup>	Yes <sup>219</sup>	No	No	No	5 <sup>th</sup> May 2003 Consultation document on the quality of service for public fixed telephony; <a href="http://www.opta.nl">www.opta.nl</a> under 'nieuws en publicaties'	The regulatory authority can make arrangements to perform their rights and obligations arising from international regulations and this Law. These arrangements must then be followed.	No
A	Yes <sup>220</sup>	No	Yes	Yes	Yes <sup>221</sup>	No	No	(to be published in September 2003) <a href="http://www.rtr.at">www.rtr.at</a>	According to § 83 3 TKG, the regulatory authority can make arrangements to perform their rights and obligations arising from international regulations and this Law. These arrangements must be followed.	No
P	Yes	No <sup>222</sup>	Yes <sup>223</sup>	n.a.	n.a.	No	No	Not available	Specific sanctions are foreseen in case of non compliance with performance targets. Suspension or derogation of the licence might also be imposed.	Yes
FIN	No	No	Yes <sup>224</sup>	Yes <sup>224</sup>	N/A	Available on request	No	A summary is available: Telecommunications statistics (Aug. 2003)		
S	No <sup>225</sup>	No	No	Yes	No	No	Yes	None	None	None

<sup>219</sup> ETSI ETR 138 was implemented by end of 2000. ETSI EG 201 has been used since the beginning of 2001.

<sup>220</sup> Ordinances on Universal Service: BGBl. II N. 192/1999 and BGBl. II N. 173/2000.

<sup>221</sup> Ordinances on Universal Service: BGBl. II N. 192/1999 and BGBl. II N. 173/2000

<sup>222</sup> According to Art. 5° of "Decreto.Lei" 474/99, of 8 November 1999, ANACOM can define QoS parameters, but no provision targets.

<sup>223</sup> Nowadays, PTC sends QoS information following ETR 138 standard. In the future, PTC and other operators will have to make this information available following EG 201 standard.

<sup>224</sup> ETSI ETR 138 was implemented by end of 2000. ETSI EG 201 has been used since the beginning of 2001.

<sup>225</sup> No QoS targets are specified in legislation or licence conditions. However, the SMP-operator's measurements of QoS are carried out pursuant to the ETSI EG 201 standard.

Member State	Does the NRA set QoS performance targets for:		Do SMP/US operators measure QoS pursuant to the following standards? (yes/no)			Have measurements of QoS for year 2002 been published by		Date of latest publication and reference in the national Official Journal or other	Which measures are taken in case of persistent failure to meet performance targets? (Article 12.3, Dir. 98/10/EC)	Are independent audits of performance data carried out? (Article 12.4, Dir. 98/10/EC)
	SMP/US <sup>205</sup> operators?	Other fixed operators?	ETSI ETR 138	ETSI EG 201	Other	SMP/US operator?	the NRA?			
UK	No	No	Partially <sup>226</sup>	Yes <sup>226</sup>	Yes <sup>226</sup>	Yes, via the Telecommunications Industry Forum	Yes, via the Telecommunications Industry Forum	SMP operators' indicators are available at <a href="http://www.Btplc.com">www. Btplc.com</a> . Latest publication is for period Oct.00 – Mar. 02 CPIs are available at <a href="http://www.cpi.org.uk">www.cpi.org.uk</a> . Latest publication is for period Jul.-Dec.-02	No set performance targets and no pressing need to take action	Yes

<sup>226</sup> Comparable Performance Indicators used ETR138 as a starting point. However, the parameters are tailored to reflect the demands of UK users on quality of service. Any deviation from ETR138/EG202 is a result of evidence based decision making in the interest of consumers and business users.