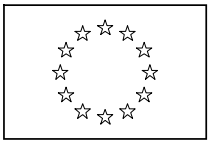

COMMISSION OF THE EUROPEAN COMMUNITIES

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COMMUNICATION FROM THE COMMISSION

on integrating conventional rail systems

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the interoperability of the trans-European conventional rail system

(presented by the Commission)

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

on integrating conventional rail systems

SUMMARY

1. For a century and a half, the railways developed on national lines. Each railway adopted its own technical standards and operating rules according to national requirements. This made it complex and costly to operate across frontiers and helped fragment the market for railway products along national lines. Even now, despite the efforts made to integrate railway systems, their segmentation is an obstacle to the development of the Europe-wide services needed by a Community that is fast integrating and soon to enlarge. The Treaty on European Union set the aim of creating trans-European networks and promoting their interoperability, in particular through technical harmonisation. Consequently, in 1996 the Community adopted a directive on the interoperability of the trans-European high-speed rail system, which is now being implemented.

2. The purpose of this communication is to propose a programme for the integration of conventional rail systems, including a directive on the interoperability of the trans-European conventional rail network. It responds to requests from the Council and the Parliament for proposals on the integration of conventional rail systems to accompany the creation of access rights for the provision of international freight services. It is an important element of the Commissions's strategy to improve the operating efficiency and customer service quality of the Community's railways through a wide ranging process of market liberalisation, improving the conditions of utilisation of infrastructure (charging and capacity allocation), interoperability and technical harmonisation. The proposals in this communication and the draft directives already before the Council (the infrastructure package) are a initial step in fulfilling the Treaty obligation of a single market in rail transport services. As the market develops, the Commission intends to combine this legislative approach with TENs policy on relieving infrastructure bottlenecks, strict application of Community competition law and rules on public procurement as regards railway equipment and support for research and development.

3. The first objective is to improve the organisation of international services, especially of freight. At present delays at borders and poor reliability lower the competitiveness of international freight services. Various obstacles prevent the efficient transfer of a freight train from one network to another, such as slow and costly exchange of operational and commercial data, poor matching of timetables and the complexity of the procedures performed at borders. Railway undertakings and infrastructure managers themselves could solve these problems rapidly and at modest cost, if they gave priority to this and better worked together. They should adopt the immediate aim of reducing delays at border crossings to the time needed to change locomotives. The next step should be to eliminate stops at borders entirely: railway undertakings and infrastructure managers should plan for non-stop services and procedures for transferring trains between networks should be simplified and harmonised.

4. Following Articles 154 and 155 of the Treaty, the second objective is to promote the interoperability of the conventional rail networks, that is their capacity to allow the uninterrupted movement of train across frontiers. While freight wagons and passenger carriages circulate throughout the Community, major differences between the technical and operational standards of the railways necessitate the change of locomotives and crews at frontiers. These stops add to costs, lengthen delivery times and threaten punctuality and reliability. The Community should take the initiative of extending interoperability through further harmonisation of technical and operating rules, so as to raise the performance of international services.

5. The third objective is to help create a single market for railway equipment. Despite restructuring of the sector in the 1990's, the bigger national markets remain largely closed. Railways are locked into buying from national suppliers, which raises procurement costs and so adds to the price of rail transport. Technical differences both reflect and reinforce this segmentation. Technical harmonisation by the Community would substantially contribute to market integration, although no substitute for effective changes in public procurement practices. Many Member States have not yet given railways freedom to take procurement decisions on commercial grounds, but continue to protect national producers.

6. For years, the railways themselves have set "in-house" standards that allow passenger carriages and freight wagons to run over the different networks. This was a major step towards interoperability but is not up to meeting new challenges posed by technical advance and structural change in the sector. Process is slow and often fails to achieve effective harmonisation, as it works by consensus between the railways. Moreover, the railway equipment industry and other companies offering relevant technology are excluded from the process. Assessment of conformity with standards is in most cases done by the railways themselves, which does not ensure fair treatment of all operators and suppliers.

7. The Commission is convinced that the Community must tackle the technical, regulatory and operational differences that divide the conventional rail systems. This should be done by extending the process created for the high-speed system to conventional rail, with the changes necessary to fit its specific characteristics. It therefore presents with this communication a proposal for directive on the interoperability of conventional rail. Like the high-speed directive, that on conventional rail would create Community mechanisms for preparing and adopting technical specifications that allow interoperability and for assessment of conformity with these specifications.

8. The directive would apply to the conventional trans-European network and would cover the renewal of equipment as well as upgrading and construction. It would provide for the drafting of technical specifications for a number of sub-systems; in particular signalling and command/control, rolling stock, energy, infrastructure, maintenance, operations and information technology. The technical specifications and the European standards requirement to make them operational would be obligatory throughout the conventional trans-European network, with certain exceptions.

9. Conventional rail is an old system, with a huge legacy of infrastructure and rolling stock built to national standards. Railway assets are replaced slowly and, as a general rule, accelerating renewal would impose heavy costs without corresponding benefits.

So harmonisation should be concentrated where it will most improve competitiveness in the medium term, which means priorities must be set.

10. First, it is necessary to prioritise the sub-systems and constituents for harmonisation. On the basis of a thorough study, the Commission proposes giving immediate priority to harmonisation in these fields: signalling and command/control systems; data exchange, information technology and telecommunications, especially for freight transport; rolling stock used for international services; emissions of noise, particularly from freight wagons; qualifications of train crews for cross-border operations; assessment of conformity with specifications; mutual recognition of maintenance and repairs. The proposed directive would provide for the adoption of a work programme that gives priority to these areas, before the preparation of technical specifications begins. In the longer term, while general harmonisation of electrical systems and of infrastructure would be immensely expensive and disruptive, the Commission believes that harmonisation in specific areas should be considered, like catenaries and pantographs and infrastructure used for freight. The proposed directive would explicitly provide for the definition of priorities and of a work programme, before the preparation of technical specifications begins.

11. Second, priorities have to be set for introducing equipment built to Community specifications. The aim is to raise the performance of international services, so preference should be given to extending interoperability on the lines carrying the main international flows**.** In the case of freight this means giving priority to the Trans-European Rail Freight Network, for which the Commission is proposing the creation of access rights for the operation of international freight services. Such investment decisions are primarily the responsibility of railway undertakings, infrastructure managers and Member States, but the Community's role in guiding the extension of interoperability is an issue for the revision of the TENs guidelines.

12. As with the high-speed system, the interoperability specifications would usually be drafted by a body jointly representing the railways and the rail equipment industry. For certain specifications, however, other bodies could also be mandated if the joint body does not possess the expertise needed or represent all interests. The Community would then adopt the specifications. The supporting standards would be prepared by CEN, CENELEC or ETSI as relevant. Responsibility for conformity assessment would be given to independent bodies notified by the Member States. These mechanisms would overcome the weaknesses of existing arrangements.

13. The railway system does not stop at the borders of the Community, but extends to the countries of Central and Eastern Europe and is linked to those of the Middle East. Harmonisation over this wider area would benefit all the countries concerned, as would mutual recognition of conformity assessment. The Community can make a unique contribution, as it prepares and adopts specifications for high speed and conventional rail. Enlargement will extend its role as the candidates will adopt Community specifications by accession. The question is how best to include the other countries in the interoperable system. The communication argues that the legal adoption of specifications should be done under the Convention covering International Carriage by Rail, an existing international agreement. Its recent revision allows for this, and in such a way that Community specifications would be respected and countries would be protected against the imposition of unsuitable specifications.

A. ORGANISATION OF INTERNATIONAL SERVICES

1. Much progress has been made in integrating international services in the passenger sector. The situation is different with freight trains, although the Single Market has eliminated State controls at internal borders. It takes around thirty to forty minutes to change the locomotive of a freight train and verify that all is working correctly[1]. However the Commission's study found that freight trains have generally to wait much longer, which lengthens delivery times and threatens punctuality and reliability. This matters greatly for time-sensitive transport, a fast growing market in which the railways have not realised their potential, if less for transport of traditional commodities. While crossing borders is only one factor that determines the overall quality of a freight service, it is very important. Difficulties at borders have been one reason for initiatives to raise the performance of rail freight, like the Trans-European Rail Freight Freeways (TERFFs)[2]. The Commission's study found that the length and causes of delays varied, but that the following factors played a part.

2. At a border, one "network" hands over a train to another. They therefore exchange information. The information needed for freight transport is considerable because trains carry different loads to different destinations, the mix of wagons varies and many trains circulate according to demand rather than to a fixed schedule. Links between railway computer systems are often poor so that paper is exchanged, which is costly and wastes time. The data exchanged may arrive late or be unreliable, and so has to be checked against the actual train. Poor interconnection is also a handicap in providing a full range of customer services like tendering, billing and tracking.

3. Other obstacles create delays or compound them. One is the poor match of timetables between national systems. Freight trains stop to change locomotive, but then often suffer additional delays as they wait for the train path allocated in the timetable of the adjoining network. Inflexible working arrangements may cause further difficulties, both compounding delays and reducing productivity. Locomotives may stand waiting for the arrival of a train, or a train may be delayed as it awaits a locomotive. The scarcity of information on arrival times magnifies the difficulties. A constructive development, however, is that of "trains of trust". Eleven railways, so far, have agreed to inspect the physical condition of freight trains at their point of departure and to waive further inspections along the route.

4. The Commission's study found that the first priority should be to minimise border stops and better integrate national timetables. This would be a highly cost-effective way of improving performance. The TERFFs have demonstrated the potential for rapid improvement of services through better timetabling (The proposed directive on capacity allocation and changing should greatly improve coordination between

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1 A brake test has to be made after a locomotive or wagon has been uncoupled.

2 A major effort is being made to raise the performance of certain major international freight lines, the TERFFs. Certain Member States have opened access to the infrastructure, on a voluntary basis, and infrastructure managers have improved the quality of train paths and greatly facilitated utilisation of infrastructure, in particular through one-stop-shops. See Communication from the Commission. "Trans-European Rail Freight Freeways". COM (97) 242 final, 29.05.1997.

infrastructure managers[3]). The exchange of information between networks should be made fast and reliable, through general use of information technology. Work practices should be improved, so as to raise the productivity of both manpower and rolling stock.

5. If railway undertakings and infrastructure managers gave priority to the organisation of international services and worked together more effectively they could solve the problems quickly and without heavy expenditure. In fact, it is perfectly feasible to cut delays at frontiers to the time needed to change locomotives and crews. This would reduce end-to-end journey times and improve reliability, so raising the competitiveness of rail freight. Railway undertakings and infrastructure managers should aim to achieve this, except when it raises costs unacceptably. To stimulate progress, the Commission will consult interested parties on launching the monitoring of delays at frontiers, with regular publication of the results.

In the short term, railway undertakings and infrastructure managers should aim at reducing delays at border crossings for freight traffic to the time needed to change locomotives and crews. In 2000, the Commission will consult interested parties on initiating the monitoring of delays.

6. Few railway operations are carried out at national borders, other than those needed to transfer a train from one network to another. Borders are not the origin or destination of trains and marshalling yards are generally, but not always, situated well inland. Technology now makes it possible to eliminate stops at borders, which would greatly improve efficiency of service. Multi-current locomotives can operate over several networks without a heavy cost penalty. Procedures can be simplified and conducted through information technology (and sometimes performed inland where the service is interrupted for other reasons). Drivers can be trained to work over several rail systems. Railway undertakings and infrastructure managers should therefore plan the elimination, in the medium term, of stops at borders throughout the trans-European network. The only exception would be when this seriously raises the cost of a service without a compensating increase in its commercial attraction.

In the medium term, railway undertakings and infrastructure managers should aim at eliminating stops at borders. Depending on progress made, the Commission will decide whether to mandate the preparation of specifications for simplified procedures for transferring trains between networks without stops at borders.

B. INTEROPERABILITY AT PRESENT

B.1 EXISTING ARRANGEMENTS

7. Since the last century the railways have operated passenger carriages and freight wagons across national borders throughout Europe. This was achieved through action

[3] Proposal for a Council Directive relating to the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification. COM (98) 480 final 22.07.98

by the railways rather than governments[4]. They mandated their association, the International Union of Railways (generally known as UIC[5]), to make recommendations on the technical compatibility of equipment and on operational aspects of international services. These "in house" standards were drafted by experts from member railways and set out in UIC leaflets.

8. There are agreements between the railways on the interoperability of passenger carriages and of freight wagons, the Regolamento Internazionale Carrozze and Regolamento Internazionale Veicoli (generally known as the RIC and RIV respectively)[6]. Under these, each network accepts a vehicle when its construction complies with a number of UIC leaflets. The RIC and RIV agreements allow the interoperability of accepted and registered vehicles throughout Europe. In addition, the agreements define the responsibility of networks for other aspects of international operations. Acceptance of vehicles under the RIC and RIV is the responsibility of the railways, there being one registering railway in each country. The agreements were an important step towards interoperability and the UIC leaflets a major attempt at harmonisation.

9. While these arrangements have made possible the interoperability of passenger carriages and freight wagons and contributed to the excellent safety record of rail transport it is questionable whether they will let the railways to meet the challenges posed by new technology, rising expectations about services and political and economic changes. Signalling is one important example. The Community's railways have invested in different, incompatible electronic signalling systems – sixteen of them. Incompatibility of signalling systems is one reason why locomotives are changed at frontiers. This raises costs as they have to travel to border crossings and await trains, an unproductive use of valuable resources, and lowers reliability as a delay at one point has knock-on effects on the whole service. Alternatively, locomotives or multiple units[7] are loaded with the equipment needed to operate on several networks. The Thalys high-speed train sets, for example, carry up to six sets of signalling equipment; again this increases costs and reduces reliability. It took a Community initiative to bring the railways and the equipment industry together to prepare specifications for the next generations of signalling systems, the European Rail Traffic Management System.

10. Another challenge is to exploit the potential of information technology in international transport. As explained in section E, all railways have deployed information technology (IT) systems for traffic management, customer services and administration, but have not achieved a full, reliable exchange of information between national systems. A limited exchange of information is possible but interfaces between IT systems remain incomplete. Among other things, this complicates and raises the cost of international services and makes it difficult to meet demand from customers for value-added services.

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4 In the late nineteenth century, various European governments did launch a process of technical harmonisation. This was superseded in practical terms by the work of the railways' association.

5 Union Internationale des Chemins de Fer

6 Regulations covering the reciprocal use of carriages and brake vans in international traffic (RIC); Regulations covering the reciprocal use of wagons in international traffic (RIV).

7 Set of specialised passenger carriages with its own tractive power, designed to be operated as a unit.

11. Commercial pressure is forcing the railways to cut procurement costs and give the equipment industry greater responsibility for research, development and design. It is also making them abandon the traditional practices of specifying design rather performance, of having equipment built specially for one railway and of developing railway-specific technology rather then using what the market offers. Consequently, there is no justification nowadays, if ever there was one, for not bringing the railway equipment industry and companies in other sectors that offer innovative and efficient solutions into the process of setting standards. Moreover present arrangements do not put sufficient pressure on the railways to find solutions. Decisions are taken by consensus and lack of market pressure may lead to long drawn-out negotiations on standards or failure to achieve useful agreements. It is necessary to speed up the process, to match the changes taking place in the transport market.

12. A related issue is responsibility for assessing conformity with the RIC and RIV. At present the railways themselves do this and, in some cases, also assess whether infrastructure and rolling stock meet national requirements[8]. However, this arrangement dates from the days when railways were monopolies, organised strictly on national lines and buying from national suppliers. Conformity assessment should now be brought into line with Community principles. It should guarantee non-discrimination and fair treatment of all railway undertakings and suppliers whether established companies or new entrants. Methods and deadlines should be clearly defined and duplication of tests avoided. Assessment should be done by independent bodies with no interest in the results.

B.2 HIGH SPEED DIRECTIVE

13. Increasing technical sophistication has widened technical divergence, first with electrification and then with electronic signalling and data exchange. The introduction of high-speed rail presented a great challenge. It would be absurd for high-speed trains to stop at frontiers in order to change locomotives but, in any case, this would be impossible because they were designed as multiple units. In 1996 the Council adopted a directive on the interoperability of the European high-speed system, based on Article 156 of the Treaty. Its aim is to advance the interoperability of the high-speed network and to open up the market for railway supplies. The directive establishes processes for the setting of technical specifications for different sub-systems (Technical Specifications for Interoperability or TSI) and for drafting detailed European standards for "interoperability constituents" of sub-systems[9] when needed to make a TSI operational. It also provides for independent assessment of conformity and for mutual recognition of certification. Respect for the TSI is obligatory throughout the high-speed network. Specifications are now being drafted and should be presented in 1999.

14. The high-speed directive remedies weaknesses of the traditional arrangements. It ends the effective delegation to the sectoral association by giving responsibility for ordering and adopting specifications to the European Community. It gives the task of preparing TSI to a body jointly representing the railways, public transport operators and the railway equipment industry, the European Association for Railway

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8 In the last few years, some Member States, like Germany and the United Kingdom, have given responsibility for safety regulation to independent bodies.

9 Components, groups of components and complete assemblies with sub-systems, on which interoperability depends, directly or indirectly. See Article 2 (d) of high-speed directive.

Interoperability (generally known as the AEIF[10]). The European standards for constituents of sub-systems are drafted by CEN, CENELEC or ETSI as relevant. These mechanisms should ensure that differences between the major railways are resolved, and that specifications are precisely drafted and keep up with technology. Another advance is that the directive makes independent organisations (the so-called "notified bodies") responsible for assessing conformity with specifications and standards. This is a break with the tradition of leaving the task to the railways themselves.

C. MARKET FOR RAILWAY EQUIPMENT

15. Political, technical and economic factors have maintained a segmentation of the market along national lines. Many Member States have followed a policy of promoting national companies and the railway sector is a prime example of this. There was an unspoken rule that the railways bought from national suppliers in closed public markets, except when there were no domestic producers. Inevitably technical requirements and designs of equipment, both reflected and reinforced this segmentation. Little exposed to commercial pressures, the railways prescribed very detailed specifications to which national manufacturers built products. This had serious consequences for the sector. Many technical requirements varied from country to country and even within some; they were detailed and went far beyond performance specifications. Technology particular to the sector was demanded rather than that available on the wider market, which slowed innovation and raised costs. Economic characteristics of the market also tended closely to tie railways and suppliers, like the need for compatibility between old and new systems, the necessity of buying follow-on orders from original suppliers, the size and duration of projects and the high sunk costs which deterred new entrants to the industry.

16. In the 1990's, these arrangements came under pressure. The Community adopted legislation on public procurement and on the interoperability of the trans-European high-speed rail system. These will have a positive impact on the market, but only in the medium term. Pressure to buy from national suppliers implies that orders placed with national suppliers will predominate for some time. Nevertheless, the opening-up of public procurement is putting pressure on prices, and Community research initiatives, for instance on signalling and command/control systems and on digital radio, are helping to integrate markets. Another force for change is the increasingly commercial orientation of the railways. This pushes them to cut procurement costs, so allowing producers to enter previously closed markets and giving the equipment industry greater responsibility for research, development and design.

17. Finally, the equipment industry itself has reacted strongly to changing circumstances. There has been rapid concentration, through mergers and take-overs by the major companies, in an attempt to access closed markets and gain economies of scale. Four major companies, "systems integrators", have emerged. Generally, they have clear national identities and dominate their national markets, but have production facilities in a number of Member States. Under pressure to contain costs and reduce overcapacity in manufacturing, the system integrators are standardising product ranges within the company, offering financial incentives to clients to purchase off the

[10] AEIF – Association Européenne pour l'Interopérabilité Ferroviaire.

shelf equipment modified to meet their needs. The shape of the industry, however, is still fluid. Its structure is changing fast and the last years have seen consolidation on a large scale.

18. Despite these changes, the bigger national markets remain largely closed, mainly because of an unwritten rule that preference be given to national suppliers. For various sub-systems and constituents, the national railways' requirements reinforce the segmentation of the market. The railways have failed to agree on new specifications, or apply existing ones fully, for example in the field of information technology. Technical harmonisation, under the directive on interoperability described in the next section, would substantially contribute to the realisation of a single market for railway equipment, although it is no substitute for effective changes in public procurement practices. Many Member States have yet to give the railways the freedom to take procurement decisions on a commercial basis and still protect national producers.

D. CENTRAL PROPOSAL: DIRECTIVE ON CONVENTIONAL RAIL

D.1 PROPOSAL IN GENERAL

19. The Community must tackle the differences that divide conventional systems, in order to improve the competitiveness of international services and to help create a single market for railway equipment. The Commission believes that this should be done by extending the process established for the high-speed system to conventional rail, with changes to reflect its specific features. It therefore presents with this communication a proposal for a directive on the interoperability of conventional rail, based on the high-speed directive.

20. There are two major reasons for building on the directive adopted for high-speed rail. The first is that the process of harmonisation it establishes has major advantages over the present arrangements. The second is that the distinction between high-speed and conventional rail is neither clear nor rigid. Long distance passenger trains often share the same technology and designs; the emergence of tilting trains and other multiple units for long distance passenger transport further blurs the difference. TSI and the supporting European standards drafted for one system can be extended to the other, though in some cases there may be a need for different levels of specification to avoid unnecessary costs.

21. It is worth clarifying that these TSI, and consequently supporting European standards, would be obligatory throughout the network for new material in two ways. First a Member State would have to ensure that a sub-system was only put in service or operated if it respected the relevant TSI, and that an interoperability constituent was only put on the market if it respected the relevant European standard. Second a Member State could not prohibit the placing in service or operation of a sub-system that conformed with the TSI or the marketing of a constituent that met the supporting European standard. However, the directive would not create an obligation to bring existing infrastructure or rolling stock up to the level of a Community specification.

22. The directive on conventional rail should have a structure very similar to that of the high-speed directive. A number of adaptations are needed, however, to take account of the differences between the high-speed and conventional systems. The scope of the directive on conventional rail is the first adaptation. Following Articles 154 and

155 of the Treaty, the directive should cover the conventional rail TEN, as defined in the Community guidelines. The network includes the main international lines, as well as some of lesser importance at Community level. Another difference is that of the sub-systems for which TSI should be prepared and adopted. In addition to the subsystems of the high speed directive, the conventional directive should contain a sub-system for information and communications technology for passenger and freight transport, in the first place to facilitate solutions to the problems of integrating international freight transport and of developing value-added services for shippers and forwarders.

D.2 DEFINITION OF PRIORITIES

23. Conventional rail is an old system. There exists a huge legacy of infrastructure and rolling stock built to national specifications. As a general rule, accelerating renewal would impose heavy costs on railway undertakings and infrastructure managers, and would burden the public finances of Member States, without corresponding benefits. Harmonisation must therefore be concentrated on the sub-systems and interoperability constituents where it will give substantial benefits in the medium term, but not load the railways with a financial burden that would frustrate their efforts to raise competitiveness. Priorities will have to be set carefully, when choices about harmonisation are made. The proposed directive on conventional rail clearly recognises this necessity and would create mechanisms for defining priorities. Under the directive, the Commission and the regulatory committee (like the "Article 21" committee of the high-speed directive) would draw up a work programme that sets priorities, before preparation of the TSI begins. The directive would state the priorities for the first work programme which would be those set out in section F. Then, at an early stage of work on a TSI, a preliminary cost-benefit analysis would be made of the different technical solutions available, before detailed work on the specification begins.

24. For the Community to reap full benefits from harmonisation, priority should be given to introducing such equipment where it would do most to raise the performance of international services. The Commission's study identified the international markets in which rail could be expected to compete with other modes, if its performance matched theirs: international passenger services between large cities and international rail freight on major corridors. Priority should be given to the extension of interoperability, and the integration of services, on the links carrying the main international flows of traffic. In the case of freight this means giving priority to the Trans-European Rail Freight Network, to which the Commission is proposing open access for operating international services as this is vital for the revitalisation of rail freight. Decisions on the investments required are primarily the responsibility of railway undertakings, the infrastructure managers and Member States. However, it is important that they take full account of the European dimension. The revision of the TEN-T guidelines could be an occasion to define the Community's role in guiding and supporting the extension of interoperability.

D.3 PREPARATION OF SPECIFICATIONS

25. Like the high-speed directive, the directive on conventional rail should give a joint representative body general responsibility for drawing up TSI to the order of the Commission. This would bring together the main interested parties and ensure the coordination of work on high-speed and on conventional rail. The simplest solution

would be to extend the role of the European Association for Railway Interoperability (AEIF) from high speed to conventional rail. To maximize confidence in this process of harmonisation and commitment to its success among the different actors, the drafting of TSI for conventional rail must go faster than that of specifications for the high-speed system.

26. Among other things this means that the AEIF must have the structure and resources needed to do the job. At present it is loosely organised and does not have full time staff; it needs a strong, permanent organisation with adequate human resources. Such changes are already planned, with the support of the Commission. The joint representative body includes the railways and the railway equipment industry and therefore usually represents the parties with an interest in the preparation of a TSI. However, in several cases, the AEIF does not represent all interested parties nor necessarily possess all the knowledge required for instance the qualifications of train crews and noise emissions; other parties have a valid interest and contribution to make, like the social partners and environmental groups. Also companies not specialised in railway equipment could offer valuable technology developed for other markets, like computer and telecommunications hardware and software. The proposed directive therefore allows responsibility for the preparation of TSI to be given to other bodies than the joint representative body, although generally joint representative body would be mandated.

E. PRIORITIES FOR HARMONISATION

27. On the basis of its study, the Commission proposes the following priorities for harmonisation, which would be written into the first work programme adopted under the directive on conventional rail. The first is signalling and command/control systems. A major obstacle to the interoperability of locomotives and multiple units is the incompatibility of signalling and command/control systems[11]. The introduction of electronic signalling systems has created a new barrier over the past decades. Sixteen incompatible systems are now used, so locomotives used on several networks have to be fitted with the equipment required to operate on each, increasing costs and reducing reliability. To overcome these divergences and exploit progress in information technology, the Commission supported the development of European Rail Traffic Management System project (ERTMS). One element of this is the European Train Control System (ETCS). It can be introduced directly as the sole form of signalling, but can also be deployed without making existing national systems immediately obsolete. A second element is the new standard telecommunications carrier suited to the railways. The Global System for Mobile Communication - Railways (GSM-R) is intended to create a unique telecommunications system for the sector, capable of handling all different applications and so allowing the replacement of a myriad of analogue systems dedicated to specific functions by a single, digital platform.

28. The success to date of the ERTMS projects shows that a common solution can be found, when the Community provides guidance and support. The AEIF is drawing up TSI based on ERTMS for the high-speed system that it will present with the other TSI late this year; the Commission will then propose them for adoption. The same

[11] The term is used to include automatic train protection and control systems (ATP and ATC)

approach should be followed for the conventional network. In the meantime, infrastructure managers and Member States should only invest in signalling systems based on ERTMS.

In 2001, the Commission will propose a mandate for the joint representative body to prepare specifications for signalling and command/control systems for conventional rail, based on ERTMS.

29. Data exchange, information technology and telecommunications. When trains cross borders, the railways exchange the information needed for operations and for customer services; this is particularly important for freight traffic. Over the past three decades, all railways have deployed computer-based IT systems for traffic management, administration and customer services. Unfortunately none have the same system, nor is there yet seamless and reliable exchange of information between national systems. A limited exchange of information is possible but, despite a decade of development, interfaces between the railways' IT systems are still incomplete. Consequently, when one railway transfers a train or vehicles to another at the frontier, it usually presents a set of paper documents. This can seriously delay freight traffic at borders. Moreover, in addition to the cost and risk of error, opportunities are being lost to develop the increasingly complex services that customers demand, and other modes of transport offer. Shippers and forwarders now demand tracking and tracing of freight consignments, as do the owners of private wagons, which carry around half of freight traffic. Respect of precise schedules for delivery and real-time information on location of consignments is essential for an efficient supply chain. It also permits much more efficient utilisation of assets, like wagons, terminals and trucks. Many truck companies can tell their customers where their consignments are, when they ask, as can the North American railways.

30. The Commission intends to propose a mandate for the preparation of specifications for procedures at border crossings, the interconnection of railway IT systems and their interface with other modes[12]. These specifications should have growth potential and open architecture to allow the introduction of new technology and the development of new customer services; they should also take account of the needs of new entrants to the rail transport market. In the mandate, the right balance has also to be struck between technical harmonisation and leaving the market free to offer new solutions. Besides, over time the development of satellite navigation should provide tools for a wide range of operational and logistic services, such as fleet management and tracking and tracing[13].

In 2001, the Commission will propose the preparation of specifications for procedures at border crossings, the interconnection of railways IT systems, and their interface with other modes.

31. Rolling Stock. The proposed directive would prevent Member States from refusing rolling stock that met Community specifications. This obligation would take precedence over the provisions on acceptance of vehicles in the RIC and RIV. The directive would also create a process for drafting and adopting Community

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12 To prepare the ground, the Commission is ordering a study on the exchange of operational data when freight trains cross borders.

13 Communication from the Commission "Galileo: involving Europe in a new generation of satellite navigation services". COM (99) 54 final 10.2.1999.

specifications and standards so that the UIC code referred to in the agreements would no longer determine the characteristics of interoperable passenger carriages and freight wagons. To implement the directive, the Commission will propose a mandate for the AEIF to prepare specifications for the interoperability of rolling stock, to be followed by the drafting of the European standards required. Specifications developed for the high-speed system or UIC recommendations would be drawn on when appropriate. (It should be noted that parts of the RIC and RIV do not concern acceptance of vehicles but other aspects of international operations, outside the scope of the directive.)

In 2001 the Commission will propose a mandate for the joint representative body to prepare specifications for the interoperability of passenger carriages and freight wagons. It will also propose a mandate to assess what specifications for multiple units and locomotives may be needed.

32. For passenger rolling stock designed only for use on domestic routes, the capacity for safe and uninterrupted movement across frontiers is not relevant. There is no point in making them interoperable. The aim is rather to integrate the market for new equipment and to create, over time, one for used rolling stock. This would bring down prices, enhance the competitiveness of the equipment industry and facilitate entry into the rail transport sector. Several issues need to be considered before deciding on policy in this area. First, the Community can approach harmonisation of such rolling stock in different ways. One is to start with Community legislation; another is to promote initiatives by the interested parties to agree on common requirements. For instance, in the case of light rail the Commission is supporting an initiative by the associations of public transport operators and of railway equipment producers to harmonize the key system interfaces and safety requirements[14]. The results of the exercise could be then introduced into legislation and form the basis of Community specifications, if considered desirable. A second issue is the form of legislation: this should be adapted to the aim of creating a single market, rather than interoperability and could perhaps have a simpler structure than the proposed directive on the interoperability of conventional rail. Another question is how best to provide for assessment of conformity by independent bodies and for mutual recognition of assessment.

In 2001 the Commission will report on the creation of a single market for passenger rolling stock designed only for use on domestic routes.

33. Noise. Railway lines pass through densely populated areas and consequently citizens are exposed to unacceptable levels of noise. Their main concern is about disturbance of sleep at night caused by the operation of freight trains and by marshalling of wagons in terminals. There are two distinct problems: emissions by new wagons and those by the huge stock of vehicles in service throughout the Community. These last a long time and are replaced slowly, so any solution has to take account of the existing fleet.

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[14] Mass Transit Rail Initiative for Europe (MARIE), supported by the Commission, is an initiative of the Union of European Railway Industries (UNIFE) and the International Association of Public Transport (UITP). As well as design criteria, the initiative covers life cycle costs, contractual terms and conditions and financial engineering.

34. Policy on railway noise has to reconcile several objectives. On the one hand citizens must be protected from disturbances; this is an important environmental goal. On the other, it is necessary to maintain the free circulation of railway wagons and hence of goods throughout the Community, and ensure a single market for these wagons. If a Member State were to impose its own noise standards on freight wagons, this would hinder free circulation. Also, the most efficient mix of measures has to be found, whether technical like measures to quieter vehicles and track noise barriers of different kinds, operational like restrictions on speed or the use of certain lines, or economic like charges. This is complicated by the division of responsibility among different actors.

35. For the Community, reducing emissions at source is the first priority. This should be tackled in the context of general Community policy on noise. Following its Green Paper on future noise policy[15] the Commission has launched a far-reaching programme, beginning with technical work on indicators, methods of measurement, mapping and abatement measures. It considers that it is time to begin work on emissions of railway noise and plans to establish a working group. This would carry out the technical work needed to propose Community limits on emissions, covering measurement methods, limit values, costs and benefits, financial implications and so on. The working group would consist of representatives of the Member States, environmental bodies, the railways and the railway equipment industry. Its work would then serve as a basis for the drafting of Community specifications under the directive on conventional rail.

In 2000, the Commission will launch technical work on emissions of railway noise, through a working group.

36. As said, a particular problem is the large stock of freight wagons that will remain in service for several decades. A possible solution would be to fit wagons with quiet brake shoes instead of the traditional iron blocks, though this also involves the replacement of wheels and axles[16]. At the usual rate of replacement, it would take around fifteen years to retro-fit the whole stock and emissions would be roughly halved. It should be possible, however, to concentrate efforts where the problems are worst, so that reductions in nuisance are achieved early; and the possibility of accelerating of retro-fitting should be considered by all the interested parties, though this should not reduce the competitiveness of rail freight. Such a programme must be carefully discussed with the representative bodies of the railways and of private wagon owners.

37. Qualifications and working methods. The usual practice of railway undertakings has been, and largely remains, to change train crews[17] at frontiers or close to them. It is rare that crews work across borders, although it happens. If international rail transport is to be competitive, railway undertakings must be able to use their crews as productively as possible, while respecting rules on working time, in order to provide services of the quality that the market demands. In some cases it will be more efficient to change a crew at the frontier, in others to employ it to drive across the

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15 Green Paper on Future Noise policy COM (96) 540 final, 4.11.1996.

16 With the present generation of quiet brake shoes, wheels have to be replaced; research is being done on quiet shoes that would not require their replacement.

17 « Train crew » principally means the driver but also any other member of staff involved in operation of the train.

border within the limits of working time. The interoperability of train crews raises several issues: the additional knowledge needed to drive across borders; health and age requirements and working methods.

38. A driver working across borders needs additional knowledge, essentially of languages, of signalling and operating rules and of the route. Knowledge of languages is a particularly serious barrier, as traditionally the railways did not take it into account when recruiting. In general, crews need one additional language, because the distances they can work across borders are limited by working time. Each railway has its own signalling system and operating rules and each route has unique geographic characteristics. A driver has to act rapidly under emergency conditions, and so needs thorough knowledge of the signalling and operating rules of different networks and of the route worked. At present interoperability across national frontiers is subject to bilateral agreements, with the host railway undertaking or infrastructure manager responsible for training and qualification. The social partners are studying the qualifications needed for cross-border operations; the Commission will take full acount of this when considering the measures needed.

In 2000, the Commission will launch a study of the qualifications required for cross-border operations by train crews and the certification of competence, in consultation with the social partners.

39. Conformity assessment. Traditionally the railways not only set their own standards but also assessed conformity with them. This arrangement has definite drawbacks: assessment can take too long, methods do not keep up with technology, and duplication of tests occurs. Nor do the present arrangements guarantee objectivity and fair treatment of all railway undertakings and producers of equipment, whether newcomers or incumbents. The high-speed directive gives responsibility for conformity assessment to the independent "notified bodies". The Commission considers that these "notified bodies" should be given responsibility for conformity assessment for conventional rail, because often there is no clear distinction between equipment for high-speed and for conventional rail and the same principles apply. The high-speed directive provides for co-ordination of the notified bodies. It is an open question whether this mechanism will prove adequate or whether more will have to be done. One option would be to create a European Co-ordination Body responsible for comparison of methods and recommendations for further harmonisation. This should be considered when experience has been gained of the working of the notified bodies.

40. In some areas, like testing for fitness for use on different lines, national requirements will continue, while in others there will be a transitional period until the adoption of Community specifications and standards. For example, under the RIC and RIV, one "registering railway" in a Member State decides whether a vehicle complies with the UIC code and registers accepted vehicles. However, this process does not guarantee fair treatment of all operators of vehicles or producers of equipment. Consequently, responsibility should be given to the notified bodies for certification of conformity of vehicles with national rules and requirements current in the Community (i.e. the relevant UIC leaflets). As for the registration of wagons used in international transport, this should be done by independent bodies. The Commission will launch a study on registration systems throughout the Community and on the need for common rules, to ensure mutual recognition and fair treatment.

In the directive on conventional rail, the Commission proposes that responsibility be given to the notified bodies for the assessment of conformity not only with Community specifications and standards, but also with national rules and with requirements current in the Community.

41. In the railway sector, assessing conformity is not simply a matter of testing prototypes under laboratory conditions or on test sites. Different tracks and signalling systems have their own specific characteristics, so rolling stock may have to be tested on the infrastructure over which it will operate, under normal working conditions. An example is testing for electro-magnetic incompatibility between certain types of electric motor and of signalling equipment. Such tests have to be carried out by the railway undertaking or infrastructure manager directly concerned, but should not be more onerous than necessary and must be transparent and non-discriminatory. To ensure this, Community guidelines on testing under operational conditions may be needed.

In 2001, the Commission will propose a mandate for the joint representative body to assess whether guidelines for testing railway equipment under operational conditions are needed.

42. Mutual recognition of maintenance and repairs is important for the free circulation of vehicles throughout the Community, in particular freight wagons. The owner of a wagon should be free to chose between having work carried out in the Member State where it is registered or in that State where it happens to be when work is needed; otherwise the owner is obliged to bring the wagon back specially to the State of registration. This implies mutual recognition of maintenance and repairs, which would involve, for instance, common specifications or standards for components, including spare parts, for maintenance and repair procedures and for accredited workshops. The present set-up is criticised, for example by owners of private wagons, on the grounds that owners are obliged to have work done in the State of registration and to meet a number of different requirements. Work on solutions should involve both the AEIF and owners of private wagons.

In 2001, the Commission will propose a mandate for the preparation of the specifications and procedures required for mutual recognition of maintenance and repairs.

F. LONGER TERM ISSUES OF HARMONISATION

43. Regulation of safety. The Community's aims should be to maintain the enviably good safety record of rail transport, while minimising that safety regulation may create the obstacles to interoperability and the integration of the equipment market. Another equally important aim is to ensure that safety regulation is transparent and non-discriminatory, so that all railway undertakings are treated equally. Also there may be scope for convergence between national approaches to safety regulation, which would help achieve these aims. The Commission has launched a study, first, to compare how safety regulation is organised in different Member States and, second, to make recommendations on convergence of policy and on fair and open processes. This will be completed in 1999. More detailed work may then be needed on the impact of operating rules and safety procedures on interoperability.

44. Electrical systems. Currently five different electric systems co-exist in the Community. This usually oblige railways to change locomotives at frontiers. There was some use of multi-current locomotives but, until a short time ago, they still represented a costly technical challenge and their reliability was not always satisfactory. Technology has advanced, however, and Community railways have recently placed substantial orders for multi-current locomotives and tractive units. They can now make a choice between using multi-current locomotives or changing at the frontier on commercial and operational grounds. This further weakens the case for general harmonisation of electrical systems throughout the Community. It would be an immensely expensive and disruptive exercise that could not be justified on commercial or cost-benefit grounds. Harmonisation of catenary geometry[18] and pantograph width is a different matter. These vary considerably so that a locomotive may require several pantographs to work international routes. Harmonisation could give substantial benefits at reasonable cost.

In 2002, the Commission will propose a mandate for the joint representative body to assess whether harmonisation of catenary and pantograph design would be justified.

45. Loading, structure gauge and other parameters[19]. These gauges are sufficiently close to allow passenger trains to circulate throughout most of Continental Europe[20]. However, structure gauge and other parameters restrict the movement of large freight loads and limit the dimensions of freight trains, preventing improvements in efficiency (length of trains and axle loads are cases in point). General harmonisation of infrastructure to higher specifications, as opposed to selective improvement when economically justified, would be astronomically expensive, as tracks, bridges and tunnels would have to be reconstructed. Nevertheless, the construction of high-speed lines gives an opportunity to dedicate other lines to slower traffic. The possibility of a network, or a set of routes, that meets the requirements of international freight will be discussed in the revision of the guidelines for the TEN-T; this will also be an opportunity to identify the bottlenecks in the conventional network. There is also the question of whether further harmonisation of infrastructure parameters of such lines would be justified and of the most suitable specifications to employ. The Commission intends to mandate the AEIF to assess whether further harmonisation of infrastructure would be justified to raise the efficiency of freight traffic.

In 2002, the Commission will propose a mandate for the joint representative body to assess whether further harmonisation of infrastructure would be justified to raise the efficiency of freight traffic.

G. INTEROPERABILITY BEYOND THE COMMUNITY

46. The European railway system does not stop at the borders of the Community. It extends to the countries of Central and Eastern Europe and is linked to those of the

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18 The lines to be followed by an overhead contact line hanging between its supports.

19 The loading gauge and maximum axle load determine the maximum dimensions of rolling stock. The structure gauge defines the space above and around the track needed for rolling stock of given dimensions to clear safely fixed installations.

20 Track gauges are a different matter. Most of Europe uses standard gauge, but Spain, Portugal, Finland and Ireland employ various wide gauges, as do the Baltic States.

Middle East and North Africa. Harmonisation of specifications over this whole area would benefit all the countries concerned, as would mutual recognition of conformity assessment with them. Harmonisation would have a greater chance of success, if based on work already being done at international level. The Community can make a unique contribution, as it has competence to act at international level in this field. It will adopt specifications for high-speed and conventional rail that could form the basis for wider harmonisation, and establish a system of mutual recognition of conformity assessment. The candidate states will align on Community specifications and, once members, take part in the harmonisation process, like other Member States. Interoperability with the Swiss rail system can be ensured through the agreement between the European Community and the Swiss Confederation on carriage by rail and road.

47. The question is how to include in the interoperable system all the countries of Europe, the Middle East and North Africa, through a legal framework that would bind all states to applying the same specifications and to mutual recognition of conformity assessment. The process should be as simple and economical as possible, so specifications must be based on those already drafted or agreed at international level, above all those coming from the Community. At the same time it should protect minorities of countries against the imposition of unsuitable specifications.

48. The Convention concerning International Carriage by Rail (generally known as COTIF - Convention relative aux transports internationaux ferroviaires) could offer the right framework as its members includes forty countries in Europe, the Middle East and North Africa, among them all Member States. This intergovernmental convention presently covers liability, contracts, and the transport of dangerous goods, but was revised at a general assembly in June 1999. One result of the revision is to extend its scope to legal adoption of technical specifications and to rules on mutual recognition of conformity assessment for equipment used in international transport. The revised text states that specifications must be based on those already drafted or agreed at international level and that the usual voting rules, which allow a quarter of members to block decisions, should also apply to votes on technical specifications. This approach should advance harmonisation simply and effectively, while protecting members' rights. The revised COTIF allows for international bodies, such as the European Community, to become members of the Central Office for International Carriage by Rail (generally known as OTIF[21]), the organisation created by the convention. Membership would allow the Community strongly to influence decisions on technical harmonisation. On the basis of an assessment of its best interests, the Community should take a decision on membership during the period of ratification, which is likely to take until late 2003.

The Commission will study the case for Community membership of the Central Office for International Carriage by Rail (OTIF) and present its position in 2001.

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21 L'Office central des transports internationaux ferroviaires.

WORK PROGRAMME

49. This summary brings together the proposals for action made in the communication on integrating conventional rail systems. The central proposal of this communication, a directive on the interoperability of conventional rail, would contribute to both the extension of interoperability and the integration of the equipment market. As technical harmonisation is a lengthy process and resources are scarce, the Commission believes that preparation for the implementation of the directive should begin at an early stage. This would give an impetus to work on the integration of conventional rail systems, as it did to that of high-speed.

50. Integration of services

In the short term, railway undertakings and infrastructure managers should aim at reducing delays at border crossings for freight traffic to the time needed to change locomotives and crews. In 2000, the Commission will consult interested parties on initiating the monitoring of delays.

In the medium term, railway undertakings and infrastructure managers should aim at eliminating stops at borders. Depending on progress made, the Commission will decide whether to mandate the preparation of specifications for simplified procedures for transferring trains between networks without stops at borders.

51. Priorities for harmonisation

In 2001, the Commission will propose mandates to the joint representative body for:

- the preparation of specifications for signalling and command/control systems for conventional rail, based on ERTMS;
- the preparation of specifications for the interoperability of passenger carriages and freight wagons;
- assessment of what specifications for multiple units and locomotives may be needed;
- assessment of whether Community guidelines for testing railway equipment under operational conditions are required.

In 2001 the Commission will also propose mandates for:

- the preparation of specifications for procedures at border crossings, the interconnection of railway IT systems, and for their interface with other modes.
- the preparation of the specification and procedures required for mutual recognition of maintenance and repairs.

In 2000, the Commission will launch preparatory technical work on emissions of railway noise, through a working group.

In 2000, the Commission will launch a study of the qualifications specifically required for cross-border operations by train crews and the certification of competence, in consultation with the social partners.

In the directive on conventional rail, the Commission proposes that responsibility be given to independent "notified bodies" for the assessment of conformity not only with Community specifications and with standards, but also with national rules and with requirements current in the Community.

52. Longer term issues of harmonisation

In 2001 the Commission will report on the creation of a single market for passenger rolling stock designed only for use on domestic routes.

In 2002, the Commission will propose mandates to the joint representative body for:

- assessment of whether harmonisation of catenary and pantograph design would be justified.

- assessment of whether further harmonisation of infrastructure would be justified to raise the efficiency of freight traffic.

53. Interoperability beyond the Community

The Commission will study the case for Community membership of the Central Office for International Carriage by Rail (OTIF) and present its position in 2001.

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the interoperability of the trans-European conventional rail system

EXPLANATORY MEMORANDUM

JUSTIFICATION IN TERMS OF SUBSIDIARITY

a) What are the aims of the intended activities as compared with the Community's obligations?

The aims of the activities lie in the creation of a regulatory framework which contains mandatory technical specifications for interoperability (TSI) and harmonised standards for the purpose of ensuring interoperability on the trans-European network, while helping to open up transport service and equipment contracts and enhance the competitiveness of the railway sector overall.

b) Do the intended activities fall within the exclusive competence of the Community or within a competence that is shared with the Member States?

The activities in question are a matter of shared competence in accordance with Article 155 of the EC Treaty.

c) What is the Community dimension of the problem (for example how many Member States are involved and what solution has been applied so far)?

The Community dimension is the outcome of the master plan for the trans-European rail network which concerns all Member States. Hitherto interoperability has not been achieved by each Member State individually.

d) Comparatively speaking is the Community or the Member States approach more efficient?

Whether by intergovernmental agreement or standardisation the Member States are not in a position to provide the technical, operational and regulatory conditions needed for interoperability.

e) What practical added value do the intended Community activities provide and what would be the cost of inaction?

At the moment it is only possible for trains to make cross-frontier journeys by changing locomotives and personnel, following procedures for inspection and exchange of documentation, juxtaposing national operating techniques and rules and complying with all of the national regulations, depending on the case. This may lead to a deterioration in the service and/or excessive investment costs for those links. The Community action will, in the medium to long term, permit a substantial improvement in the quality of the service and a reduction in the costs of those links since it simplifies and eases access to the network and enables both operators and the industry to achieve economies of scale.

f) What forms of action is the Community able to take

The Community is able to prompt standardisation, harmonise essential requirements and adopt measures to implement the technical parameters.

The Member States have national laws based on differing philosophies of safety, health, consumer or environmental protection, reliability/availability and technical and operational compatibility. Operators must work to differing mandatory technical parameters. An adequate level of interoperability requires harmonisation of the basic parameters that guarantee the necessary technical, operational and regulatory conditions.

g) Is a uniform body of regulations needed or would a directive laying down general aims and transferring implementation to the Member States be sufficient?

The proposed Directive lays down general aims and a uniform framework as regards the essential requirements to be met by the system, the role of the Member States in putting subsystems into service, the role of the independent bodies responsible for assessing the conformity of constituents and verifying subsystems. The directive also lays down the rules governing the development of the TSI to be observed whenever something new is put into service.

Harmonisation covers both the essential requirements and the technical specifications for interoperability and leaves the implementation to the Member States and the European standardisation.

INTRODUCTION

1. The gradual building up of the trans-European conventional rail network starting from existing or planned national networks requires interlinking and interoperability from infrastructures, fixed equipment, logistical systems and rolling stock.

2. Hitherto each network had been operated and trains had been moved within the national frontiers on the basis of and in compliance with regulations and technical and operational requirements that differed and were very broadly incompatible from one Member State to another. This is particularly the case as regards safety, the environment, the physical characteristics of infrastructures and in particular loading gauge, electricity supply systems, signalling and the control/command of traffic movements together with the operating rules.

3. The outcome is that the Member States have not been in a position individually to take the steps that would permit interoperability of the trans-European conventional rail network.

4. All these reasons together led the Commission to announce, in its 1996 White Paper "A strategy for revitalising the Community's railways", Community action on the integration of national rail networks, at the same time as the Council adopted a directive the provisions of which were intended to provide and ensure interoperability within the European high-speed train network (Directive 96/48/EC of 23 July 1996).

5. Following this White Paper, a study was launched in 1997 which concluded in May 1998 by recommending a strategy and a plan of possible short, medium and long-term actions, the main one being the adoption of a Directive based on the approach followed in the high-speed sector.

6. The communication to the Council and the European Parliament which accompanies this proposal for a Directive highlights the problems in the railway sector stemming from differences in regulations and operational and technical requirements and sets out a number of actions to overcome those difficulties; most of these actions will be carried out under the Directive which is the subject of this proposal.

INTEROPERABILITY AND SUBSIDIARITY

7. As already stressed above the railway network in each country has over the last 150 years been set up as a totally integrated system on the responsibility of one or more national companies to which, against a general legal background, the overseeing authority has delegated very broad authority as regards management, operation and development. The resultant compartmentalisation does not enable the optimal running of trains on the various parts of the network infrastructure that are due to the juxtaposition of the national networks.

8. The cohesion of a network of this type presupposes a sufficient level of harmonisation of:

   – in the national regulations, the differences contained in the relevant provisions on, in particular, safety, health, the environment and consumer protection;

– technical and operational characteristics relevant to the interfaces of:
  – infrastructures
  – power supply and collection systems
  – maintenance facilities and procedures
  – control/command and signalling systems
  – traffic operation and management facilities and procedures
  – information and communication systems required for passenger and freight applications
  – rolling stock.

9. Moreover, from the point of view of the stock and equipment of all types making up a system, it is necessary that the conditions governing the setting up of an open, competitive market be met.

10. All of the above shows that achieving the objective of interoperability requires harmonisation at Community level.

These activities concern the interfaces between the various parts of the system, the provisions linked with operation and those contained in the national regulations on safety, health, the environment and consumer protection.

These activities give practical shape to the concept of interoperability, the achievement of which requires the provisions of a Community framework. That Community framework should enable a body of essential requirements, in particular at interface level, and procedures to be defined which are to link together all operators involved, i.e. in the first instance the Member States but also economic operators and in particular the infrastructure operators, the railways and the industry which are to cooperate.

11. As in the high-speed rail sector, such a vehicle requires the drawing up, in line with the principle of subsidiarity, of a directive on the interoperability of the trans-European convention rail network. Neither the deliberate preparation of technical standards by the economic operators themselves, nor the mutual recognition of existing national provisions are able to resolve the political and technical problems standing in the way of the integration, coherence and interoperability of a trans-European rail network such as that envisaged.

ARCHITECTURE AND CONTENT OF THE DIRECTIVE

12. This proposal for a Directive has been based as far as possible on the structure and content of the high-speed Directive. However, as explained in the communication, a number of changes have been made. These mainly concerns the geographical (network concerned) and technical (subsystems concerned) scopes, the progressive nature of the imposition of new Community specifications, the adoption of a work programme and priorities for the work of the joint representative body and the committee.

13. As in the case of high-speed trains, the proposal for a Directive on interoperability is the basic component of a three level architecture:

– the Directive proper, with the essential requirements that the system has to meet;

– the technical specifications for interoperability (TSIs);

– all of the other European specifications and in particular the European standards drawn up by the European standardisation bodies: CEN, CENELEC and ETSI.

This architecture is derived from the typical structure of "new approach" directives. These directives define the essential requirements that products must meet when they are placed on the market, but they do not stipulate the technical means to be used to meet these essential requirements. Next, when a European standard which meets these essential requirements is published by the EC, any product conforming to that standard is presumed to meet the essential requirements; however, these standards are not binding. This is one of the reasons why, in the case of interoperability, the intermediate level of TSIs had to be created: to ensure technical compatibility between the various elements of such a complex and interlinked system, it had to be possible to impose a set of specifications, particularly at the level of the interfaces between the elements.

14. The proposal for a Directive considers the trans-European conventional rail network in its entirety and complexity and applies to the infrastructure, fixed equipment, logistical systems and rolling stock and their components which play a critical part in terms of interoperability.

For operational reasons, the overall system has been broken down into subsystems:

– infrastructure;
– energy;
– maintenance;
– control/command and signalling;
– rolling stock;
– traffic operation and management;
– telematic applications for passenger and freight services.

The breakdown of Directive 96/48 has been slightly modified to take account of the conclusions of the abovementioned study. The study recommends that, instead of tackling all the obstacles to interoperability head on, the aim should be to resolve the problems gradually in accordance with an order of priority established on the basis of a cost benefit analysis of each proposed measure; in particular, the harmonisation of the procedures and rules in use and the interlinking of information and communication systems are more beneficial than measures affecting for example the infrastructure gauge.

As in the case of the high-speed sector, the proposal then defines in a general manner, in terms of a mandatory result, the essential safety, health, environmental protection, consumer protection, technical compatibility and operational requirements needed to ensure interoperability of the system.

Where necessary, those essential requirements will be set out in detail for each subsystem in the "Technical Specifications for Interoperability" (TSIs).

15. The technical specifications for interoperability (TSIs) themselves will form the second level of the proposed architecture.

If necessary, the TSI thus set out in detail the essential requirements and determine the constituents and interfaces which play a critical role in relation to interoperability and the procedures governing the assessment of conformity or suitability for use.

The TSIs are drawn up to the order of the Commission by a joint body which is representative of the sector and is made up of experts from the railway companies, infrastructure managers and industry and are then adopted by means of the procedures laid down in the directive.

In the case of the high-speed sector, the European Association for Rail Interoperability (AEIF) was designated by the Directive 96/48/EEC Committee as the representative joint body; the Commission considers that the AEIF could continue to play this role but, as a precaution, proposes that the Committee set up by the directive on the conventional rail system should be consulted on this decision.

16. As in the case of the high-speed sector, the technical specifications needed for the constituents and the conditions at the interfaces that are critical for interoperability will be drawn up by the specialist bodies, particularly as regards European standards by the CEN/CENELEC and ETSI.

In such instances, conformity or suitability for use will be assessed at the manufacturer's request by the bodies that have been identified for that purpose by the Member States and the manufacturer will draw up the EC declaration of conformity in accordance with the conditions laid down in the directive and on the basis of the modules referred to in the corresponding TSI.

As required by Directive 93/38/EEC on the opening up of contracts in excluded sectors, where there is a European specification the assessment must without fail be based on this.

It must be noted here, that, in the case of the railways, the assessment and the absolute conformity of the constituent, considered in isolation, to the relevant technical specifications is not the only aim in view.

Indeed, in numerous cases, it is the assessment of the suitability of use of a component, considered in its railway environment, and in particular together with its interfaces, which must be checked in relation to technical operational specifications. In terms of form, this latter instance does not differ from the previous one and the modules defined in Decision 90/683/EEC are to be used in implementing the procedure, provided that the necessary technical specifications are available.

17. As with the high-speed sector, verification of the conformity of the subsystems with the essential requirements is in line with the TSIs, the procedure defined to that end in the Directive being followed.

That procedure is examined by a notified body at the request of an assessment body which draws up the EC declaration of verification. It is on the basis of that declaration that the Member State concerned authorises the placing in service of the subsystem in question.

It must be stressed here that the suitability of a complex system for delivering a given level of performance is not equal to the sum, extended to all of the constituents, of the individual abilities to meet the performance requirements of each intended use within

a subsystem. It is for this reason that each subsystem must be considered as such, including its operation and the more specific instance where it is intended to perform a public service.

18. The notified bodies must meet the criteria set out in the Directive. In the present case of the railways, the role of the approved bodies is assumed by the railways themselves which are therefore both judge and defendant. With the entry into force of Directive 91/440/EEC on the development of a Community railways and the provisions of title XV of the EC Treaty concerning the trans-European network this situation can no longer continue and the designation of notified bodies is required.

At the time of drafting of this proposal, the process of setting up such bodies to verify conformity in the high speed sector has progressed in most Member States; some have already been prenotified or are the subject of a declaration of intent. The Commission considers that for reasons of cohesion and economies of scale, these same bodies could play the same role in the conventional rail sector; however, responsibility for assessing candidates on the basis of the criteria in the directive and for notification remains entirely in the hands of the Member States.

COOPERATION

19. Although cooperation between all those involved, i.e. Member States, railways, infrastructure managers and industry is one of the aims of the Directive and thus forms part of its content, its importance with regard to the setting up of the trans-European networks requires that this should emerge in its own right.

20. Cooperation between Member States takes place, in particular, within the "Standing Committee" set up under the Directive in order to discuss all matters deriving from the implementation of the Directive. This is essential in ensuring an integrated, coherent expansion of the trans-European rail network bearing in mind the increase in the number of railway companies which results not only from the changes already made or planned in several Member States but also the gradual opening-up of the market to new railway undertakings.

At European level there is also an intergovernmental agreement that was signed back in 1882. This is the Technical Unit the most recent decisions concerning which were taken in 1938 and are currently out of date.

Furthermore, not all of the Member States are signatories to the agreement which, moreover, includes non-Member States.

21. There is cooperation between the economic operators - in the main the railways, infrastructure managers and industry - within the joint representative body in order to draw up the technical specifications for interoperability (TSI).

Before the adoption of the Directive on the interoperability of the high-speed network, there had been no cooperation between railways and industry. Only the railways cooperated among themselves within the UIC (International Union of Railways) and via the CCFE (Community of European Railways) on matters linked with Community policy.

Since then, experts from the railway companies, infrastructure managers and industry have been meeting regularly in the working groups set up by AEIF. These experts together have drawn up partial drafts of TSI which are currently before the Directive 96/48 Committee; these drafts are the result of cooperation which was difficult to establish but which now enjoys considerable political support within the various undertakings.

22. Hitherto, questions of technical compatibility, in particular those relating to international movements of passenger coaches and goods wagons, have been covered by UIC notes. However, account being taken of the procedure followed in order to prepare and adopt them, they do not in principle seem able to be used as such under Directive 93/38/EEC. For that to be possible, it would be necessary to convert them into European specifications and in particular, European standards within the technical committees set up by the CEN, CENELEC and ETSI, which constitute another forum for cooperation between the railways, infrastructure managers and industry.

23. Finally, as with the high-speed sector, the proposal for a Directive introduces cooperation between the notified bodies on the assessment of conformity or suitability for use of components and the EC checking of subsystems.

This cooperation is particularly important on the trans-European networks, in particular those carrying passengers, which are very much the responsibility of the States. Indeed, ensuring system interoperability, i.e. ensuring mutual operational links between its various parts or subsystems within a geographical area covering the Community in its entirety and, subsequently, all of Europe within an open competitive market, requires a guarantee of the greatest possible transparency as regards certification.

That transparency can only be effective if the notified bodies are cooperating as vigorously and as closely as possible.

IN CONCLUSION

24. It must be noted from all of the above that the proposal for a Directive on the interoperability of the trans-European conventional rail system constitutes the Community framework needed to allow the creation and operation of a trans-European network that is integrated, coherent and interoperable under optimum conditions of economic efficiency as far as the States, industry and the operators are concerned, without forgetting the essential factor: its users.

COMMENTS ON THE ARTICLES

In view of the above factors the enacting terms of the Directive have been divided up into six chapters.

25. CHAPTER I – GENERAL PROVISIONS

Article 1

This Article concerns the aim of the Directive which consists in achieving interoperability on the trans-European conventional rail system at the various stages of its design, construction, renewal, upgrading, gradual placing in service and operation.

In geographical terms the Directive applies to those railway lines forming part of the trans-European transport network identified in Decision No 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on Community guidelines for the development of the trans-European transport network, as set out in greater detail in Annex I of the Directive.

Article 1 also lays down that the "conditions that have to be met to achieve interoperability" (in other words, the TSIs) apply to those elements of the system which will be put into service after the date of entry into force of the Directive: this means that the TSIs do not apply to those elements already in service at the present time, provided that they are not the subject of upgrading or renewal as defined moreover in Article 2.

Article 2

This Article contains a number of definitions. The definitions in Directive 96/48 have been retained as far as possible, for the sake of cohesion.

However, it should be noted that the definition of the term "interoperability" in Directive 96/48 - "the ability of the trans-European rail system to allow the safe and uninterrupted movement of trains which accomplish the expected levels of performance for these lines" - is somewhat restrictive and must cover, in the case of this Directive, the ability to allow:

- easy access to the network;
- operation which is free of technical, operational and regulatory obstacles;
- achievement of the single market in the equipment and services necessary for the construction, renewal, upgrading and operation of the system.

Moreover, four definitions have been added to those from the high-speed Directive: basic parameters, specific cases, upgrading and renewal.

Article 3

This Article describes in detail the scope of the harmonising provisions. These provisions concern only the constituents, interfaces and procedures that are needed and adequate in order to ensure and guarantee interoperability of the trans-European conventional rail network.

Article 4

This Article requires compliance with the essential requirements.

The essential requirements concerning safety, reliability and availability, human health, environmental protection and technical compatibility are defined in general terms in Annex III.

26. CHAPTER II - TECHNICAL SPECIFICATIONS FOR INTEROPERABILITY

Article 5

This article introduces the concept of "Technical specifications for interoperability" (TSI); in particular, each TSI sets out in detail the essential requirements, determines the operational and technical specifications of each subsystem and identifies the constituents which play a critical part in terms of interoperability.

Article 6

This article lays down the procedure to be followed for drawing up, adopting and revising the TSI.

As with the high-speed Directive, the draft TSI are drawn up by the joint representative body.

The new provisions concern:

- the designation of that body in accordance with the procedure referred to in paragraph 2 of Article 21 (Committee);

- the rules to be observed by the joint body, contained in Annex VIII to the Directive, which are based on general Community standardisation procedures;

- the possibility of choosing another representative if the designated joint body fails to comply with the rules in Annex VIII or does not have the necessary authority in the case of a specific TSI. This is a safeguard clause to enable the Committee to pursue its work in the event of any problems; neither the Member States nor the Commission are in a position to dictate the powers and functioning of the joint body;

- completion of the draft TSI in two phases: the first phase sees the adoption of the characteristics of the basic parameters of the TSI on the basis of an economic analysis, and the second the drawing up of the draft TSI proper. Moreover, the joint body must take account of standardisation work already carried out, progress achieved by existing working groups and recognised research; this will make it possible to draw up TSIs on the basis of existing documents and agreements and thus speed up their preparation.

Article 7

This article provides for derogations. In all cases where derogations are requested, the Commission will examine whether the measures proposed by the Member State are justified and take a decision in accordance with the procedure laid down in paragraph 2 of Article 21; if necessary, a recommendation is drawn up concerning the specifications to be applied. This enables the Committee to stay informed on progress with regard to the degree of interoperability of the rail system and to consider alternatives to derogations. Where appropriate it might be expedient to examine the possibility of providing financial support for a proposal by a Member State where its

economic viability for the State in question is at risk because of a TSI, but compliance with the TSI is economically justified at Community level.

27. CHAPTER III: INTEROPERABILITY CONSTITUENTS

Articles 8 to13

These articles bring together the provisions which must be met if interoperability constituents are to be used and concern, in particular, compliance with the essential requirements, the European specifications and the resultant standards, assessment of conformity or suitability for use, the use of the EC declaration of conformity, the safeguard clause and the role of the notified bodies.

These provisions are identical to those in the high-speed Directive.

28. CHAPTER IV: SUBSYSTEMS

Articles 14 to 19

This chapter is one of the most specific of the Directive in connection with the interoperability problems facing the trans-European conventional rail system. The constituent articles deal with the assignment of the roles and prerogatives of the Member States, the assessment bodies, manufacturers and notified bodies. They contain provisions concerning authorisations to place in service, the EC verification procedure and the EC declaration of verification as compared with the essential requirements and the TSIs, and the role of the notified bodies.

Compared with the high speed directive, there are two additional provisions:

– in Article 14.2, each Member State is asked to check regularly that the subsystems whose putting into service it authorises are operated and maintained in accordance with the relevant essential requirements. The TSIs contain a number of provisions to be observed after entry into service, whether operating procedures or maintenance operations. As checking compliance with these provisions is not part of the responsibility of the notified body as described in Article 18, it is proposed that it be assigned to the Member States;

– in Article 18.2, the notified body is requested explicitly to verify that the subsystem to be put into service is coherent in relation to the system into which it is integrated. Such verification is implicit since the TSI contains provisions relating to the interfaces between the subsystem to be placed in service and the other subsystems. However, as the TSIs cannot cover all combinations, individual cases, specific cases and the results of any future requests for derogations, this verification of cohesion is extremely important, particularly from a safety point of view.

29. CHAPTER V : NOTIFIED BODIES

Article 20

This article sets out, in detail, the provisions applying to the notified bodies and the corresponding obligations that are incumbent on the Member States. These provisions are identical to those laid down in respect of the high-speed network.

30. CHAPTER V : COMMITTEE AND WORK PROGRAMME

Article 21

As with the high-speed Directive, there is provision for a Regulatory Committee which delivers its opinion before each measure adopted by the Commission.

However, this article has been amended to take account of the new Council Decision (28 June 1999) laying down the procedures for the exercise for implementing powers conferred on the Commission.

Finally, it must be ensured that there is no divergence in harmonisation work between European high-speed and conventional networks, which are in fact superimposed. The trans-European conventional and high-speed networks are in reality inextricably linked and interdependent:

- increasingly "high-speed" rolling stock leaves the "high-speed" network to extend its operating life on the conventional network;

- the part common to the two networks in itself represents a genuine network, made up of new mixed traffic lines; lines upgraded for mixed traffic; common access routes to cities; connecting railways; common tracks in stations for stopping or transit.

For this reason, the Commission is proposing to extend the powers of the Committee set up under Directive 96/48 to conventional rail, rather than set up a new committee.

Article 22

The Committee is asked to draw up a work programme which takes account of the order of priority used to establish its priorities and the steps to be taken.

31. CHAPTER VII : FINAL PROVISIONS

Articles 23 to 26

The articles of this final chapter, on the final provisions, do not raise any particular problems as compared with what has been encountered in other directives already in force or the high-speed Directive.

There are two additional provisions compared with the high-speed Directive:

– in Article 24(1), non-publication of TSIs cannot justify exceeding the time limit for transposition of the Member States. This provision takes account of difficulties experienced with the high-speed Directive and is all the more justified since, in this case, it is not proposed to draw up all the TSIs simultaneously but gradually as actual needs arise;

– in Article 25, the joint representative body is asked to produce a tool capable of providing a chart of the trans-European conventional rail system presenting, for each element of the system, the main characteristics and their conformity with the characteristics laid down by the TSIs. This will allow the Committee and the Commission to remain informed on the progress with regard to the level of interoperability of the rail system and also to report accurately to the Council and the European Parliament on the implementation and effects of the Directive.

32. ANNEXES

Eight annexes dealing with the following specific areas are connected with the chapters of the enacting terms:

ANNEX I: THE TRANS-EUROPEAN CONVENTIONAL RAIL SYSTEM

This annex defines the geographical scope of the proposal for a Directive: a set of infrastructures and a fleet of rolling stock.

ANNEX II: SUBSYSTEMS

This annex defines the technical scope of the proposal for a Directive; the system is itself subdivided into eight subsystems and for each of the subsystems a list of the elements and aspects to be examined is given, without however prejudging which aspects give rise to problems in terms of interoperability, or the order in which the subsystems are subjected to TSI.

ANNEX III: ESSENTIAL REQUIREMENTS

This annex sets out first the essential requirements of a general nature, i.e. those applying to the whole system as defined in Annex I, and then the essential requirements specific to each subsystem.

ANNEX IV : CONFORMITY AND SUITABILITY FOR USE OF INTEROPERABILITY CONSTITUENTS

This annex indicates the rules to be observed when drawing up EC declarations of conformity and suitability for use in the case of interoperability constituents.

ANNEX V : DECLARATION OF VERIFICATION OF SUBSYSTEMS

This annex sets out the standard content of a "EC" declaration of verification in the case of subsystems.

ANNEX VI : PROCEDURE FOR VERIFYING SUBSYSTEMS

This annex sets out the procedure to be followed for verifying the conformity of subsystems.

ANNEX VII : MINIMUM CRITERIA WHICH MUST BE TAKEN INTO ACCOUNT BY THE MEMBER STATES WHEN NOTIFYING BODIES

This annex sets out the minimum criteria to be taken into account by the Member States when notifying bodies responsible for assessing conformity and suitability for use in the case of constituents, and verification in the case of subsystems.

ANNEX VIII : MINIMUM RULES TO BE OBSERVED BY THE JOINT REPRESENTATIVE BODY

This annex sets out the minimum rules to be observed by the joint representative body for the entire duration of its mission.

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the interoperability of the trans-European conventional rail system

(E.E.A. interest)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 156 thereof,

Having regard to the proposal from the Commission,[22]

Having regard to the opinion of the Economic and Social Committee,[23]

Having regard to the opinion of the Committee for the Regions,[24]

Whereas :

(1) In order to enable citizens of the Union, economic operators and regional and local authorities to benefit to the full from the advantages deriving from the establishing of an area without internal frontiers, it is appropriate, in particular, to improve the interlinking and interoperability of the national rail networks as well as access thereto.

(2) The commercial operation of trains throughout the trans-European rail network requires excellent compatibility between the characteristics of the infrastructure and those of the rolling stock, as well as efficient interconnection of the information and communication systems of the different infrastructure managers and operators. Performance levels, safety, quality of service and cost depend upon such compatibility and interconnection, as does, in particular, the interoperability of the trans-European conventional rail system.

(3) To achieve these objectives an initial measure was taken by the Council on 23 July 1996 with the adoption of Directive 96/48/EC concerning the interoperability of the trans-European high-speed rail system.[25]

(4) In its White Paper entitled "A strategy for revitalising the Community's railways"[26] in 1996, the Commission announced a second measure in the conventional rail sector and then ordered a study on the integration of national rail systems, the results of which were published in May 1998 with the recommendation of the adoption of a directive based on the approach taken in the high-speed sector. This study also recommended

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22 OJ
23 OJ
24 OJ
25 OJ No L 235, 17;09.1996
26 COM(96)421 of 30.07.1996

that, rather than tackling all the obstacles to interoperability head on, problems should be solved gradually to an order of priority based on the cost-benefit ratio of each project. In this study the harmonisation of procedures and rules in use and the interconnection of information and communication systems were shown to be more effective than measures, for example, concerning infrastructure.

(5) The Commission Communication on "Integration of conventional rail systems"[27] recommends the adoption of this directive and justifies the similarities and main differences compared with the directive adopted in the high-speed sector. The main differences lie in the adaptation of the geographical scope, in the extension of the technical scope to take account of the results of the above study and in the adoption of a gradual approach to eliminating obstacles to the interoperability of the rail system.

(6) Article 155 of the Treaty provides that the Community shall embark upon any activity which may prove necessary in order to ensure network interoperability, particularly in respect of the harmonisation of technical standards .

(7) The Council of 6 October 1999 asked the Commission to propose a strategy for improving rail interoperability and eliminating bottlenecks in order to remove obstacles of a technical, administrative and economic nature, while guaranteeing a high level of safety and personnel training and qualifications.

(8) Pursuant to Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways[28] railway companies must have increased access to the network, which in turn requires infrastructure, equipment and stock interoperability

(9) Member States are responsible for ensuring compliance with the safety, health and consumer protection rules applying to the railway networks in general during the design, construction, placing in service and operation of those railways. Together with the local authorities, they also have responsibilities in respect of rights in land, regional planning and environmental protection.

(10) National regulations and the railways' internal rules and the technical specifications which the railways apply contain major differences. These national regulations and internal rules incorporate techniques that are specific to the national industries. They prescribe specific dimensions and devices and special characteristics. This situation runs counter to trains being able to run smoothly throughout the European network.

(11) Over the years, this situation has created very close links between the national railway industries and the national railways, to the detriment of the genuine opening-up of contracts. In order to enhance their competitiveness at world level these industries require an open, competitive European market.

(12) It is therefore appropriate to define basic essential requirements for the whole of the Community which will apply to the trans-European conventional rail system.

(13) In view of the extent and complexity of the trans-European conventional rail system, it has proved necessary, for practical reasons, to break this down into subsystems. For each of these subsystems the essential requirements must be specified and the

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27 COM ...

28 OJ No L 237, 24.08.1991, p. 25

technical specifications determined for the whole of the Community, particularly in respect of constituents and interfaces, in order to meet these essential requirements.

(14) Implementation of the provisions on the interoperability of the trans-European conventional rail system must not create unjustified cost-benefit barriers to the preservation of the existing rail network of each Member State, but must endeavour to retain the objective of interoperability.

(15) Each Member State concerned should be allowed not to apply certain technical specifications for interoperability in special cases, provided that there are procedures to ensure that these derogations are justified. Article 155 of the Treaty requires the Community activities in the field of interoperability to take account of the potential economic viability of projects.

(16) To comply with the appropriate provisions on procurement procedures in the rail sector, and in particular directive 93/38/CEE,[29] the contracting entities must include technical specifications in the general documents or in the specifications for each contract. To this end it is necessary to build up a body of European specifications in order to serve as references for these technical specifications.

(17) Within the meaning of Directive 93/98/EEC, a European specification is a common technical specification, a European technical approval or a national standard transposing a European standard. Harmonised European standards are drawn up by a European standardisation body such as the European Committee for Standardisation (CEN), the European Committee for Electrotechnical Standardisation (Cenelec) or the European Telecommunications Standards Institute (ETSI), to the order of the Commission and their references published in the *Official Journal of the European Communities.*

(18) An international system of standardisation capable of generating standards which are actually used by those involved in international trade and which meet the requirements of Community policy would be in the Community's interest. The European standardisation bodies must therefore continue their cooperation with the international standardisation bodies.

(19) The contracting entities must define the further requirements needed to complete European specifications or other standards. These specifications must not prevent the essential requirements that have been harmonised at Community level and which the trans-European conventional rail system must satisfy, from being met.

(20) The procedures governing the assessment of conformity or of suitability of use of constituents must be based on the use of the modules covered by Council Decision 93/465/CEE.[30] As far as possible and in order to promote industrial development, it is appropriate to expand the procedures involving a system of quality assurance. The

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[29] Council Directive 93/38/EEC of 14 June 1993 coordinating the procurement procedures of entities operating in the water, energy, transport and telecommunications sectors (OJ No L 199, 9. 8. 1993, p. 84), as amended by the 1994 Act of Accession and as last amended by Directive 98/4/EC of the EP and of the Council of 16 February 1998 amending Directive 93/38/EEC.

[30] Council Decision of 22 July 1993 concerning the modules for the various phases of the conformity assessment procedures and the rules for the affixing and use of the CE conformity marking, which are intended to be used in the technical harmonisation directives (OJ No L 220, 30. 8. 1993, p. 23).

concept of constituent covers both tangible objects and intangible objects such as software.

(21) The suitability for use of the most critical constituents as regards safety, availability or system economy should be assessed.

(22) The contracting entities lay down in their specifications, in particular for the constituents, by reference to the European specifications, the characteristics which must be met, in contractual terms, by the manufacturers.

(23) This being the case, constituent conformity is mainly linked to their area of use in order to ensure and guarantee the interoperability of the system, and not only to their free movement on the Community market.

(24) It is therefore not necessary for a manufacturer to affix the CE marking to constituents that are now subject to the provisions of this Directive. On the basis of the assessment of conformity and/or suitability for use conducted in accordance with the procedures provided for that purpose in the Directive, the manufacturer's declaration of conformity is sufficient.

(25) That does not affect the obligation on manufacturers to affix the CE marking to certain components in order to certify their compliance with other Community provisions relating to them.

(26) The subsystems constituting the trans-European conventional rail system must be subjected to a verification procedure. This verification must enable the authorities responsible for authorising their placing in service to be assured that at the design, construction and placing in service stages the result is in line with the regulations and technical and operational provisions in force. It must also enable manufacturers to be able to count upon equality of treatment whatever the country. It is therefore necessary to lay down a module defining the principles and conditions applying to "EC" verification of subsystems.

(27) The "EC" verification procedure is based on technical specifications for interoperability (TSIs). These TSIs are drawn up to the order of the Commission by the joint body representing the infrastructure managers, the railway companies and the industry. The reference to TSIs is required in order to ensure interoperability of the trans-European conventional rail system. These TSIs are subject to the provisions of Article 18 of Directive 93/38/CEE.

(28) The notified bodies responsible for examining the procedures for conformity assessment and suitability for the use of constituents, together with the procedure for the assessment of subsystems must, in particular in the absence of any European specification, coordinate their decisions as closely as possible.

(29) Council Directive 91/440/EEC on the development of Community railways requires a separation of activities, in accounting terms, between transport service operation and those concerning railway infrastructure management. This being the case, the specialised services provided by the railway infrastructure managements designated as notified bodies should be structured in such a way as to meet the criteria which must apply to this type of body. Other specialised bodies may be notified where these meet the same criteria.

(30) The measures needed to implement this Directive are measures of a general nature within the meaning of Article 2 of Council Decision 99/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission.[31]

(31) Interoperability within the trans-European conventional rail system is Community-wide in scale. No individual Member State is in a position to take the action needed in order to achieve this interoperability. It is therefore necessary for this action to be taken at Community level,

HAVE ADOPTED THIS DIRECTIVE:

CHAPTER I

General provisions

Article 1

1. In accordance with Articles 154 and 155 of the Treaty, this Directive sets out to establish the conditions to be met to achieve interoperability within the Community territory of the trans-European conventional rail system, as described in Annex I. These conditions concern the design, construction, putting into service, upgrading, renewal, operation and maintenance of the parts of this system put into service after the date of entry into force of this Directive.

2. The resultant technical harmonisation must also make for a single market in the equipment and services needed to construct, renew, upgrade and operate the trans-European conventional rail system.

Article 2

For the purposes of this Directive:

a) "*trans-European conventional rail system*" means the structure, as described in Annex I, composed of lines and fixed installations, of the trans-European transport network, built or upgraded for conventional rail transport and combined rail transport, plus the rolling stock designed to travel on that infrastructure;

b) "*interoperability*" means the ability of the trans-European conventional rail system to allow the safe and uninterrupted movement of trains which accomplish the expected levels of performance for these lines. This ability rests on all the regulatory, technical and operational conditions which must be met in order to satisfy the essential requirements;

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[31] OJ No L 184, 17.7.1999, p.23

c) "*subsystems*" means the subdivision, as shown in Annex II, of the trans-European conventional rail system into structural and functional subsystems for which essential requirements must be laid down;

d) "*interoperability constituents*" means any elementary component, group of components, subassembly or complete assembly of equipment incorporated or intended to be incorporated into a subsystem upon which the interoperability of the trans-European conventional rail system depends directly or indirectly;

e) "*essential requirements*" means all the conditions set out in Annex III which must be met by the trans-European conventional rail system, the subsystems, the interoperability constituents and the interfaces;

f) "*European specification*" means a common technical specification, a European technical approval or a national standard transposing a European standard, as defined in points 8 to 12 of Article 1 of Directive 93/38/EEC;

g) "*technical specifications for interoperability*", hereinafter referred to as "*TSIs*" means the specifications by which each subsystem or part subsystem is covered in order to meet the essential requirements and ensure the interoperability of the trans-European conventional rail system;

h) "*joint representative body*" means the body bringing together representatives of the infrastructure managers, railway companies and industry which is responsible for drawing up the TSIs. "Infrastructure managers" means those referred to in Articles 3 and 7 of Directive 91/440/EEC;

i) "*notified bodies*" means the bodies which are responsible for assessing the conformity or suitability for use of the interoperability constituents or for appraising the "EC" procedure for verification of the subsystems;

j) "*basic parameters*" means any regulatory, technical or operational condition which is critical to interoperability and requires a decision in accordance with the procedure laid down in Article 21 before any development of draft TSIs by the joint representative body;

k) "*specific case*" means any part of the trans-European conventional rail system which needs special provisions in the TSIs, either temporary or definitive, because of geographical, topographical, urban environment or compatibility with the existing system constraints;

l) "*upgrading*" means any major modification work on a subsystem or part subsystem which requires fresh authorisation for putting into service within the meaning of Article 14;

m) "*renewal*" means any major substitution work on a subsystem or part subsystem which requires fresh authorisation for putting into service within the meaning of Article 14.

Article 3

1. This Directive applies to the provisions concerning, for each subsystem, the interoperability constituents, the interfaces and procedures as well as the conditions of overall compatibility of the trans-European conventional rail system required achieve its interoperability.

2. The provisions of this Directive shall apply without prejudice to any other relevant Community provisions. However, in the case of interoperability constituents and interfaces compliance with the essential requirements of this Directive may require the use of individual European specifications drawn up for that purpose.

Article 4

1. The trans-European conventional rail system, subsystems, interoperability constituents and interfaces must meet the relevant essential requirements.

2. The further technical specifications referred to in Article 18(4) of Directive 93/38/EEC which are necessary to complete European specifications or other standards in use within the Community must not conflict with the essential requirements.

CHAPTER II

Technical specifications for interoperability

Article 5

1. Each of the subsystems shall be covered by a TSI. Where necessary, especially for treating categories of lines, hubs or rolling stock separately, or to solve certain interoperability problems as a matter of priority, a subsystem may be covered by several TSIs. In this case the provisions of this Article also apply to the part of the subsystem concerned.

2. Subsystems must comply with the TSIs; this compliance must be permanently maintained while each subsystem is in use.

3. To the extent necessary in order to achieve interoperability of the trans-European conventional rail system and the single market referred to in Article 1, each TSI shall:

a) lay down essential requirements for each subsystem concerned and its interfaces vis-à-vis other subsystems;

b) establish the functional and technical specifications to be met by the subsystem and its interfaces vis-à-vis other subsystems, for each of the categories of line and/or hub provided for in Annex I;

c) establish possible implementing rules in specific cases;

d) determine the interoperability constituents and interfaces which must be covered by European specifications, including European standards, which are necessary to achieve interoperability within the trans-European conventional rail system;

e) state, in each case under consideration, which of the modules defined in Decision 93/465/EEC or, where appropriate, which specific procedures are to be used to assess

either the conformity or the suitability for use of interoperability constituents and "EC" verification of subsystems;

f) propose, where necessary, an indicative timetable and a strategy for implementing the TSIs, including the technical and/or geographical stages to be completed for achieving interoperability within the trans-European conventional rail system.

4. Each TSI shall be drawn up on the basis of an examination of an existing subsystem and indicate a target subsystem that may be obtained gradually within a reasonable time-scale. Accordingly, the gradual adoption of TSIs and compliance therewith will help gradually to achieve the interoperability of the trans-European conventional rail system while retaining, as far as possible, the compatibility of the existing railway network in each Member State.

Article 6

1. Draft TSIs shall be drawn up to the order of the Commission in accordance with the procedure set out in Article 21(2). TSIs shall be adopted and reviewed by the same procedure. They shall be published by the Commission in the *Official Journal of the European Communities.*

2. The joint representative body shall be designated in accordance with the procedure set out in Article 21(2); it shall comply with the rules laid down in Annex VIII. Where the joint representative body does not comply with these rules or does not have the authority needed to draw up a particular TSI another authorised body shall be designated by the same procedure.

3. The joint representative body or, where appropriate, the authorised body in question shall be responsible for preparing the review and updating of TSIs and making recommendations to the Committee referred to in Article 21 in order to take account of developments in technology or social requirements.

4. Each draft TSI shall be drawn up in two stages.

First of all, the joint representative body shall identify the *basic* parameters for this TSI. The most viable solutions accompanied by technical and economic justification shall be put forward for each of these parameters and a decision taken in accordance with the procedure set out in Article 21(2).

The joint representative body shall then draw up the draft TSI on the basis of those *basic* parameters. Where necessary, the joint representative body shall take account of standardisation work already carried out, of working parties already in place and of acknowledged research work.

5. The drafting, adoption and review of TSIs shall take account of the estimated cost of the technical solutions required so as to establish and put into effect the most viable solutions.

To this end, the joint representative body or, where appropriate, the authorised body shall attach to each draft TSI a global assessment of the estimated costs and benefits of the solution put forward. This evaluation shall note the impact anticipated for all the economic operators and agents concerned. Member States shall participate in this assessment by providing the requisite data.

6. The Committee referred to in Article 21 shall be kept regularly informed of the preparatory work on the TSI. During this work the Committee may formulate any useful recommendations concerning the design of the TSIs and the cost-benefit analysis.

7. The date of entry into force of each TSI adopted shall be established in accordance with the procedure provided for in Article 21(2).

Article 7

A Member State may opt not to apply certain TSIs, including in connection with rolling stock, in the following cases and circumstances:

– for any element referred to Article 1(1) at an advanced stage of development when these TSIs are published, or

– for any project concerning the renewal or upgrading of an existing line where the *basic* parameters of these TSIs are not compatible with those of the existing line and the application of these TSIs would compromise the economic viability of the project and the compatibility of the rail system in the Member State.

In both of these cases the Member State concerned shall serve prior notice of its intended derogation to the Commission and shall forward to it a file setting out the TSIs or the parts of TSIs that it wishes not to apply as well as the corresponding specifications that it does wish to apply. The Commission shall examine whether the measures envisaged by the Member State are justified and shall take a decision in accordance with the procedure in Article 21(2). Where necessary, a recommendation shall be drawn up concerning the specifications to be applied.

CHAPTER III

Interoperability constituents

Article 8

Member States shall take all necessary steps to ensure that interoperability constituents:

– are placed on the market only if they enable interoperability to be achieved within the trans-European conventional rail system while at the same time meeting the essential requirements,

– are used in their area of use as intended and are suitably installed and maintained.

These provisions shall not obstruct the placing on the market of these constituents for other applications.

Article 9

Member States may not, in their territory and on the grounds of this Directive, prohibit, restrict or hinder the placing on the market of interoperability constituents for use in the trans-European conventional rail system where they comply with this Directive. In particular, they may not require checks which have already been carried out as part of the procedure of "EC" declaration of conformity or suitability for use.

Article 10

1. Member States shall consider as complying with the essential provisions of this Directive applying to them those interoperability constituents which bear the "EC" declaration of conformity or suitability for use, the components of which are set out in Annex IV.

2. Compliance of an interoperability constituent with the respective essential requirements or the suitability for use shall be established in relation to the conditions laid down by the corresponding TSI, including any relevant European specifications that may exist.

3. The references to European specifications shall be published in the *Official Journal of the European Communities* and mentioned in the respective TSI. When the relevant European specifications are published after adoption of the TSI, they must be taken into account as soon as the TSI are revised.

4. Member States shall publish the references to national standards transposing European standards.

5. As regards the period prior to the publication of a TSI, in the absence of any European specifications and without prejudice to Article 20(5), Member States shall inform the other Member States and the Commission of the standards and technical specifications in use in order to implement the essential requirements. This notification shall be made within 12 months of the date of entry into force of the Directive.

6. Where a European specification is not yet available at the time of adoption of a TSI, the TSI shall refer to the most advanced version available of the draft specification that has to be complied with or shall incorporate all or part of that draft.

Article 11

Where it appears to a Member State or the Commission that European specifications do not meet the essential requirements, partial or total withdrawal of the specifications from the publications containing them, or their amendments, may be decided upon in accordance with the procedure laid down in Article 21(2) after consultation of the Committee set up under Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations.

Article 12

1. Where a Member State finds that an interoperability constituent covered by the "EC" declaration of conformity or suitability for use and placed on the market is likely, when used

as intended, not to meet the essential requirements, it shall take all necessary steps to restrict its area of application, prohibit its use or withdraw it from the market. The Member States shall forthwith inform the Commission of the measures taken and give the reasons for its decision, stating in particular whether failure to conform is due to:

– failure to meet the essential requirements,

– incorrect application of European specifications where application of such specifications is invoked,

– inadequacy of the European specifications.

2. The Commission shall consult the parties concerned as quickly as possible. Where, following that consultation, the Commission establishes that the measure is justified it shall forthwith inform the Member States that has taken the initiative as well as the other Member States thereof. Where, after that consultation, the Commission establishes that the measure is unjustified it shall forthwith inform the Member State that has taken the initiative and the manufacturer or his authorised representative established within the Community thereof. Where the decision referred to in paragraph 1 is justified by the existence of a gap in European specifications, the procedure defined in Article 11 shall apply.

3. Where an interoperability constituent bearing the "EC" declaration of conformity fails to comply, the competent Member State shall take appropriate measures against whomsoever has drawn up the declaration and shall inform the Commission and the other Member States thereof.

4. The Commission shall ensure that the Member States are kept informed of the progress and results of that procedure.

Article 13

1. In order to establish the "EC" declaration of conformity or suitability for use of an interoperability constituent, the manufacturer or his authorised representative established in the Community shall apply the provisions provided for by the respective TSIs.

2. Assessment of the conformity or suitability for use of an interoperability constituent shall be appraised by the notified body with which the manufacturer or his authorised representative established in the Community has lodged the application.

3. Where interoperability constituents are the subject of other Community directives covering other aspects, the "EC" declaration of conformity or suitability for use shall, in such instances, state that the interoperability constituents also meet the requirements of those other directives.

4. Where neither the manufacturer nor his authorised representative established in the Community has met the obligations arising out of paragraphs 1, 2 and 3, those obligations shall be incumbent on any person who places interoperability constituents on the market. The same obligations shall apply to whomsoever assembles interoperability constituents or parts of interoperability constituents having diverse origins or who manufactures interoperability constituents for his own use, for the purposes of this Directive.

5. Without prejudice to the provisions of Article 12:

a) in each instance where the Member State finds that the "EC" declaration of conformity has been drawn up improperly, the manufacturer or his authorised representative established in the Community shall be required to restore the interoperability constituent to a state of conformity and to terminate the infringement under the conditions laid down by that Member State;

b) where non-conformity persists, the Member State shall take all appropriate steps to restrict or prohibit the placing on the market of the interoperability constituent at issue, or to ensure that it is withdrawn from the market in accordance with the procedures provided for in Article 12.

CHAPTER IV

Subsystems

Article 14

1. Each Member State shall authorise the placing in service of those structural subsystems constituting the trans-European conventional rail system which are located in its territory or operated by railway undertakings established there.

To this end, Member States shall take all necessary steps to ensure that these subsystems may be placed in service only if they are designed, constructed and installed in such a way as not to hinder the meeting of the essential requirements concerning them when integrated into the trans-European conventional rail system.

2. Each Member State shall check at the placing in service, and at regular intervals thereafter, that these subsystems are operated and maintained in accordance with the essential requirements concerning them.

Article 15

Without prejudice to the provisions of Article 19, Member States may not, in their territory and on the grounds of this Directive, prohibit, restrict or hinder the construction, placing in service and operating of structural subsystems constituting the trans-European conventional rail system which meet the essential requirements. In particular, they may not require checks which have already been carried out as part of the procedure leading to the "EC" declaration of verification.

Article 16

1. Member States shall consider as being interoperable and meeting the essential requirements those structural subsystems constituting the trans-European conventional rail system which are covered by the "EC" declaration of verification.

2. Verification of the interoperability, in accordance with the essential requirements, of a structural subsystem constituting the trans-European conventional rail system shall be established by reference to TSIs where they exist.

3. As regards the period prior to the publication of TSIs, Member States shall send the other Member States and the Commission, for each subsystem, a list of the technical rules in use for implementing the essential requirements. This shall be notified within 12 months of the date of entry into force of this Directive.

Article 17

Where it emerges that the TSIs do not fully meet the essential requirements the Committee referred to in Article 21 may be consulted at the request of a Member State or on the initiative of the Commission.

Article 18

1. In order to establish the "EC" declaration of verification, the procurement entity or its official representative shall have the "EC" verification procedure examined by the notified body that it has selected for that purpose.

2. The activities of the notified body responsible for the "EC" verification of a subsystem shall begin at the design stage and cover the entire manufacturing period through to the type-approval stage before a subsystem is placed in service. It shall also cover verification of the compatibility of the subsystem in question with the system into which it is incorporated.

3. The notified body shall be responsible for compiling the technical file that has to accompany the "EC" declaration of verification. This technical file must contain all of the necessary documents relating to the characteristics of the subsystem and, where appropriate, all the documents certifying conformity of the interoperability constituents. It must also contain all of the elements relating to the conditions and limits of use and to the instructions concerning servicing, constant or routine monitoring, adjustment and maintenance.

Article 19

1. Where a Member State finds that a structural subsystem covered by the "EC" declaration of verification accompanied by the technical file does not fully comply with this Directive and in particular does not meet the essential requirements, it may request that additional checks be carried out.

2. The Member State making the request shall forthwith inform the Commission of any additional checks requested and set out the substantiating reasons therefor. The Commission shall without delay initiate the procedure provided for in Article 21(2).

CHAPTER V

Notified bodies

Article 20

1. Member States shall notify the Commission and the other Member States of the bodies responsible for carrying out the procedure for the assessment of conformity or suitability for use referred to in Article 13 and the verification procedure referred to in Article 18, indicating each body's the area of responsibility.

The Commission shall assign identification numbers. It shall publish in the *Official Journal of the European Communities* the list of bodies, their identification numbers and areas of competence, and shall keep the list updated.

2. Member States shall apply the criteria provided for in Annex VII for the assessment of the bodies to be notified. Bodies meeting the assessment criteria provided for in the relevant European standards shall be deemed to meet the said criteria.

3. A Member State shall withdraw approval from a body which no longer meets the criteria referred to in Annex VII. It shall forthwith inform the Commission and the other Member States thereof.

4. Should a Member State or the Commission consider that a body notified by another Member State does not meet the relevant criteria, the matter shall be referred to the Committee provided for in Article 21, which shall deliver its opinion within three months. In the light of the opinion of the Committee, the Commission shall inform the Member State in question of any changes that are necessary for the notified body to retain the status conferred upon it.

5. Where appropriate, coordination of the notified bodies shall be implemented in accordance with Article 1(4).

CHAPTER VI

Committee and work programme

Article 21

1. The Commission shall be assisted by the Committee established by Article 21 of Directive 96/48/EC on the interoperability of the trans-European high-speed rail system and composed of the representatives of the Member States and chaired by the representative of the Commission (hereinafter referred to as "Committee").

2. Where reference is made to this paragraph, the regulatory procedure provided for in Article 5 of Council Decision 99/458/EC of 28 June 1999 shall apply, pursuant to the provisions of Article 8 thereof.

3. The periods provided for in Article 5(6) of Decision 99/468/EC shall be set at two months.

4. Once this Directive enters into force, the Committee referred to in Directive 96/48/EC may discuss any matter relating to the interoperability of the trans-European conventional rail system. Initiatives may also be taken to ensure interoperability between the trans-European rail system and the rail system of third countries.

5. Should it prove necessary, the Committee may set up working parties to aid it in carrying out its tasks, in particular to with a view to coordinating the notified bodies.

Article 22

1. The Committee shall draw up a work programme which takes account of the order of priority in drawing up the TSIs, on the one hand, and the respective priorities of its own tasks, on the other. This work programme shall be adopted by the Commission in accordance with the procedure set out in Article 21(2).

2. After consultation of the joint representative body the order of priority for the development of TSIs shall be adopted, for example, according to subsystems or parts of subsystems, categories of lines or rolling stock, network hubs. The order of priority shall be established by comparing the advantages that each TSI is likely to generate in respect of estimated costs.

The following aspects shall be considered as priorities in the first work programme: control/command and signalling; telematic applications for freight services; traffic operation and management (including staff qualifications); noise; and rolling stock.

3. The first work programme shall consist of the following stages:

a) designation of the joint representative body;

b) development on the basis of a draft established by the joint representative body of a representative architecture of the conventional rail system, based on the list of subsystems (Annex 2), to guarantee consistency between TSIs. This architecture must include in particular the different constituents of this system and their interfaces and act as a reference framework for defining the areas of use of each TSI;

c) adoption of a model structure for developing TSIs;

d) adoption of a method of cost-benefit analysis of the solutions set out in the TSIs;

e) adoption of the mandates needed to draw up the TSIs;

f) adoption of the *basic* parameters for each TSI;

g) approval of draft standardisation programmes;

h) management of the transition period between the date of entry into force of this Directive and publication of the TSIs.

CHAPTER VII

Final provisions

Article 23

Any decision taken pursuant to this Directive concerning the assessment of conformity or suitability for use of interoperability constituents, the checking of subsystems constituting the trans-European conventional rail system and any decision taken pursuant to Articles 11, 12, 17 and 19 shall set out in detail the reasons on which it is based. It shall be notified as soon as possible to the party concerned, together with an indication of the remedies available under the laws in force in the Member States concerned and of the time limits allowed for the exercise of such remedies.

Article 24

1. Member States shall bring into force the laws, regulations and administrative provisions needed to comply with this Directive no later than 18 months after entry into force of this Directive. They shall forthwith inform the Commission thereof. The fact that TSIs have not been published shall not under any circumstances justify failure to meet the above deadline.

2. When Member States adopt these provisions, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by the Member States.

Article 25

Every two years the Commission shall report to the European Parliament and the Council on the progress made towards achieving interoperability of the trans-European conventional rail system

To this end, the joint representative body shall develop and regularly update a tool capable of providing, at the request of a Member State or the Commission, a chart of the trans-European conventional rail system showing, for each component of the system (lines and hubs, rolling stock series), the principal characteristics (e.g. basic parameters) and their compliance with the characteristics laid down by the TSIs.

Article 26

This Directive shall enter into force on the twentieth day following its publication in the *Official Journal of the European Communities.*

Article 27

This Directive is addressed to the Member States.

Done at Brussels;

For the European Parliament	*For the Council*
The President	*The President*

ANNEX I

THE TRANS-EUROPEAN CONVENTIONAL RAIL SYSTEM

INFRASTRUCTURE

The infrastructure of the trans-European conventional rail system shall be that on the lines of the trans-European transport network identified in Decision No 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on Community guidelines for the development of the trans-European transport network or listed in any update to the same Decision as a result of the revision provided for in Article 21 of the guidelines.

For the purposes of this Directive, this network may be subdivided into the following categories:

– lines intended for long-distance passenger services;

– lines intended for mixed services (passengers and freight);

– lines specially designed or upgraded for freight services (freight corridor);

– lines intended for regional services;

– passenger hubs;

– freight hubs;

– lines connecting the abovementioned components.

ROLLING STOCK

The rolling stock shall comprise all the stock likely to travel on all or part of the trans-European conventional rail network, including:

– self-propelling thermal or electric trains;

– thermal or electric traction units;

– passenger carriages;

– freight wagons.

COMPATIBILITY OF THE TRANS-EUROPEAN CONVENTIONAL RAIL SYSTEM

The quality of rail services in Europe depends, inter alia, on excellent compatibility between the characteristics of the infrastructure (in the broadest sense, i.e. the fixed parts of all the subsystems concerned) and those of the rolling stock (including the onboard components of all the subsystems concerned). Performance levels, safety, quality of service and cost depend upon that compatibility.

ANNEX II

SUBSYSTEMS

1. LIST OF SUBSYSTEMS

For the purposes of this Directive, the system constituting the trans-European conventional rail system may be broken down into subsystems, as follows:

a) basically structural areas:

– infrastructure;

– energy;

– control and command and signalling;

– traffic operation and management;

– telematics applications for passenger and freight services;

– rolling stock;

b) basically operational areas:

– maintenance.

2. DESCRIPTION OF THE SUBSYSTEMS

For each subsystem or part of a subsystem, the list of constituents and aspects relating to interoperability is proposed by the joint representative body at the time of drawing up the relevant draft TSI.

Without prejudging the choice of constituents and aspects relating to interoperability or the order in which they will be made subject to TSIs, the subsystems include, in particular:

2.1. Infrastructure:

The track, points, engineering structures (bridges, tunnels, etc.), associated station infrastructure (platforms, means of access, etc.), safety and protective equipment.

2.2. Energy:

The electrification system, overhead lines and current collectors.

2.3. Control and command and signalling:

All the equipment necessary to ensure safety and to command and control movements of trains authorised to travel on the network.

2.4. Traffic operation and management:

The procedures and related equipement enabling a coherent operation of the different structural sub-systems, both during normal and degraded operation, incuding in particular train driving, traffic planning and management.

2.5. Telematics applications

This sub-system comprises two elements:

- applications for passenger services, including systems providing passengers with information before and during the journey, reservation and payment systems, luggage management and management of connections between trains and with other modes of transport;

- applications for freight services, including information systems (real-time monitoring of freight and trains), marshalling and allocation systems, reservation, payment and invoicing systems, management of connections with other modes of transport and production of electronic accompanying documents.

2.6. Rolling stock:

Structure, command and control system for all train equipment, traction and energy conversion units, braking, coupling and running gear (bogies, axles, etc.) and suspension, doors, man/machine interfaces (driver, on-board staff and passengers), passive or active safety devices and requisites for the health of passengers and on-board staff.

2.7. Maintenance:

The procedures, associated equipment, logistics centres for maintenance work and reserves allowing the mandatory corrective and preventive maintenance to ensure the interoperability of the rail system and guarantee the performance required.

ANNEX III

ESSENTIAL REQUIREMENTS

1. GENERAL REQUIREMENTS

1.1. Safety

1.1.1. The design, construction or assembly, maintenance and monitoring of safety-critical components and, more particularly, of the components involved in train movements must be such as to guarantee safety at the level corresponding to the aims laid down for the network, including those for specific degraded situations.

1.1.2. The parameters involved in the wheel/rail contact must meet the stability requirements needed in order to guarantee safe movement at the maximum authorised speed.

1.1.3. The components used must withstand any normal or exceptional stresses that have been specified during their period in service. The safety repercussions of any accidental failures must be limited by appropriate means.

1.1.4. The design of fixed installations and rolling stock and the choice of the materials used must be aimed at limiting the generation, propagation and effects of fire and smoke in the event of a fire.

1.1.5. Any devices intended to be handled by users must be so designed as not to impair their safety if used foreseeably in a manner not in accordance with the posted instructions.

1.2. Reliability and availability

The monitoring and maintenance of fixed or movable components that are involved in train movements must be organised, carried out and quantified in such a manner as to maintain their operation under the intended conditions.

1.3. Health

1.3.1. Materials likely, by virtue of the way they are used, to constitute a health hazard to those having access to them must not be used in trains and railway infrastructure.

1.3.2. Those materials must be selected, deployed and used in such a way as to restrict the emission of harmful and dangerous fumes or gases, particularly in the event of fire.

1.4. Environmental protection

1.4.1. The environmental impact of establishment and operation of the trans-European conventional rail system must be assessed and taken into account at the design stage of the system in accordance with the Community provisions in force.

1.4.2. The materials used in the trains and infrastructure must prevent the emission of fumes or gases which are harmful and dangerous to the environment, particularly in the event of fire.

1.4.3. The rolling stock and energy-supply systems must be designed and manufactured in such a way as to be electromagnetically compatible with the installations, equipment and public or private networks with which they might interfere.

1.4.4. Operationof the trans-European conventional rail system must respect existing regulations on noise pollution.

1.4.5. Operation of the trans-European conventional rail system must not give rise to an inadmissable level of ground vibrations for the activies and areas close to the infrastructure and in a normal state of maintenance.

1.5. Technical compatibility

The technical characteristics of the infrastructure and fixed installations must be compatible with each other and with those of the trains to be used on the trans-European conventional rail system.

If compliance with these characteristics proves difficult on certain sections of the network, temporary solutions, which ensure compatibility in the future, may be implemented.

2. REQUIREMENTS SPECIFIC TO EACH SUBSYSTEM

2.1. Infrastructure

2.1.1. Safety

Appropriate steps must be taken to prevent access to or undesirable intrusions into installations.

Steps must be taken to limit the dangers to which persons are exposed, particularly in stations through which trains pass.

Infrastructure to which the public has access must be designed and made in such a way as to limit any human safety hazards (stability, fire, access, evacuation, platforms, etc.).

Appropriate provisions must be laid down to take account of the particular safety conditions in very long tunnels.

2.2. Energy

2.2.1. Safety

Operation of the energy-supply systems must not impair the safety either of trains or of persons (users, operating staff, trackside dwellers and third parties).

2.2.2. Environmental protection

The functioning of the energy-supply systems must not interfere with the environment beyond the specified limits.

2.2.3. Technical compatibility

The electricity/thermal energy supply systems used must:

- enable trains to achieve the specified performance levels;

- in the case of electricity, be compatible with the collection devices fitted to the trains.

2.3. Control and command and signalling

2.3.1. Safety

The control and command and signalling installations and procedures used must enable trains to travel with a level of safety which corresponds to the objectives set for the network.

2.3.2. Technical compatibility

All new infrastructure and all new rolling stock manufactured or developed after adoption of compatible control and command and signalling systems must be tailored to use of those systems.

The control and command and signalling equipment installed in the train drivers' cabs must permit normal operation, under the specified conditions, throughout the trans-European conventional rail system.

2.4. Rolling stock

2.4.1. Safety

The structure of the rolling stock and of the links between vehicles must be designed in such a way as to protect the passenger and driving compartments in the event of collision or derailment.

The electrical equipment must not impair the safety and functioning of the control and command and signalling installations.

The braking techniques and the stresses exerted must be compatible with the design of the track, engineering structures and signalling systems.

Steps must be taken to prevent access to electrically-live constituents in order not to endanger the safety of persons.

In the event of danger, devices must enable passengers to inform the driver and accompanying staff to contact him.

The access doors must incorporate an opening and closing system which guarantees passenger safety.

Emergency exits must be provided and indicated.

Appropriate provisions must be laid down to take account of the particular safety conditions in very long tunnels.

An emergency lighting system of sufficient intensity and duration is an absolute requirement on board trains.

Trains must be equipped with a public address system which provides a means of communication to the public from on-board staff and ground control.

2.4.2. Reliability and availability

The design of the vital equipment, of the running, traction and braking equipment and of the control and command system must be such as to enable the train to continue its mission, in a specific degraded situation, without adverse consequences for the equipment remaining in service.

2.4.3. Technical compatibility

The electrical equipment must be compatible with the operation of the control and command and signalling installations.

In the case of electric traction, the characteristics of the current-collection devices must be such as to enable trains to travel under the energy-supply systems for the trans-European conventional rail system.

The characteristics of the rolling stock must be such as to allow it to travel on any line on which it is expected to operate.

2.5. Maintenance

2.5.1. Health

The technical installations and the procedures used in the maintenance centres must not constitute a danger to human health.

2.5.2. Environmental protection

The technical installations and the procedures used in the maintenance centres must not exceed the permissible levels of nuisance with regard to the surrounding environment.

2.5.3. Technical compatibility

The maintenance installations for conventional rolling stock must be such as to enable safety, health and comfort operations to be carried out on all stock for which they have been designed.

2.6. Operation and traffic management

2.6.1. Safety

Alignment of the network operating rules and the qualifications of drivers and on-board staff and of the staff in the control centres must be such as to ensure safe operation.

The maintenance operations and intervals, the training and qualifications of the maintenance and control centre staff and the quality assurance system set up by the operators concerned in the control and maintenance centres must be such as to ensure a high level of safety.

2.6.2. Reliability and availability

The maintenance operations and periods, the training and qualifications of the maintenance and control centre staff and the quality assurance system set up by the operators concerned in the control and maintenance centres must be such as to ensure a high level of system reliability and availability.

2.6.3. Technical compatibility

Alignment of the network operating rules and the qualifications of drivers, on-board staff and traffic managers must be such as to ensure operating efficiency on the trans-European conventional rail system.

2.7. Telematics applications for freight and passenger services

2.7.1. Technical Compatibility

The essential requirements for telematics applications guarantee a minimum quality of service for passengers and carriers of goods, particularly in terms of technical compatibility.

Steps must be taken to ensure that the data bases, software and data communication protocols are developed in a manner allowing maximum data interchange between different applications and operators, as well as a full access to the information for users.

2.7.2. Reliability and Availability

The methods of use, management, updating and maintenance of these data bases, software and data communication protocols must guarantee the efficiency of these systems and the quality of the service.

2.7.3. Health

The interfaces between these systems and users must comply with the minimum rules on ergonomics and health protection.

ANNEX IV

CONFORMITY AND SUITABILITY FOR USE OF INTEROPERABILITY CONSTITUENTS

1. INTEROPERABILITY CONSTITUENTS

The EC declaration applies to the interoperability constituents involved in the interoperability of the trans-European conventional rail system, as referred to in Article 3. These interoperability constituents may be:

1.1. Multiple-use constituents

These are constituents that are not specific to the railway system and which may be used as such in other areas.

1.2. Multiple-use constituents having specific characteristics

These are constituents which are not, as such, specific to the railway system, but which must display specific performance levels when used for railway purposes.

1.3. Specific constituents

These are constituents that are specific to railway applications.

2. SCOPE

The EC declaration covers:

– either the assessment by a notified body or bodies of the intrinsic conformity of an interoperability constituent, considered in isolation, to the technical specifications to be met;

– or the assessment/judgment by a notified body or bodies of the suitability for use of an interoperability constituent, considered within its railway environment and, in particular in cases where the interfaces are involved, in relation to the technical specifications, particularly those of a functional nature, which are to be checked.

The assessment procedures implemented by the notified bodies at the design and production stages will draw upon the modules defined in Decision 93/465/EEC, in accordance with the conditions referred to in the TSIs.

3. CONTENTS OF THE EC DECLARATION

The EC declaration of conformity or of suitability for use and the accompanying documents must be dated and signed.

That declaration must be written in the same language as the instructions and must contain the following:

– the Directive references;

– the name and address of the manufacturer or his authorised representative established within the Community (give trade name and full address and, in the case of the authorised representative, also give the trade name of the manufacturer or constructor);

– description of interoperability constituent (make, type, etc.);

– description of the procedure followed in order to declare conformity or suitability for use (Article 13);

– all the relevant descriptions met by the interoperability constituent and, in particular, its conditions of use;

– name and address of the notified body or bodies involved in the procedure followed in respect of conformity or suitability for use and date of examination certificate together, where appropriate, with the duration and conditions of validity of the certificate;

– where appropriate, reference to the European specifications;

– identification of signatory empowered to enter into commitments on behalf of the manufacturer or of the manufacturer's authorised representative established within the Community.

ANNEX V

DECLARATION OF VERIFICATION OF SUBSYSTEMS

The EC declaration of verification and the accompanying documents must be dated and signed.

That declaration must be written in the same language as the technical file and must contain the following:

– the Directive references;

– name and address of the contracting entity or its authorised representative established within the Community (give trade name and full address and, in the case of the authorised representative, also give the trade name of the contracting entity);

– a brief description of the subsystem;

– name and address of the notified body which conducted the EC verification referred to in Article 18;

– the references of the documents contained in the technical file;

– all the relevant temporary or definitive provisions to be complied with by the subsystems and in particular, where appropriate, any operating restrictions or conditions;

– if temporary: duration of validity of the EC declaration;

– identity of signatory.

ANNEX VI

VERIFICATION PROCEDURE FOR SUBSYSTEMS

1. INTRODUCTION

EC verification is the procedure whereby a notified body checks and certifies, at the request of a contracting entity or of its authorised representative established within the Community, that a subsystem:

- complies with the Directive,

- complies with the other regulations deriving from the Treaty,

and may be put into operation.

2. STAGES

The subsystem is checked at each of the following stages:

– overall design;

– construction of subsystem, including, in particular, civil-engineering activities, constituent assembly, overall adjustment;

– final testing of the subsystem.

3. CERTIFICATE

The notified body responsible for EC verification draws up the certificate of conformity intended for the contracting entity or its authorised representative established within the Community, which in turn draws up the EC declaration of verification intended for the supervisory authority in the Member State in which the subsystem is located and/or operates.

4. TECHNICAL FILE

The technical file accompanying the declaration of verification must be made up as follows:

– for infrastructure: engineering-structure plans, approval records for excavations and reinforcement, testing and inspection reports on concrete;

– for the other subsystems: general and detailed drawings in line with execution, electrical and hydraulic diagrams, control-circuit diagrams, description of data-processing and automatic systems, operating and maintenance manuals, etc.;

– list of interoperability constituents, as referred to in Article 3, incorporated into the subsystem;

– copies of the EC declarations of conformity or suitability for use with which the abovementioned constituents must be provided in accordance with Article 13 of the Directive accompanied, where appropriate, by the corresponding calculation notes and a copy of the records of the tests and examinations carried out by the notified bodies on the basis of the common technical specifications;

– certificate from the notified body responsible for EC verification, accompanied by corresponding calculation notes and countersigned by itself, stating that the project complies with this Directive and mentioning any reservations recorded during performance of the activities and not withdrawn; the certificate should also be accompanied by the inspection and audit reports drawn up by the same body in connection with its task, as specified in points 5.3 and 5.4.

5. MONITORING

5.1. The aim of EC monitoring is to ensure that the obligations deriving from the technical file have been met during production of the subsystem.

5.2. The notified body responsible for checking production must have permanent access to building sites, production workshops, storage areas and, where appropriate, prefabrication or testing facilities and, more generally, to all premises which it considers necessary for its task. The contracting entity or its authorised representative within the Community must send it or have sent to it all the documents needed for that purpose and, in particular, the implementation plans and technical documentation concerning the subsystem.

5.3. The notified body responsible for checking implementation must periodically carry out audits in order to confirm compliance with the Directive. It must provide those responsible for implementation with an audit report. It may require to be present at certain stages of the building operations.

5.4. In addition, the notified body may pay unexpected visits to the worksite or to the production workshops. At the time of such visits the notified body may conduct complete or partial audits. It must provide those responsible for implementation with an inspection report and, if appropriate, an audit report.

6. SUBMISSION

The complete file referred to in paragraph 4 must be lodged with the contracting entity or its authorised agent established within the Community in support of the certificate of conformity issued by the notified body responsible for verification of the subsystem in working order. The file must be attached to the EC declaration of verification which the contracting entity sends to the supervisory authority in the Member State concerned.

A copy of the file must be kept by the contracting entity throughout the service life of the subsystem. It must be sent to any other Member States which so request.

7. PUBLICATION

Each notified body must periodically publish relevant information concerning:

– requests for EC verification received;

– certificates of conformity issued;

– certificates of conformity refused.

8. LANGUAGE

The files and correspondence relating to the EC verification procedures must be written in an official language of the Member State in which the contracting entity or its authorised representative within the Community is established or in a language accepted by the entity.

ANNEX VII

MINIMUM CRITERIA WHICH MUST BE TAKEN INTO ACCOUNT BY THE MEMBER STATES WHEN NOTIFYING BODIES

1. The body, its Director and the staff responsible for carrying out the checks may not become involved, either directly or as authorised representatives, in the design, manufacture, construction, marketing or maintenance of the interoperability constituents or subsystems or in their use. This does not exclude the possibility of an exchange of technical information between the manufacturer or constructor and that body.

2. The body and the staff responsible for the checks must carry out the checks with the greatest possible professional integrity and the greatest possible technical competence and must be free of any pressure and incentive, in particular of a financial type, which could affect their judgment or the results of their inspection, in particular from persons or groups of persons affected by the results of the checks.

3. The body must employ staff and possess the means required to perform adequately the technical and administrative tasks linked with the checks. It should also have access to the equipment needed for exceptional checks.

4. The staff responsible for the checks must possess:

- proper technical and vocational training;

- a satisfactory knowledge of the requirements relating to the checks that they carry out and sufficient practice in those checks;

- the ability to draw up the certificates, records and reports which constitute the formal record of the inspections conducted.

5. The independence of the staff responsible for the checks must be guaranteed. No official must be remunerated either on the basis of the number of checks performed or of the results of those checks.

6. The body must take out civil liability insurance unless that liability is covered by the State under national law or unless the checks are carried out directly by that Member State.

7. The staff of the body are bound by professional secrecy with regard to everything they learn in the performance of their duties (with the exception of the competent administrative authorities in the State where they perform those activities) in pursuance of this Directive or any provision of national law implementing the Directive.

ANNEX VIII

GENERAL RULES TO BE OBSERVED BY THE JOINT REPRESENTATIVE BODY (JRB)

1. In line with the general Community standardisation procedures, the JRB must work openly and transparently, based on consensus and independent of any particular interests. To this end, all members of the three categories represented on the JRB - infrastructure managers, railway companies and industry - must have the opportunity to express their opinion during the process of drafting TSIs, in accordance with the JRB's rules of procedure and before finalisation of the draft TSIs by the JRB.

2. If the JRB lacks the expertise required in order to draft a particular TSI, it must inform the Commission immediately.

3. The JRB must set up the working parties necessary for the purposes of drafting TSIs; these working parties must have a flexible, efficient structure. To this end, the number of experts must be limited. Balanced representation must be ensured between infrastructure managers and railway companies on the one hand and industry on the other; an appropriate balance must be struck between different nationalities. Experts from non-Community countries may sit in on working parties as observers.

4. Any difficulties which emerge in relation with the Directive and which cannot be resolved by the JRB's working parties must be reported to the Commission without delay.

5. All the working papers necessary in order to monitor the JRB's work must be placed at the Commission's disposal.

6. The JRB must take all measures necessary to safeguard the confidentiality of any critical information which comes to its knowledge in the course of its activities.

7. The JRB must take all measures necessary to inform all its members and all experts participating in the working parties of the results of the work of the committee referred to in Article 21 and of the recommendations made by the committee and by the Commission.

FINANCIAL STATEMENT

TITLE OF OPERATION

Proposal for a Directive of the Council and of the European Parliament on the interoperability of the trans-European conventional rail system.

1. BUDGET HEADINGS INVOLVED

B 5-300 HAS BEEN USED FOR FUNDING TWO TSIS IN THE FRAMEWORK OF DIRECTIVE 96/48 (ROLLING STOCK AND MAINTENANCE).

B 5-314: for the mandates to CEN/CENELEC/ETSI on harmonised standards.

Budget heading B5-700 (TEN) has been used for funding three TSIs in the framework of Directive 96/48 (Infrastructure, Control/Command, Power Supply).

This information refers to budgetary nomenclature of 1999 and does not prejudge a possible future modification of nomenclature in view of grouping credits related to works of the proposed directive.

2. LEGAL BASIS

Article 155 of the Treaty.

DESCRIPTION OF OPERATION

General objective

The drawing-up of a set of mandatory technical specifications for interoperability (TSI) and harmonised standards in order to ensure interoperability within the conventional trans-European railway network.

2.1. Period covered and renewal

2001 - 2010.

3. CLASSIFICATION OF EXPENDITURE OR REVENUE

Not applicable.

4. TYPE OF EXPENDITURE OR REVENUE

A subsidy is planned for co-funding with other sources in the public and/or private sector (industry, infrastructure managers and railway undertakings).

No partial or total reimbursement of the Community financial support is planned if the operation is economically successful.

There is no plan to modify the level of revenue.

5. FINANCIAL IMPACT

Method of calculating total cost of operation

A distinction should be drawn between expenditure arising from the preparation of the technical specifications for interoperability (TSIs) and those linked to the drafting of the standards needed in order to implement the TSIs.

As part of the budget procedure concerned, provision should be made, with regard to the TSI, for the means for coordinating the activities of the ten working parties set up by the industry and railways (CCFE and UIC) and responsible for drawing up the technical specifications for interoperability (TSIs) for the following 8 subsystems: infrastructure, power supply, maintenance, control/command, rolling stock, operation and traffic management, telematic applications for passenger service, telematic applications for freight service. There will also be two coordinating groups: "subsystem interfaces" and "conformity assessment" and a group coordinating the cost-benefit assessment. The main activities of the working parties will be carried out by experts from the industry and the railways.

The Commission will provide financial support for the activities of these working parties. It will also provide funding for the meetings of the Article 21 Committee.

In the high-speed sector, the Community contribution for preparing a TSI is on average EUR 400 000. However, the current method of funding is not very flexible and would not be suitable for the type of work planned in the case of conventional rail. In addition, the AEIF plans to modify its structure in order to be more operational and to be able to react more swiftly to the Committee's requests. It would make sense to have, in addition to the present working parties, a "permanent cell", with at least one expert per sub-system, capable of reacting to the Committee's requests and preparing the working documents or compromise proposals. In this way, the groups of experts would be able to work much more efficiently and the Committee's specific requests would be promptly met. This improvement does of course involve an additional cost compared with the average cost of a TSI, which is estimated at EUR 200 000.

With regard to funding, the AEIF believes it would make more sense for the railways and the industry themselves to finance the work of their experts in the various working parties, but for the Community to provide more extensive funding for the work of the "permanent cell".

A further aspect is the number of TSIs, which will be higher in the case of conventional rail. It is proposed in Article 5(1) of the proposal that the TSI may cover technical parts of subsystems or geographical parts of the network in order to overcome particularly difficult barriers with regard to service quality.

Nonetheless, adding the revision of the TSIs which will be adopted in the year 2000 for high speed (in particular, the ERTMS specifications incorporated in the control/command TSI) and other work such as that provided for in Article 24(2) to the development of the TSIs and taking account of the fact that some subsystems will be covered by several TSIs, it is

necessary to provide for Community funding of at least EUR 2 million per annum for a period of 10 years.

The number of the standards will be specified in each TSI. When a TSI has been adopted, the mandate for drafting the standards will be awarded to CEN, CENELEC and ETSI. Estimate: EUR 10 million (approx. 200 standards, the cost of a standard estimated at EUR 50 000).

In each case, these expenses will be covered within the annual apprpriation for each budget line, without specific additional resources.

5.1. Itemised breakdown of cost

The above budgets (EUR 20 million for the TSIs and EUR 10 million for the standards) are to be allocated uniformly over a period of 10 years. It is not possible to make a closer estimate at the present time.

5.2. Operating expenditure for studies, meetings of experts, etc. included in part B

It is necessary to plan for a budget of EUR 100 000 per annum for 10 years, covering studies, evaluations, meetings of experts, information and publications.

5.3. Indicative schedule of commitment and payment appropriations

a) Development of the TSI (budget line B5-700 under the 1999 budget nomenclature)

The development of the TSIs (and the corresponding standards) is linked to the work programme which the Committee will adopt following the procedure in Article 21, paragraph 6, of the Directive.

The schedule below is based on the following assumptions:

– The Directive is adopted at the beginning of 2001 and the first commitment is made at the end of 2001 at the earliest for an amount of EUR 1.5 million (two TSI at EUR 600 000 and one TSI at EUR 300 000: the first TSI will probably concern control/command, telematic applications for freight and the problem of noise). The first payments are therefore to be planned for 2001;

– The payments for each TSI are to be spread out in three stages: 30% for year 1 (advance payment), 40% for year 2 (interim payment) and the remaining 30% for year 3 (second interim payment and balance).

	2001	2002	2003	2004	2005	2006 and subse-quent years	Total
Commitment appropriations	EUR 1.5 m	EUR 1.8 m	EUR 2 m	EUR 2 m	EUR 2 m	EUR 10.7 m	EUR 20 m
Payment appropriations							

2001 2002 n + 2 n + 3 n + 4 n + 5 and subsequent years	0.45 0.6 0.45	- 0.54 0.72 0.54	0.6 0.8 0.6	0.6 0.8 0.6	0.6 0.8 0.6	10.7	
Total	EUR 1.5m	EUR 1.8m	EUR 2m	EUR 2m	EUR 2m	EUR 10.7m	EUR 20m

b) Development of standards (lines B5-300 and B5-314 in the 1999 budget nomenclature)

The development of standards depends on the pace of development of the TSI. Therefore, the schedule of payments for standards will follow the same progression as the schedule shown above, and is based on the same assumptions.

	2001	2002	2003	2004	2005	2006 and subse-quent years	Total
Commitment appropriations	EUR 0.5 m	EUR 0.8 m	EUR 1 m	EUR 1 m	EUR 1 m	EUR 5.7 m	EUR 10 m
Payment appropriations							
2001 2002 n + 2 n + 3 n + 4 n + 5 and subsequent years	0.15 0.2 0.15	- 0.24 0.32 0.24	0.3 0.4 0.3	0.3 0.4 0.3	0.3 0.4 0.3	5.7	
Total	EUR 0.5m	EUR 0.8m	EUR 1m	EUR 1m	EUR 1m	EUR 5.7m	EUR 10m

FRAUD PREVENTION MEASURES

For standardisation, any inspection and audit procedures will be included in the framework contract binding the Commission to the CEN, CENELEC and ETSI.

The Commission will check subsidies and the receipt of services and preparatory, feasibility or assessment studies ordered before payment is made, taking account of the contractual terms and the principles of economy and sound financial or overall management. Anti-fraud measures (inspection, forwarding reports, etc.) are included in all agreements and contracts between the Commission and the recipients of payments.

ELEMENTS OF COST-EFFECTIVENESS ANALYSIS

Objectives

There are currently no essential common provisions for the movement of trains, and there is no standardisation. As part of the creation of the conventional trans-European railway network and the completion of the internal market by opening up public contracts and improving the competitiveness of this industrial sector, the activities are intended to pave the way for the Community measures and harmonised standards needed to achieve railway network interoperability.

The target groups for the proposed Directive are the general public and economy operators as far as mobility is concerned; and administrative personnel, the railway undertakings and the industry as regards the interoperability of the trans-European railway network.

5.4. Grounds for the operation

The regulations and technical standards currently in force are an obstacle to the movement of trains within the trans-European railway network, achieving economies of scale and opening up the markets concerned. This makes it more difficult to boost the competitiveness of the Community industry on world markets. It prevents railway components and equipment from being produced and used at a Community level.

Voluntary standardisation by the operators concerned, such as the mutual recognition of national regulations, cannot be considered. The lack of a common approach to regulations and common criteria means that it is not possible to create a conventional trans-European railway network or an open, competitive market without first defining the essential requirements and basic parameters.

5.5. Monitoring and evaluation of the operation

An *ad hoc* paragraph has been included in Article 25 in which the joint representative body is asked to develop a tool which is capable of providing a representative image for the trans-European conventional railway network including, for each system element, the main characteristics and their conformity as compared with the characteristics laid down by the TSI. This will enable the Committee and the Commission to be kept informed about the development of the level of interoperability of the railway network and to follow closely the implementation and the impact of the Directive.

I. ADMINISTRATIVE EXPENDITURE (PART A OF SECTION III OF THE GENERAL BUDGET)

Impact on the number of staff

The administrative resources needed will be mobilised by means of an annual Commission Decision on the allocation of resources, taking account in particular of the additional staff and amounts which will have been granted by the budgetary authority.

Type of staff		Staff to be assigned to the management of the operation		Source		Duration
		permanent posts	Temporary posts	Existing resources within the DG or department concerned	Additional resources	
Official	A	3 (**)		3(**)		10 years
or temporary	B	2(*)		2(*)		10 years
Staff	C	2(*)		2(*)		10 years
Other resources						
Total		7		7		

(*) In each case, one for following the development of TSIs and one for following the development of standards
(**) In addition to the two fonctionnaires indicated above, one fonctionnaire to prepare and coordinate the work of the Committee, relating to this directive

5.6. Overall financial impact of the human resources

	Amounts	Method of calculation
Officials	€ 7,560,000	7 men-years x 10 years x EUR 108 000 (unit cost). Titles A1, A2, A4, A5 and A7
Temporary staff		
Other resources		
Total	EUR 7,560,000	

5.7. Increase in other operating expenditure arising from the operation

Budget heading (number and title)	Amounts	Method of calculation

A-7031 Committees (obligatory)	EUR 487 500	10 years x 5 meetings x 15 experts x EUR 650/expert
A-7010 Missions	EUR 120 000	10 years x 4 (per annum) x 2 officials x EUR 1 500/mission
A-7030 Groups of experts	EUR 160 000	10 years x 2 (per annum) x 10 experts x EUR 800/experts (650 for travel and 150 daily subsistence)
Total	EUR 767 500	

The expenditure for Title A-7 in paragraph 10 will be covered by appropriations from the overall budget for the DGs concerned .

IMPACT ASSESSMENT

IMPACT OF THE PROPOSAL ON BUSINESSES AND IN PARTICULAR SMALL AND MEDIUM-SIZED BUSINESSES

TITLE OF PROPOSAL

Directive of the Council and of the European Parliament on the interoperability of the trans-European conventional rail system.

DOCUMENT REFERENCE NUMBER

THE PROPOSAL

1. Subsidiarity: Need for Community provisions

Main objectives

There are currently no essential common provisions for the movement of trains, and there is no standardisation. As part of the creation of the trans-European conventional railway network and the completion of the internal market by opening up public contracts and improving the competitiveness of this industrial sector, the activities are intended to pave the way for the Community measures and harmonised standards needed to achieve railway network interoperability.

The regulations and technical standards currently in force are an obstacle to the movement of trains within the trans-European railway network, achieving economies of scale and opening up the markets concerned. This makes it more difficult to boost the competitiveness of the Community industry on world markets. It prevents railway components and equipment from being produced and used at a Community level.

Voluntary standardisation by the operators concerned, such as the mutual recognition of national regulations, cannot be considered. The lack of a common approach to regulations and common criteria means that it is not possible to create a trans-European conventional railway network or an open, competitive market without first defining the essential requirements and basic specifications.

The costs of the operation and the potential benefits are described in the Explanatory Memorandum accompanying this proposal for a Directive.

IMPACT ON COMPANIES

2. Who will be affected by the proposal?

– Which business sectors?

Railway equipment manufacturers, railway companies, infrastructure management, building contractors, telematic applications manufacturers.

– What sizes of company (share of small and medium-sized businesses)?

Railway equipment production is centred on large companies which will have to adjust to the technical specifications for interoperability. SMBs are involved as subcontractors.

Market share held by large companies and by SMBs for all types of railway rolling stock/estimated value for 1998:

- Alsthom, Adtrans and Siemens Verkehrstechnik are the three main suppliers and account for 50% of revenue and 30% of the estimated 137 000 employed in the industry;

- SMBs account for 20% of the market share.

– Are these companies located in specific geographical areas of the Community?

The producers of railway equipment are spread throughout the Community, mainly in Belgium, Denmark, France, Germany, Italy, Spain, Sweden and the UK.

As far as infrastructure managers and railway undertakings are concerned, around 850 000 people are employed in the sector, spread over about fifty companies (UIC, 1997).

3. What action must companies take in order to comply with the proposal?

Manufacturers: implementation of the technical specifications for interoperability, the harmonised standards and the conformity procedures.

The procurement agencies: reference to the technical specifications for interoperability and the harmonised standards when concluding contracts.

The railway companies and the infrastructure management: checking of subsystems before placing in service in line with essential requirements, on the basis of the technical specifications for interoperability.
Mutual recognition of declarations of conformity.

4. What is the likely economic outcome of the proposal?

* *on investments and the creation of new companies*:

The interlinking and interoperability of the rail network will permit better access to the network and better traffic flow, which will enable new companies to develop and existing companies to improve their supply, which in time will lead to a larger market share for rail.

* *on jobs*:

By promoting the occupation of new premises and growth of activities by the SMBs, interconnection and interoperability will help to create jobs. This should help to expand the tertiary sector.

* *on company competitiveness*:

Interoperability will help to improve the competitiveness of large companies and SMBs at Community level and at world market level. Interoperability will help, above all, in opening up markets, which will enable SMBs further to specialise in their production and to maintain commercial relationships with several producers, whereas they are currently most often linked to just one. They will therefore be able to benefit more from longer production runs and thus boost their own competitiveness.

5. Does the proposal contain any measures intended to take account of the specific situation of small and medium-sized businesses (reduced or different requirements, etc.)?

The publication of the TSIs and the standards will have a beneficial effect on SMBs, which will have better access to the market thanks to transparency and the opening up of the market. One specific measure is to enable SMBs to express an opinion during the drafting of the TSIs.

CONSULTATION

6. List of bodies consulted on the proposal and having explained their basic situation:

* Member State government experts have expressed wide agreement on the need for a directive and on the approach taken, more particularly as regards the drawing up of technical specifications for interoperability having regulatory force, and cooperation between the Commission, industry and railways in any such preparatory work, and the conformity assessment procedures.

* The UNIFE and the main railway equipment manufacturers have approved the proposal for a Directive, which follows on logically from Directive 98/48.

* The CCFE (Community of European Railways) and the UIC/IUR (International Union of Railways) approve both the need for and the structure of the proposal for a Directive. Their main concern is to keep the AEIF as the joint representative body and to base the work on the existing network, this being a *basic* difference as compared with the high speed network.