The role of the Notified Bodies in the process of the railway liberalization

G. Sciutto[1], C. Bellini[1] & A. Gloria[2]
[1]*Università degli Studi di Genova, DIE – Electrical Engineering Department, Italy*
[2]*SCIROTÜV Consortium, Italy*

Abstract

Since the 1990s, the European Union has started the process of liberalization and harmonization of the European railway network issuing some directives aimed at separating railways managers from the subjects (railway enterprises) operating rail transport.

The access to the public of the railways lines and the commissioning of rolling stock or technological systems are subject to the release of a Conformity Assessment.

According to the application context, it is possible to focus at the European and National level the following main assessment areas: European restricted field, National restricted field, voluntary field and field of other transport systems. This renewed survey is based on third part assessment, i.e. achieved by subjects different from infrastructure managers, from transport operators and, of course, from the industry which has to supply technologies or to realize systems; these subjects are the Notified Bodies (NoBo's) whose mission is to carry out independent conformity assessment or to certify products and sub-systems.

On the initiative of DG Train, NoBo's agreed in December 2000 to create a European group called NB Rail to coordinate their own activities.

In Italy, two Bodies have been notified by the Ministry of Infrastructures and Transport: RINA S.p.A. and SCIROTÜV.

This paper describes the situation of the railway transport in the Member States, the evolution of the European Standards with particular attention to the institution of the European Railway Agency and the fundamental role of the Notified Bodies.

Keywords: railway transport, deregulation, Notified Body, interoperability, railway safety.

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1 Introduction

Following issue of 91/440 directive by the European Union, the progressive market deregulation has been interesting the European railway networks and has deeply transformed the rail transport scenario, creating new company activities, like railway network managers and railway transport operators. Indeed the deregulation has imposed the clear division between who manages the railway infrastructure and who operates the transport activities, modifying the role and responsibility of the actors involved in the guaranteeing processes of service quality and safety. In this paper the Conformity Assessment principles and the European reference regulations for railway interoperability will be stated, focusing attention on the role of Notified Bodies for certification.

2 Conformity Assessment in the railway field

Conformity Assessment is an analysis and verification activity of railway system components and technologies: this activity must be carried out by Bodies recognized at European level, before opening public management of new or renewed lines or putting technological systems or rolling stock into service.

With relation to the application context, we single out the following main areas:

- European regulated field, where assessment activities are carried out on the basis of the Technical Specification for Interoperability (TSI) and the safety directive, still now being finalized. The Member States must nominate the Notified Bodies (NOBOs), responsible for railway component and subsystem Interoperability Certification.
- National regulated field, where activities are carried out on the basis of national rules and regulations; Conformity Assessments are carried out by Competent Bodies recognized by national authorities on the basis of rules and procedures, not always complying with those applied for the European regulated field.
- Voluntary field, where an obligatory normative frame doesn't exist, but Conformity Assessment is carried out because of having advantages on the market or because of demonstrating compliance with forthcoming rules and regulations.
- Other mass transport systems, particularly those having interoperability features with railway infrastructure (for example tram-train systems).

At the current state, safety responsible authorities have been organized in a different way in the individual nations, in accordance with the application context. In this extremely diversified context, international cooperation and harmonization initiatives are of great importance, like for example the coordination group NB Rail (Notified Bodies for railway products and systems) which has joined together all the Notified Bodies at the European level since 2000 on the initiative of DG Train.

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Together with the Notified Bodies, special inspection bodies can be involved as sub-contractors in the assessment activities: these are technical subjects, such as test laboratories or check bodies, qualified by the same Notified or Competent Bodies.

European Accreditation (EA) puts together the bodies who accredit laboratories, certification bodies and inspection bodies on the basis of the European standard EN 45000.

Other actors are involved in the process of railway certification: the industries of the sector (rolling stock, signalling and supply systems, infrastructure), European railway operators and public transport operators.

Manufacturers supply systems and components destined for in each of the four application fields mentioned above and they have a close relationship with Conformity Assessment bodies in charge. At the European level the railway industries have joined into UNIFE (Union des Industries Ferroviaires Européennes).

As regards the railway operators (infrastructure managers and transport operators), they are responsible for management safety and they must guarantee safe technology use. At the world level all the railway operators cooperate through UIC (Union Internationale Chemin de fer): their activities include all the technical and managerial aspects linked to railway transport management.

UITP (Union Internationale des Transports Publics) is the world-wide association of regional and urban transport operators, respective authorities and manufacturing industries: its objective is that one to promote a taking consciousness of public transport potentialities.

At the European level, AEIF (Association Européenne pour l'Intéroperabilité Ferroviaire) is the organisation which joins together UIC, UNIFE and UIPT to coordinate all the common interest activities. Also ERC (European Rules for Certification), association harmonizing the procedures of Conformity Assessment and certification, is part of AEIF.

3 European normative framework

At the moment regulations and safety standards (concerning management, signalling, personnel requirements, etc.) are worked out at the national level. The above-mentioned interoperability directives have begun a harmonisation phase which will lead to creation of a real European railway network based on an international technical regulation. The railway interoperability directives issued by the European Council are the following:

- No. 96/48/CE directive about Interoperability of the trans-European high-speed railway system, which entrusts the duty of conformity or suitability certifying of high-speed line systems and sub-systems to Notified Bodies;
- No. 2001/16/CE directive about Interoperability of the trans-European conventional railway system, which extends to the conventional railway

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network the same principles ratified by the preceding directive for high-speed lines.

This renewed scenario is based on a third party figure, different from infrastructure managers, transport operators and railway industries, the Notified Bodies, whose commission is to make independent Conformity Assessments and certify products and sub-systems. These assessments are articulated in modules regarding: internal quality control, CE type examination, type conformity, production quality warranty, product quality warranty, product testing, single product testing, total quality warranty and suitability for use. Railway product and sub-system certifications must be issued by Notified Bodies and they are valid in all UE Member States. Every Member State is obliged to superintend the work of its own Notified Bodies, continuously monitoring their capacities and organisation. The Notified Body list is published in the European Union Official Gazette.

With regard to railway safety, a new directive, still now being finalized, gives oneself the aim of reaching a single Community safety certificate, issued by a competent body of any Member State and valid in all the others, and setting up a single register under the supervision of European Railway Agency (AFE, Agence Ferroviaire Européenne). At the current state, Safety Certificate is valid only on the national railway network of the Body which released it.

AFE is the agency in charge of verifying the implementation of the interoperability directives (96/48/CE e 2001/16/CE) and the future safety directive. On the technical level AFE contributes to carrying out a community regulation finalized to increasing the railway system interoperability level and to developing a common approach about safety of the European railway system, warning to the European Commission the safety common targets (SCT) and the safety common methods (SCM). Moreover AFE coordinates the national authorities in charge to safety and the bodies entrusted with railway accidents inquiries. Finally takes on the responsibility of assessing new national safety regulations and booking indicators, inquiry reports and safety certificates.

4 Organization model adopted by the UE Member States

The UE Member States are organised in according to a little different form between them in order to issuing of starting authorisations and safety certificates, even if the common target is, like said, to arrive to issuing of only one certificate valid in every Member State. In France and Netherlands the same Ministry of Transport plays the role of safety authority for the national railway, whereas the Local Authorities play this role in the case of urban and regional transport. In Germany a federal railway authority is present (called EBA, Eisenbahn BundesAmt), monitoring safety at the federal railway level, whereas at the regional level the individual Länder are warrantor for railway safety by means of local railway authorities (called LfB, Landesbevmächtiger für Bahnen). In the United Kingdom, since 1994, HMRI (Her Majesty Railway Inspectorate) plays the role of railway safety authority, as for HSE (Health and Safety Executive),

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government body for the health and safety protection. In Italy the Minister of Infrastructure and Transport has the duty of standard and safety regulation definition, on proposal of infrastructure manager, and supervise our application. The technical homologation functions of infrastructure, technologies and rolling stock, at the current state, are referred to the national infrastructure manager RFI (Rete Ferroviaria Italiana) for the national network, and to the Head Office of Fixed Transport Systems for the regional railway networks, an agency of the same Minister of Infrastructure and Transport. Finally the safety certificate issue to railway operators is on railway infrastructure manager responsibility.

As regards the Notified Bodies, the UE Member States provided already for identifying the typologies of bodies in charge of railway interoperability certification, with different models. Monopolist type models, as those adopted by French and Germany, are opposing to liberalist type models, as that Dutch, where a plurality of private subjects has obtained the acknowledgment as Notified Body and will operate in regimen of competition. But considerable differences are also between the German model and French model. Indeed Germany opted for creation of a single subject, EBC (EisenBahn Cert), created as expression of above-mentioned EBA, which includes, as associated partners, several bodies provided with qualified personnel and suitable test laboratories (TÜV InterTraffic, TÜV Rail, DIN VSB CERT, etc.).

On the other hand, in France an autonomous and independent company (CERTIFER) are instituted, participated by railways, industries and rail research institutes, only with policy and coordination duties, whose the technical activities are carried out from expert examiners put on special registers and, if necessary, from accredited laboratories.

In Italy Notified Bodies can be numerous but they must demonstrate to have technical requirement and competence, independence and uprightness indicated in the national law. Currently in Italy the Notified Bodies are two:

- RINA S.p.A. – Registro Italiano Navale, created and developed in maritime world, has extended his activity in other sectors, including railway;
- SCIROTÜV – consortium between the engineering and consulting company Sciro S.p.A. and German Certification Body TÜV Rheinland-Berlin/Brandenburg, an international reference for railway certification activities.

5 European measures

The European Commission, in accordance with AIEF, considered incomplete the Technical Specification for Interoperability (TSI) as regard satisfaction of essential requirements linked up with 96/48/CE directive, particularly as regard safety but also employment suitability. In fact in the TSI (so far issued only for high-speed) only the typical essential requirements for high-speed (environment, safety, technical compatibility) was put in, leaving out the common requirements

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for any conventional railway system and, moreover, implicitly held by any high-speed railway system.

This fact may limit, at least potentially, activity and market of bodies originally entrusted with Conformity Assessment, especially in relation to policy which is to be implemented by any Member State for the additional assessment necessary for completing that missing in TSI: indeed the safety assessments for homologation of rolling stock critical components were and they are still now different for the requirements and methods in the different Member States.

For getting round this problem, AEIF and the European Commission have established that, in the transition period between the TSI publication for high-speed and these for conventional railway, which they will fill up this gap, it's necessary to answer not only TSI, but also national regulations, to obtain the railway product free circulation in Europe. This fact suggest the actual risk that a product can be submitted to additional examination for every Member state; however each of them is bound to make known the technical applicable regulation list, Conformity Assessment procedures and bodies in charge of their execution for all the additional conditions to TSI.

6 Italian measures

As a result of the acknowledgement decree of European directives, the functions and the actors in play in the Italian scenario are briefly the following:

- The Ministry of Infrastructure and Transport maintains the functions of standardisation (definition of safety regulations and standards for management and owning on proposals of the Railway Infrastructure Manager) and inspection of their application.
- The Ministry keeps watch, through the institution of a special Regulation Body, on competition in the railway market, especially in relation to issuing of Safety Certificates, an essential requirement for railway management.
- The Railway Infrastructure Manager, whose relationship with the State are defined by the Concession Act and by the Programme Agreement, has the responsibility of guaranteeing management safety and the duty of the issuing Safety Certificate for railway companies.

The Ministry ascribes the duties of technical validation of infrastructures, technologies and rolling stock:

- to RFI for the national railway network;
- to the Head Office of Fixed Transport Systems for the regional railway network, isolated or linked to the national network.

The duty of making procedures of compliance verification with national regulations for those aspects necessary to guarantee observance of essential requirements, not covered by actual TSIs, is ascribed:

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- to RFI pro tempore, a waiting TSI adoption;
- to Notified Bodies, including RINA and SciroTÜV, for the certification of conformity or suitability for interoperability component use and the CE verification of subsystems making up the European High Speed Railway System, once the transient condition ends.

Particularly, the full condition will have to sketch out the role division and jurisdiction border between Notified Bodies and the Contractee Body, with the aim of recognizing an operative model able to put the railway heritage to good use, present in RFI and not exportable, in the whole observance of European regulation.

7 Conclusions

The reform project of railways promoted by the European Union has essentially two targets: on one hand the deregulation of the individual member country market, on the other the creation of a single market on a European scale. With particular reference to the railway market, the deregulation is directed to obtain a single large railway network by means of the programmes suitable for the whole interoperability between the current different systems (signalling and supply systems, reckoning of network admission rates, safety regulations, etc.) Moreover the sector needs recovery of competitiveness in regard of other means of transport both for the efficiency improvement of railway companies and for the attraction of private investments. In this context the presence and the activity of Notified Bodies for Railway Certification are essential in order to guarantee the same condition of access to the market with the observance of safety conditions which characterize railway transport.

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