European Economic and Social Committee

CCMI/169
Ensuring an inclusive sectoral transition to a digitalised rail sector

OPINION

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Ensuring an inclusive sectoral transition to a digitalised rail sector (own-initiative opinion)

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1. Recommendations

1.1 Digitalisation contributes to making rail transport more efficient and **more convenient for both passengers and freight**, but it also exposes rail systems to cybersecurity risks. Therefore the EESC recommends a stronger cooperation between ENISA and the ERA.

1.2 The EESC believes that ERTMS deployment, the centrepiece of the rail digital EU strategy, shall be dramatically accelerated. The required investment, more than EUR 100 billion, shall be pursued through a Commission dedicated initiative, with a strong EU budgetary commitment, concrete support from Member States and substantial private capital (InvestEU).

1.3 The EESC encourages rail to develop with other public transport modes a comprehensive and interoperable Mobility-as-a-Service (MaaS) framework ensuring affordability of and accessibility to mobility and public transport for all citizens as a service of general interest as well as to pursue an open, plug and play IT framework for the distribution of multimodal tickets in Europe. Rail could be the backbone to develop the Mobility aspect of a **European Digital Identity.**

1.4 The EESC calls upon the ETF, CER and EIM, as part of the EU social dialogue, to establish a proactive transparent dialogue, e.g. in the form of a "digital road map" and launch joint initiatives to identify and anticipate the impact of automation and digitalisation and to maintain a high level of employment and social guarantees as part of a socially just transition.

1.5 The EESC pleads for the establishment of an EU rail regulator to accompany the development of the EU rail single market which also covers the digital aspects.

2. Introduction

The European mobility and transport system is currently undergoing a shift to a much greener and more digitalised system.

Logistic chains will mutate as **new technology** will provide easier digital integration of different modes, a denser flow of information on traffic and tracking, easier access to services and information to passengers, a more efficient use of infrastructure capacity and a higher degree of predictability on timing.

Digitalisation will also increase the amount of data available to railway undertakings: the use of this data, in full compliance with rules on privacy and data ownership, will create **opportunities for new business initiatives**.

3. Need to ensure railways' transition to *digital*

3.1 Rail as part of the Digital Single Europe

Connectivity is a foundation allowing the full realisation of the European Single Digital Market and digitalisation of railways.

A high level of connectivity is also required in order to provide dependable information, such as train schedules, availability of tickets, travel planners, freight terminal data, etc. This is a strong customer and staff expectation, improving the quality of services and maintenance.

Further digitalisation of railways relies on good cooperation both between railways and with telecommunication players. **New 5G networks** will offer a great opportunity for railways by enabling, among other things, the **internet of things and better real-time information**.

Rail could be the backbone to develop the Mobility aspect of a **European Digital Identity** through a "**Regulatory environment that drives competition and innovation**, and empowers citizens and companies with trust and an awareness of the benefits of digital technology for citizens, consumers, companies and workers, including all of these combined into a single 'e-person'"[1].

3.2 **New specific products and IT**

The deployment of the ERTMS (European Rail Traffic Management System) should be a centrepiece of the technical EU strategy in order to allow its advantages to materialise (e.g. technical and operational harmonisation, increased capacity on the network, improved safety and reliability, reduced costs of maintenance). In the last 20 years less than 10% of the TEN-T Core network has been equipped with the ERTMS. The pace of deployments should be accelerated without neglecting the accessibility of the regional rail network.

Further to that, developing the technical and legal framework, fully respecting the social dialogue, for the increasing levels of automatic train operation, improved data connectivity along train routes also with 5G technology, as well as further digital developments relevant for rail should be on top of the agenda.

3.2.1 **Rail internal processes:**

3.2.1.1 **Opportunities: increased infra capacity, maintenance and predictive maintenance, cost reduction, ATO, safety, crisis management**

Control, command and communication systems should go beyond merely being a contributor to the control and safe separation of trains and become a flexible, real-time, intelligent traffic management and decision support system.

Current systems do not sufficiently take advantage of new technologies and practices, including use of satellite positioning technologies, high-speed, high-capacity data and voice communications systems (Wi-Fi, 4G/LTE, 5G) and automation, as well as innovative real-time data collection, processing and communication systems. These have the potential to considerably improve traffic, thereby delivering improved capacity, decreased traction energy consumption and carbon emissions, reduced operational costs, enhanced safety, including at level crossings through C-ITS, and security and accessible, reliable and comprehensible customer information. Condition-based maintenance, based on sensors

1 TEN 691.

and digital technology, will dramatically improve the efficiency, reliability and resilience of the system, both infrastructure and rolling stock.

3.2.1.2 **Threats: security and cybersecurity**

Digitalisation contributes to making rail transport more efficient and more convenient, but it also exposes rail systems to cybersecurity risks. Embracing the need for robust cybersecurity measures and being prepared to deal with cyber-attacks, including large-scale events, represent significant challenges for the whole rail sector.

"A homogeneous interpretation of the rules for Cybersecurity, including mutual recognition between Member States, … a certification framework and certification schemes … could provide a common baseline [for digitalisation, … ERA] should be involved in the process and in some cases, with the agreement of ENISA to guarantee coherence, delegated to draw up cybersecurity schemes. Minimum European standards for IT security should be adopted in cooperation with CEN/CENELEC/ETSI."[2]

3.2.2 **New services**

3.2.2.1 **New applications for passengers: E-ticketing, E-booking, integrated ticketing, multimodal ticketing, MaaS, Digital platforms, digital stations**

In order to improve the information related to journeys and to facilitate the choice of the adequate train and of intermodal journeys, as well as through-ticketing, some European railways launched a common project "Full Service Model" together with leading ticket vendors to create an open, plug and play IT framework for the distribution of rail tickets instead of bilateral IT solutions between distributors and rail service providers.

In this new context, Mobility-as-a-Service (MaaS) describes a shift away from personally-owned modes of transportation and towards mobility solutions that are consumed as a service. The key concept behind MaaS is to offer travellers door-to-door mobility solutions based on their travel needs and choice, ensuring affordability of and accessibility to mobility and public transport as a service of general interest. MaaS regards the entire transport system as a single entity and rail, with its low rate of emissions, must be part of it.

3.2.2.1.1 **New issues: data protection, privacy, passenger rights**

Legislative stability is key to deliver the step-change needed in the area of ticketing. Customer-friendly information on through-ticketing is essential with regards to realistic EU requirements in the rail passenger rights regulation.

Railways need to continue to promote accessibility in a cost-efficient way. Unnecessary business-to-business provisions bring about unnecessary red tape and should be dealt with on a contractual basis and, where appropriate, in the relevant legislative framework for data exchange.

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2 TEN646.

3.2.2.2 **For freight**

The rail sector adopted a joint declaration, entitled the "Sector Statement", on the occasion of the Rotterdam TEN-T Days in 2016, outlining the steps to be taken in order to improve international rail freight transport in Europe. From the Sector Statement, ten priority actions were identified including train tracking and Expected Time of Arrival and Facilitating concrete ERTMS Implementation. Furthermore, on 2 December 2015 the European Social Partners in the rail sector signed a Rail Freight Declaration with their proposals on improving rail freight transport.

Automatic brake testing will allow a significant efficiency increase of the train formation activities. Protection of freight transport commercial data shall also be guaranteed.

3.3 **Financing digital transition and R&I**

3.3.1 **Funding rail Digitalisation: Digital Europe, CEF, InvestEU, national programmes**

Adequate support from **EU and national funds** should be guaranteed for all portions of the rail system and for the completion of an effective European rail network.

The **Connecting Europe Facility needs to be continued and increased beyond 2020**. It must be underlined how the CEF should put a focus on digitalisation issues such as **ERTMS** trackside and on-board. Deploying the ERTMS on the TEN-T network, with digital interlockings, requires more than EUR 100 billion, such investment can be supported only through a dedicated initiative, with a strong EU budgetary commitment, matched by concrete **support from Member States and private capital (InvestEU).** To mobilise the resources needed the Committee thinks the Commission's proactive role needs to be strengthened and a regulatory framework should be developed. CEF II shall also fund cross border 5G rail corridors to improve connectivity.

3.3.2 **Shift2Rail and Shift2Rail2**

EU support to boost innovation in the rail sector is also needed, in particular regarding the continuation of the successful Joint Undertaking Shift2Rail. The future European Institutionalised Partnership should get an increased budget and be able to count on an improved and simplified governance system that gives more consideration to the needs of the rail operating community and their customers and is still able to trigger the whole rail innovation ecosystem– across Member States. Research funding for digital innovation must include serious research funding for accompanying social impact assessment and measures to facilitate a just transition.

4. **Need to ensure that such transition is *inclusive***

4.1 **For employees**

The introduction of digital technologies in the railway environment is expected to bring efficiency and productivity gains that will benefit the sector's competitiveness, and that will require at the same time qualitative and quantitative changes in railway jobs and work organisation.

This transition is already happening and railway companies need to prepare and manage changes affecting their workforce in a timely and inclusive manner, in order to remain good quality and attractive employers.

There will be profound changes in the nature of work and the demand for skills. The EESC highlights the importance of dealing with these structural changes by enhancing a fair and smooth transition and addressing the skills gap, together with the appropriate monitoring of progress.

The impact on the health of railway workers should not be underestimated, including creating a mental burden that could lead to illnesses and cause tensions in people's private lives.

Ensuring an inclusive transition means managing change in a socially responsible way, starting with an open and transparent dialogue with employees and their representatives. Such a dialogue should help address potential fears linked to digitalisation and ensure the necessary staff engagement throughout the change.

The utmost caution should be exercised when implementing digitalisation, in order to avoid disruptive transitions and social discord. It is absolutely essential that the European social partners – the ETF (European Transport Workers' Federation), CER (Community of European Railway and Infrastructure Companies) and EIM (European Rail Infrastructure Managers Association) – meet as part of the EU sectoral social dialogue on railways to decide on joint projects in order to better identify and anticipate the impact of automation and digitalisation to maintain a high level of employment and social guarantees as part of a socially just transition.

The European and national policy makers and the social partners should establish coordination between the European Social Dialogue and national negotiations that addresses the labour and social consequences of the digitalisation process of the integrated European rail system.

At national level, railway companies, together with employee representatives, must draw up a kind of "digital roadmap" at an early stage and provide employee representatives with training on identifying digital processes and influencing factors.

In addition, it is necessary to negotiate collective bargaining agreements with employee representatives at national level on:

- rights to consultation, participation and collective representation before new technologies are introduced;
- the definition of and conditions for alternative activities/employment, retraining and qualifications;
- health and safety in the workplace, the right to disconnect, protection of employee data (against permanent monitoring);
- shorter working hours and/or (flexible) working patterns.

Traffic safety and passenger and staff security cannot be guaranteed solely by means of digital and automated systems, a human presence is necessary.

The key to address this challenge is to put the focus on professional transitions, supported by life-long learning and investments in staff's employability to avoid laying people off. For railways, two important challenges are the imbalanced age pyramid of its workforce and recruitment difficulties, especially among young people and women. As a consequence, rail companies need to take care of older workers' capacity to remain in rapidly changing jobs to ensure that core knowledge is passed on from one generation to the next, and to widen their recruitment basis.

From the point of view of national and EU-wide systems, workforce imbalances can be reduced or even avoided by a good dialogue and cooperation between the educational sector and businesses, in order to prepare the "workforce of the future" through training and retraining of employees and trainers with digital skills.

As mentioned above, national education systems – especially vocational education – play an important role in ensuring that the future workforce is equipped with the right skills. The establishment of sector skills councils is recommended.

4.2 **Passengers: elderly people accessing IT-intensive services, people with disabilities, rural areas, etc.**

4.2.1 Digitalisation will offer increasing opportunities to further reduce the environmental impact of our transport system and make mobility more efficient. Growing connectivity should also make "mobility-as-a-service" options and multimodality easier. Rural areas would profit from this only if covered by the necessary investment.

4.2.2 As rail transport is a service, it is important that civil society, consumer associations, environmental associations, disability organisations, associations promoting fair mobility and associations representing elderly persons could also become partners in implementing the digitalisation of the rail sector.

4.2.3 "With a view to harnessing the economic power of the EU's older citizens, who make up 25% of its population, the EESC believes that in growth terms it does not make sense to consider them as a population category outside the mainstream of life, but that both their abilities and their expectations should be recognised and they should be included as economic and social players of the digital age[3].

5. **In the context of the European data economy**

5.1 The development of new IT technologies has facilitated the collection and exploitation of transport data. Maximising the use of data will lead to economic growth, innovation and significant benefits for the rail sector, its customers and the European economy, creating and developing interoperable and interconnected services. The different aspects of opening up data and data sharing need to be better explored in order to create clear added value for the rail sector and society.

3 The digital pillar of growth: e-seniors, a potential 25% of the European population - TEN/584.

5.2 The first step is to ensure interoperability of data formats in order for the actors to work together. Furthermore, it would be necessary to clarify the ownership, access and usage of different types of data. Close cooperation between authorities, consumer organisations, public and private operators, trade unions, infrastructure managers and suppliers will be vital in order to eradicate barriers to data sharing in the rail ecosystem.

5.3 A proper big data analysis will then provide information about trends and demands that could help to redesign transportation with more personalisation and flexibility and help cities to be more efficient. The digitalisation and robotisation of transport require the adequate availability, accessibility and free flow of data. At the same time, proper data protection has to be ensured.

5.4 The EESC calls upon the Commission to ensure fair competition and consumer choice in the domain of access to data. There are currently concerns about the level of competition resulting from attempts to gain access to passengers' data. Challenges also arise in the domain of public transport, where access to data (e.g. train timetables and real-time location) will be essential to establishing smoothly functioning multimodal services.

5.5 The European Commission should adopt binding regulations to make sure that the principles of fair competition without discriminating against public and private companies providing similar services are respected, as well as those of access to transport data – while fully respecting the rules of data protection. "The same conditions must apply to public and private companies with reciprocity for data exchanges and compensation of costs[4]," including digital platforms.

6. European Rail Supply industry

6.1 "The digitalisation and robotisation of transport provide new business opportunities for both manufacturing and service industries, including SMEs, and could be an area of competitive advantage for the EU. To this end, the EESC calls for an encouraging and enabling business environment, including openness towards new business models and boosting the development of European digital platforms[5]."

6.2 With its Paper on Digitalisation "Digital Trends in the Rail Sector" UNIFE, the European rail supply industry association, aims to express its view on how digital transformations will contribute to achieving the ambitions of Europe's rail sector and its supply industry – both in terms of enhancing the experience of rail passengers and also in terms of optimising logistics and boosting capacity for carrying freight. In order to do this, five major focus areas have been identified:

1) Big Data
2) Cybersecurity
3) Artificial Intelligence (AI)

4 TEN/691.

5 Implications of the digitalisation and robotisation of transport for EU policy-making - TEN/632.

4) New Mobility Services
5) Digitalisation of Freight Logistics Services.

7. **Roles of the institutions**

7.1 **ERA**

In order to pursue the development of the single European railway area, to avoid fragmented development of telematics applications, the Agency was given a strengthened role in the field of such applications. To that end, the Agency was empowered to act as the system authority for telematics applications, and shall, in that capacity, maintain, monitor and manage all corresponding subsystems requirements at EU level.

7.2 **ENISA**

The European Union Agency for Network and Information Security (ENISA) is a centre of expertise for cybersecurity in Europe and contributes to a high level of network and information security (NIS) within the EU.

The Agency works to deliver advice and solutions including the pan-European Cybersecurity Exercises, National Cybersecurity Strategies, CSIRTs cooperation and capacity building, studies on secure Cloud adoption, addressing data protection issues, privacy enhancing technologies and privacy in emerging technologies, eIDs and trust services, and identifying the cyber threat landscape, etc. ENISA and the ERA shall work together on these matters

7.3 **A European Economic Rail Regulator**

EU directives have provided for the mandatory constitution of regulatory bodies in the Member States dedicated to the surveillance of competition in the railways market. In addition to them, a single European railway area, in particular international freight and passenger traffic, also requires increased efforts on a continental scale with the establishment of a European rail regulator.

Brussels, 30 October 2019.

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