

**PRIME-RUD Meeting  
19 November 2020**

**Information point:  
Next steps towards automation and digitalisation**

*From: EC*

*– For Information –*

**1. OBJECTIVES AND BACKGROUND**

**Enhancing the system internal performances via innovation: the System pillar**

New technologies in automation, digitalisation and signalling will allow very considerable cost savings, greater reliability and flexibility and capacity increases at much lower cost than building new infrastructure. But deployment is very slow since integrating new systems we need in existing vehicles and infrastructure is complex, slow and expensive. To overcome this we need an overall coordinated and harmonised approach to the evolution of the rail system and in particular its automation and digitalisation, creating a modular approach allowing the easy upgrade of key components. This would also enhance competition and lower RU/IM cost by limiting lock in to proprietary systems.

The evolution of the EU rail system should be organised to:

- ensure high level of safety;
- improve operational efficiency, capacity and performance;
- deliver interoperability; and
- reduce cost.

Automation and digitalisation are central to successfully achieving these objectives.

In the short term, the 2022 revision of the Technical Standards for Interoperability will focus on a number of changes to support rail digitalisation. These include:

- A modular approach open to evolution
- Digital Automated Couplers (DAC)
- Automated Train Operation – improve safety; to enhance energy efficiency and reliability of rail operation.

Future radio system (FRMCS) based on 5G technologies, thus leading to a future-proof, spectrum efficient radio system; telecom and applications layer will be functionally independent.

To achieve this, a “System Pillar” will be created within the successor to the Shift2Rail Joint Undertaking, which:

- is a single coordinated approach for the sector to define the operational concept and functional system architecture, and associated standards and specifications.

- is a process that makes the most efficient use of scarce resource (EU and MS; financial and human capital), coordinating current initiatives under one umbrella.
- ensures clarity of roles and resource with the aim of speeding up and making more systematic the development of products, standards, and specifications.
- aligns the Unions' Research and Investment with a long-term vision.

### **Improving Rail Freight Services performances: integration across networks and in the logistic chain**

Furthermore, a smoother integration of rail freight services within the logistic chain is pursued, by:

- opening the technical specifications for interoperability for the telematics applications for freight (TAF TSI) to complementary systems such as those used by terminals and Combined Transport Operators,
- creating a legal base for data exchange with other logistic actors,
- integrating the first and last miles in the real-time data exchange,
- providing high quality Estimated time of arrival (ETA) with AI,
- linking and sharing via web applications across the logistic chain the most relevant logistics information (Train ID and status, ETA, Train Composition, consignment note),
- supporting tracking and tracing, in synergy with GNSS services and IoT (smart wagons).

In synergy, capacity management will be enhanced harmonising and rearranging freight slots among IMs via TTR, and management of Temporary Capacity Restriction will be managed across borders automatically.

## **2. IMPACT ON INFRASTRUCTURE MANAGERS**

The new TSIs will pave the way for the introduction of the future radio system and digitalised and automated train operations.

For the longer-term work on the evolution of the rail system, in order to provide a coordinated and synthesised sector view, the traditional governance through the JU Governing Board will be supplemented by the System Pillar Steering Group to ensure:

- Broad representation from the sector, with a voice in decisions taken
- Inclusive governance – a guarantee that decisions will be taken based on objectivity and impartiality
- Centrality of Commission role to oversee developments

There will be the opportunity for IMs to participate fully in these processes.

## **NEXT STEPS**

- The system pillar is included in the regulation for the new rail research joint undertaking, which the Commission will propose later this month.
- The European Agency for Railways has launched work with experts to deliver an ERA recommendations for the 2022 TSI revision package.

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