# Europe's Rail Innovation Days 2022

| Wednesday - 7 December | |
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| **09.00 - 10:00** | **Opening Session, overview of JU Programmes-** *Introduced by Carlo M Borghini - Executive Director, Europe's Rail Joint Undertaking and Giorgio Travaini – Head of Programme* |
| **10.00 – 12.30** | *Remote morning technical sessions* |
| **10.00 - 12.00** | **IP1 State of Play – Passenger Trains**<br><br>The solutions provided by this innovation programme make passenger trains smarter by optimizing energy efficiency, train communication, weight of carbody and running gear, braking distance, passenger flow and passenger experience. This new generation of passenger trains will enhance transport sustainability by increasing capacity and offering new services.<br><br>- **Progress on Projects and main achievements** |
| **12.00 - 12.30** | **Q&A** |
| **12.30 – 13.30** | *Lunch break* |
| **13.30 – 16.00** | *Remote afternoon technical sessions* |
| **13.30 - 15.30** | **CCA State of Play – Cross-Cutting Activities**<br><br>The CCA work-stream ensures consistency across topics, such as noise and vibration, energy, human capital, standardisation and socio-economics, common to different innovation programmes where R&I activities are also needed in terms of their requirements and methodologies. The sustainability topics under the CCA work-stream contribute, among others, to the reduction of energy consumption of the railways as well as exposure to noise and vibration.<br><br>- **I2M and Energy, and their main achievements**<br>- **S2R KPI presentation** |
| **15.30 – 16.00** | **Q&A** |

| Thursday - 8 December | |
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| **9.30 – 12.00** | *Remote morning technical sessions* |
| **9.30 - 11:30** | **IP3 State of Play - Optimized Infrastructure**<br><br>IP3 aims to deliver a resilient, consistent, cost-efficient, and high capacity European rail infrastructure. This will be achieved by the adoption of a whole system |

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| | approach, linking infrastructure and station design with maintenance actions, asset, data and energy management. IP3 outcomes are expected to enable infrastructure to boost the economic viability, sustainability and resilience of the European rail network. <br><br> - **Progress on Projects and main achievements** |
| **11.30- 12.00** | **Q&A** |
| **12.00 - 13.00** | *Lunch Break* |
| **13.00 – 18.30** | *Remote afternoon technical sessions* |
| **13.00 - 15.00** | **IP4 State of Play** <br><br> IP4 solutions put travellers at the centre and encourage them to use environmentally friendly means of transport, such as rail and other public transport services with the developed ecosystem containing all necessary functions (planning, shopping, ticketing, navigation, tracking, aftersales) to provide an attractive solution to passengers. The one-stop-shop access to all multimodal travel services through a mobile application Travel Companion, the Interoperability Framework as the core of the ecosystem, facilitating the integration of any kind of interface (API) of Transport Service Providers, a dedicated portal for operators to define mobility packages, are some of the tools that further enhance the travel experience. <br><br> The programme has further advanced with the maturity of the solutions and various demonstration activities of the functionalities, with real data and in real environments, are taking place in different EU countries with real travellers and using the offers from a variety of Transport Service Providers, covering a wide array of transport modes. |
| **15.00 – 15.30** | **Q&A** |
| **15.30 – 16.00** | *Coffee break* |
| **16.00 - 17.30** | **IPX State of Play – System Architecture and Disruptive Technologies** <br><br> Artificial Intelligence and Blockchain technologies are bringing disruptive changes to a variety of sectors. The exploratory research projects within IPX are looking into how such technologies could be applied to the rail sector to support automation, network management and maintenance and how this would impact its operations, safety, lifecycle cost and finally improve customer experience. <br><br> • **RAILS: Roadmaps for Artificial Intelligence Integration in the Rail Sector** <br><br> • **B4CM: Blockchains as a Distributed Ledger for Attribution of RCM Data in Rail** |
| **17.30 – 18.00** | **Q&A** |

| Friday - 9 December | |
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| **9.30 – 12.00** | *Remote morning technical sessions* |
| **9:30 – 12:00** | **IP5 State of Play – Rail Freight**<br><br>The IP5 vision for future rail freight through a holistic approach, integrated in the logistic value chain, ensures value creation for customers, the rail operating community and society, through optimization and re-engineering. This work has a clear target towards digitalisation, automation and sustainability. Cost competitiveness and the reliability of rail freight services will contribute to the delivery of integrated freight services to meet client expectations, building upon key enablers such as DAC, digital brake tests, heavy/long trains, and others.<br><br>- **Progress on Projects and main achievements** |
| **12.00 – 13.00** | *Lunch break* |
| **13.00 – 16.00** | *Remote afternoon technical session* |
| **13.00 - 15.00** | **IP2 State of Play – Traffic Management**<br><br>The "Advanced Traffic Management & Control Systems" pillar (IP2) focuses on control, command and communication systems and tackles the high-level Shift2Rail objectives. These include evolving requirements for new functionalities and to expand the level of standardization in an increasingly challenging economic climate.<br><br>The pillar (IP2) challenge is to increase functionalities of the existing signalling and automation systems and related design and validation processes providing a more competitive, flexible, real-time, intelligent traffic control management and decision support system, whilst addressing all four market segments and maintaining backward compatibility to the existing European Rail Traffic Management System (ERTMS) and especially its European Train Control System component (ETCS).<br><br>- **Progress on Projects and main achievements** |
| **15.00 – 15.30** | **Q&A** |
| **15.30 – 16.00** | *Closing remarks* |