



# PRIME

Platform of Rail Infrastructure Managers in Europe

## PRIME Digital subgroup

November 2020

## PRIME Digital Subgroup Status Report

## The following topics are included into the short status report

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- Digitalisation as enabler for a more competitive railway  
(by setting transparent harmonised processes for railway needs and standards for railway data exchange within Europe)
- Workplan 2021
  - #Digital Train Information
  - Digitalisation of Capacity Management
  - Digital Infrastructure Information

**Railway is the backbone for the transport sector to achieve the objectives of the green deal**

**Digitalisation is one of the main enablers for a more competitive railway and harmonised Europe processes**

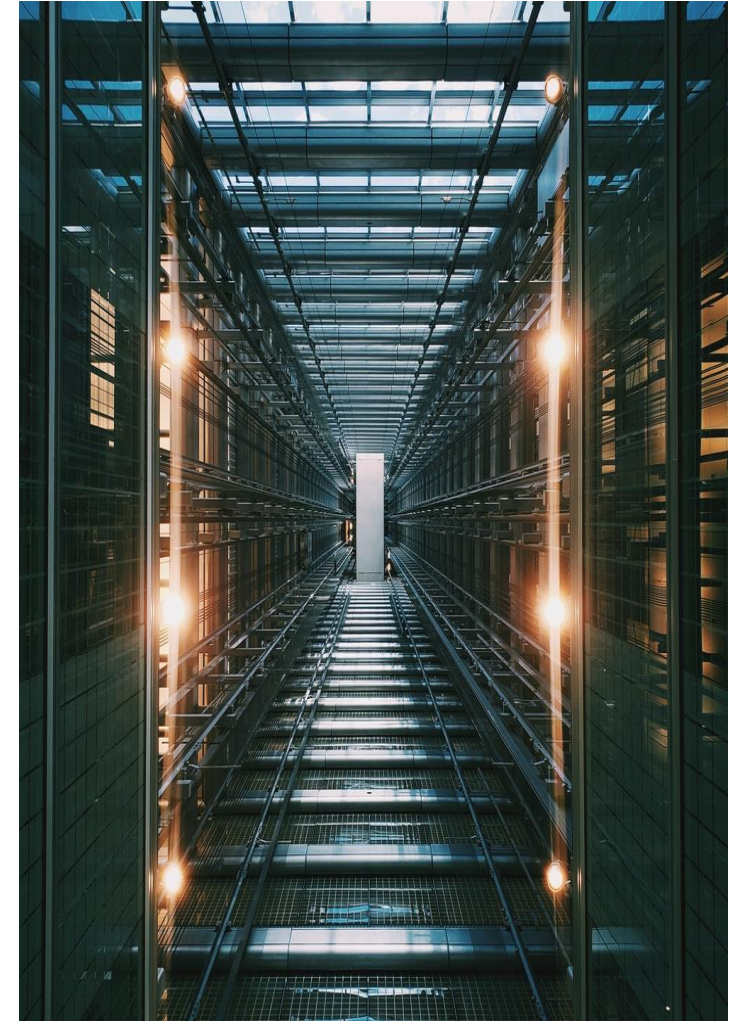
Increasing railway capacity and efficiency is possible via

### Building new Railway Tracks/Stations

- Solving capacity issues
- Long Term development
- High financial needs

### Optimisation and digital Solutions

- Optimising capacity
- Short term development
- Less financial needs



## PRIME Digital Subgroup: Three digital enablers for a better railway

### Digitalisation of Capacity Management

European wide capacity strategy and a digital capacity model including already capacity restrictions (TCRs).

Available capacity should be offered on short term European wide. Based on the **Timetable Redesign Project (TTR)** project

### #Digital Train Information

Real-Time information about the position of the train, locomotion and wagon (container) with reliable forecast information.

Combination with train composition and first and last mile information.

### Digital Infrastructure Information

To check interdependence between European Reference Files as RINF, TAF and TAP TSI and Rail Facility Portal.

One common digital rail infrastructure platform.  
From planning to operation  
From building to maintaining.

## — Digitalisation of Capacity Management

- **Capacity Model:** National and international harmonised capacity model to secure reliability, consistency and stability capacity planning.
- **Temporary Capacity Restrictions:** TCRs are important to keep rail infrastructure in the best possible shape and allow safe operation. However, badly coordinated TCRs are a destabilising factor when planning capacities and timetables. TCRs have to be coordinated and published.
- **Annual Capacity/Path Request:** Early annual path request for stable traffic. Train requested during the annual path request are good harmonized. Nevertheless, the big majority of the freight trains are re-planned or canceled later.
- **Short Term Capacity/Path Request:** There is a high demand to request harmonised international capacity on short notices. International short-term requests are very common in freight transport but unfortunately not well coordinated between the IMs.

## — #Digital Train Information: Tracking and Tracing

- **Train Tracking and Tracing:** Already possible for “nearly all” European trains
- **Train Composition:** Including information about locomotion, wagon and container for pilot companies
- **First and Last Mile Information:** Technical possibility for data exchange between IMs and terminals is already developed. First Terminal are connected and the translation is based on EDIGES and TAF TSI.
- **Estimated time of arrival:** Message is defined in TAF TSI and used by several partners. The quality is improving but there is still a long ways to go.
- **Using GPS information:** Using GPS data from locomotion, wagons and other sources to track transport (trains)

# — #Digital Train Information: Tracking and Tracing (TIS)

International passenger trains and nearly all freight trains can be followed via the Train Information System.

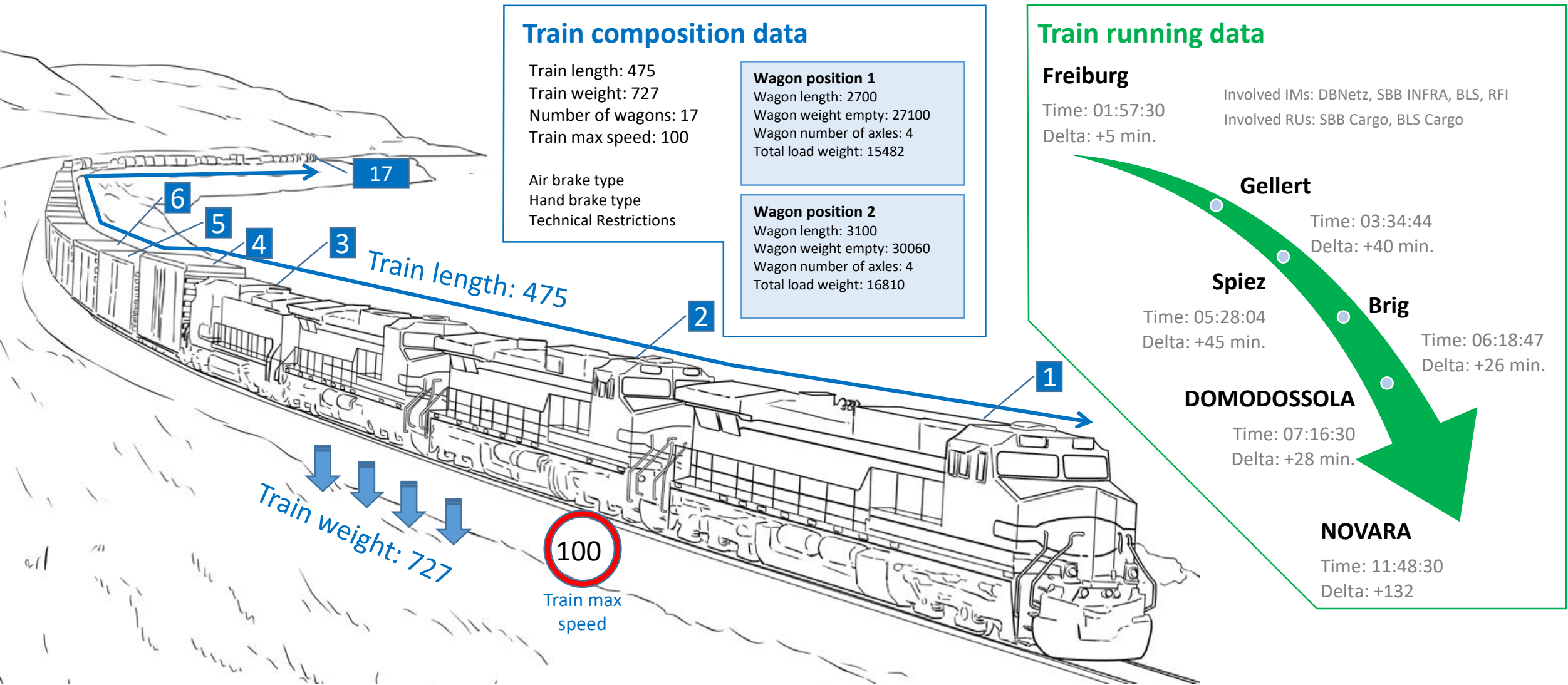
[tis.rne.eu](http://tis.rne.eu)

Up to

- 20.000 trains
- 800 users from 150 companies
- 10 Millions TAF/TAP messages
- Real time data exchange between 70 rail companies per day



## #Digital Train Information: Train Composition & Train Run

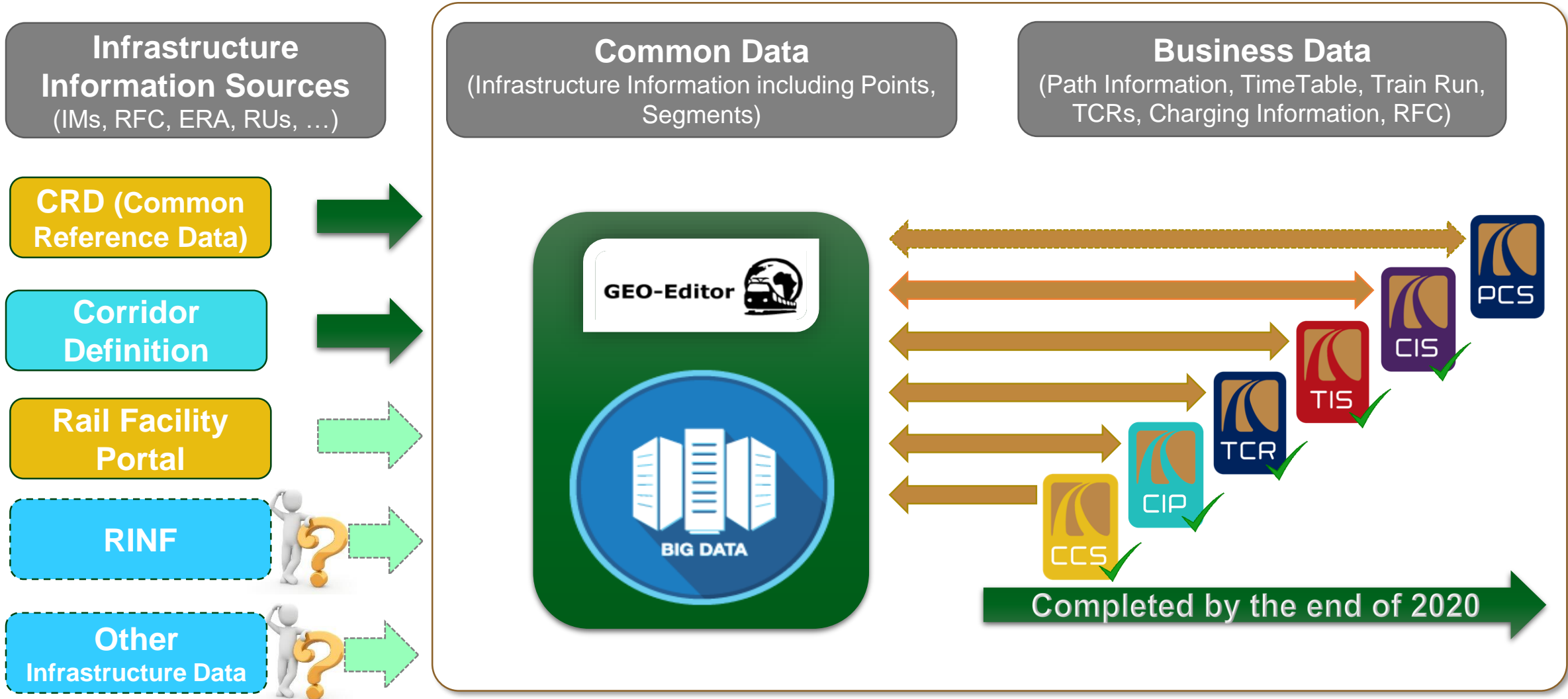




## — Digital Infrastructure Information (must be ..)

- **Availability:** Have to be made available to all partners in railway business
- **Detailed:** Have to include a description of the railway infrastructure in a detail needed to be able to plan and run a transport
- **Complete:** Must include stations, lines and railway facilities
- **Unique:** Must be unique. The same data should be used for all business processes from planning to operation.
- **Up-to-date:** Must be up to date and should (if possible) include real time information
- **Steered:** The leading role of the European Union Railway Agency (ERA) as regards telematics applications (TAF/TAP) and infrastructure description related data (RINF) is appreciated and supported

## — Digital Infrastructure Information



## — In 2021, the Subgroup will focus on:

- **Digitalization of Capacity Management (TTR):** Digitalisation requirements and solutions for the Redesign of the European timetable process. IMs need a European wide capacity strategy and a digital capacity model including already capacity restrictions. Available capacity should also be offered on short term European wide. Based on the **Timetable Redesign Project (TTR)** project
- **Digital Train Information:** Starting from the daily timetable all relevant information have to be made digital available and shared between all partners. The train tracking and tracing information as well as reliable forecast information have to be combined with the train composition to include locomotion, wagon and container movements. All information have to be based on common reference date (location, lines, etc ..) and have to include first and last mile information like Terminals and other rail facilities.
- **Digital Infrastructure Information:** To check interdependence between European Reference Files as RINF, TAF and TAP TSI and Rail Facility Portal. Using the same digital Infrastructure Information from planning to operation – from building to maintaining.
- **Vison and IT architecture including financial needs:** A vision paper on digital opportunities will be developed by mid of 2021. For the selected areas, a necessary digital architecture based on the existing digital solutions will be designed. Based on harmonised and standardised IT architecture.

## — Timeline (Estimated):

	2021	2022	2023	2024	2025
<b>Digital Infrastructure Information</b>		<ul style="list-style-type: none"> <li>★ CRD, RINF and RFP analysis</li> <li>★ Infrastructure Data defined</li> <li>★ Architecture for Infrastructure Data ready</li> </ul>		<ul style="list-style-type: none"> <li>★ Digital Infrastructure for Business Needs available</li> </ul>	
<b>#Digital Train Information</b>		<ul style="list-style-type: none"> <li>★ Linking between TCM and TrainRun ready</li> <li>★ Connection of Terminals possible (Blueprint)</li> <li>★ Tracing of Locomotion's and Wagons possible</li> <li>★ Distance Information for Trains, Locomotion's and Wagons</li> <li>★ Processing of GPS information's</li> </ul>			
<b>Digitalisation of Capacity Management</b>				<ul style="list-style-type: none"> <li>★ Capacity Model available</li> <li>★ TCRs coordinated and published</li> <li>★ Annual Capacity/Path Request</li> </ul>	<ul style="list-style-type: none"> <li>★ Short Term Capacity/Path Request</li> </ul>



BackUp

## — Cooperation with external forums

The following topics have been already identified:

- **Issues Logbook** (including braking rules, train composition and real-time communication): PRIME members will follow up and support the initiative to overcome cross-border operational and technical barriers affecting interoperability, and assists in building commitment, where relevant;
- **Timetable Redesign Project (TTR)**: PRIME and RUD will cooperate and follow with RNE and FTE the TTR project and promote implementation of pilots for timetable 2020. The cooperation will also involve the upcoming revision of Annex VII.
- **European Rail Facilities Portal**: PRIME members together with RUD members will follow on the implementation of the European Rail Facilities Portal.
- **Estimated Time of Arrival and efficient capacity**: in cooperation with RU Dialogue and other stakeholders