

**MEDITERRANEAN  
RAIL FREIGHT CORRIDOR**  
*Spain-France-Italy-Slovenia-Croatia-Hungary*

# **Single European Rail Area Investments Prioritization - RUs' and TOs' Consultation**



Co-financed by the Connecting Europe  
Facility of the European Union



# 0 / RUs Consultation's approach

- An Effective Consultation requires a preparatory work and an in-depth confrontation with the involvement of all the Parties, including the Inland Rail Terminals and the Ports;
- The Consultation report will be finalized during the 14<sup>th</sup> TAG-RAG Meeting in Rijeka, after a preliminary common preparation carried on by Med RFC and Med RAG;
- The analysis has been focused on three main areas:
  1. **Rail Infrastructural Parameters** most relevant in the Market perspective;
  2. **Current main bottlenecks** along Med RFC, which requires immediate actions;
  3. **"Smart" investments** able to improve the performance of the existing rail network, also on **"soft"** issues like improvement of ICT tools and Information exchange, common procedures and better standardized regulations

# 1 / Rail Infrastructural Parameters

- The first action is the upgrade of **some basic requirements**, still missing in some segments of the Mediterranean RFC:
  - Electrification of the line
  - Double track
- To be competitive on the transportation market **the main parameters** to be assured along all the Core network are:
  - train length up to 740 m
  - axial load up to 22,5 tons
  - Intermodal Gauge PC 80/400

# 1 / Rail Infrastructural Parameters: electrification

- Most of Mediterranean RFC has been electrified, even if some segments not electrified still remains, in Spain and Hungary
- However many differences still remain in the power supply, implying the use of more expensive multi tension locos.





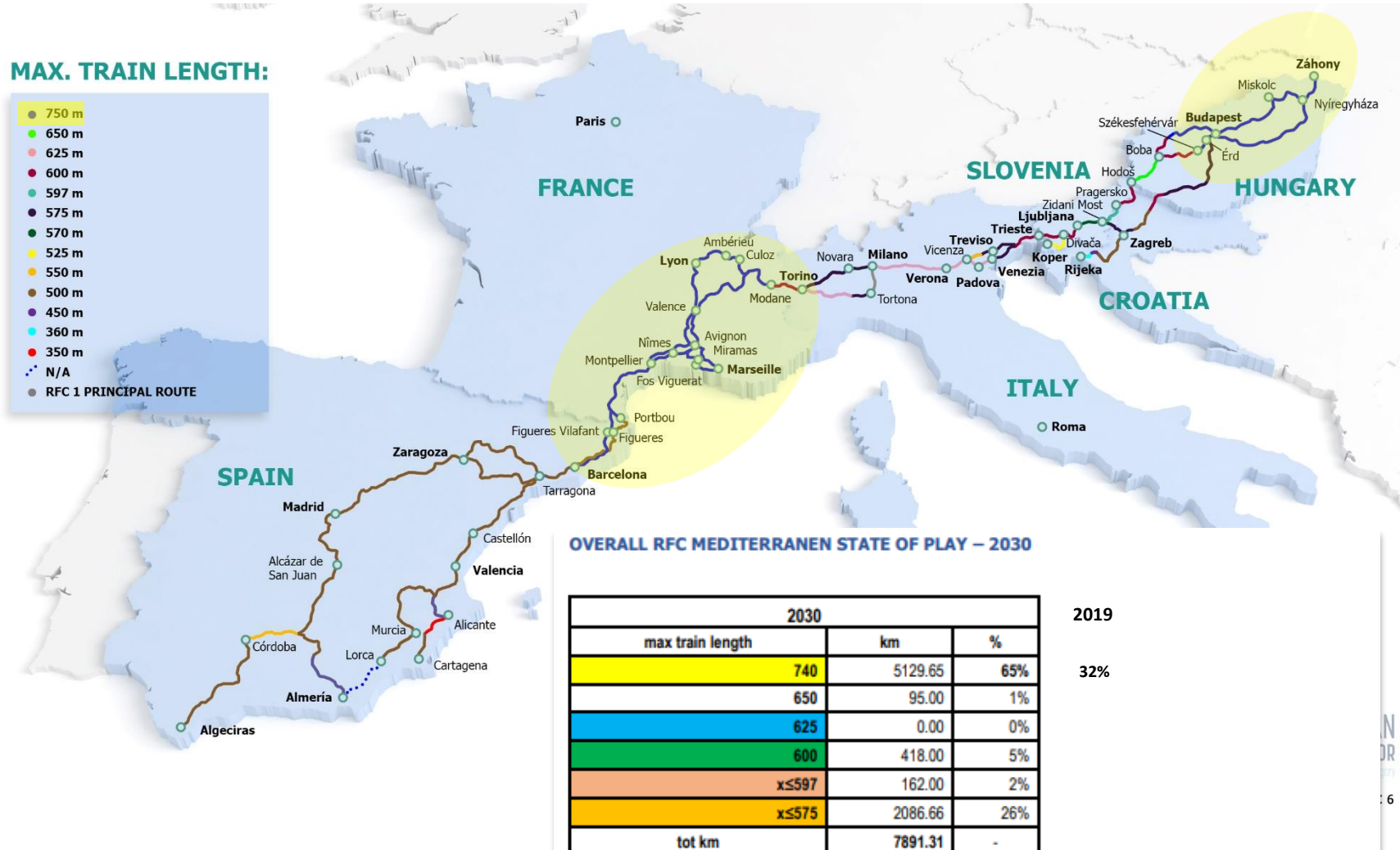
# 1 / Rail Infrastructural Parameters: double track



- Many segments of the Mediterranean RFC are still with a single track, in Spain, Slovenia, Croatia and Hungary, with a significant limitation of the capacity

# 1 Rail Infrastructural Parameters: maximum train length

## ➤ Train length restrictions along the Med RFC and future perspectives



➤ max train length parameter along the Med RFC is still fragmented across the different Countries. The target value to have all the lines allowing trains of 740m is not yet a reality.

Country	2019	2030
Spain	5%	42%
France	100%	100%
Italy	0%	100%
Slovenia	0%	62%
Croatia	0%	72%
Hungary	59%	63%

**Table 16:** length of freight and mixed lines divided by permitted train length on Mediterranean RFC lines (projection by 2030).  
The difference in the overall Km from 2018 is due to the construction of the new line in Spain from Almería to Lorca (142 km of line).

# 1 Rail Infrastructural Parameters: maximum axle load

- Axle load parameter along the Med RFC is quite aligned to 22,5 tons, apart some missing main lines, mainly in Hungary and the Zidani Most – Pragersko connection in Slovenia
- Within 2025 the upgrade of the Zidani Most – Pragersko line is foreseen





# 1 Rail Infrastructural Parameters: maximum loading gauge



- Loading Gauge is very important for Intermodal transport, to be competitive with the road. PC 80/400 is become the minimum standard requested by the market.
- Development plans have defined by many Member States for the upgrade of the loading gauge in the next years
- It is important to consider also the feeder and outflows connecting the main line to Ports and Inland Terminals



# RUs' feedback

Aldo Maietta  
RAG speaker

## 2 / Main bottlenecks (and relevant actions) - 1

- **Extension of UIC track gauge lines in Spain:** keeping of double gauge tracks (UIC + Iberian) on Villaseca (Tarragona) – Castellón section\*; increase of available UIC gauge tracks within Ports and Inland Rail Terminals
- Connections between Spain and France: **enhance flows through LFP** tunnel removing bottlenecks in Perpignan and standardizing technical requirements for loco in France and Spain (ETCS + other)
- Enhance **Frejus Connection** between Italy and France (Frejus basis Tunnel completion and high capacity Turin – Lyon connection)
- Enhance **Milan area crossing capacity** for freight flows, today limited by high congestion, by **increasing RFC1–RFC6 connections:**
  - Technological improvements (upgrade TEN-T parameters) on Milan “Gronda” line: Seregno–Carnate–Bergamo–Brescia;
  - inclusion in Med RFC of an additional East–West line: Tortona-Piacenza-Cremona-Mantova-Verona\*

*\* Specific Cost-Benefit analysis to be performed by interested parties to support the launch of specific projects*

## 2 / Main bottlenecks (and relevant actions) - 2

- Upgrade of **intermodal gauge to PC 80/400** on the Adriatic line (Milano-Bologna-Bari)\* and on the Trofarello – Alessandria – Mortara line\*.
- **Villa Opicina transit** and connections through Slovenia (performance today is too low, to be improved with reduction of unplanned dwelling; better management of delays due to Schengen checks with the set-up of rail buffer areas; enhance connections with Koper Port with double track)
- **Croatia:** Enhance connections of the Port of Rijeka with RFC6 and rail connections with Northern countries
- **Hungary:** remove bottleneck in Budapest (between Kelenföld and Ferencváros)

*\* Specific Cost-Benefit analysis to be performed by interested parties to support the launch of specific projects*

### 3 / “Soft” issues and Smart investments - 1

- Strengthening of **“last mile” connections / tracks** within Ports and Inland Rail Terminals, so to allow faster and more effective operations;\*
- Harmonisation of **Port and Inland Rail Terminals opening hours** with trains’ timetables, so to reduce dwelling times and allow seamless O/D flows; when a seamless flow is not feasible, set-up of buffer rail plants allowing the safe stabling of trains; \*
- Strengthening of **Information exchange relating the tracking** of running and performed trains, through uniform coding and linking of all international trains in TIS, as a real time monitoring tool.
- Speed-up the **completion and start-up of European key ICT tools** as ETA and Pre Composition Message, allowing a more reliable and effective rail supply chain;

*\* Specific Cost-Benefit analysis to be performed by interested parties to support the launch of specific projects*



### 3 / “Soft” issues and Smart investments - 2

- Strengthening effective cooperation between neighbouring IMs in trains dispatching, with **performance monitoring** for international trains, by RFCs in cooperation with IMs, RUs and O/D Terminals;\*
- Speed-up the Med Corridor international **transit operations**:
  - Implementation of **switchable power supply systems**, so to reduce shunting operations;\*
  - Fully implement **interoperability and harmonization of operational procedures and rules** (ETCS, documentation, checks..), through dedicated Task Forces among neighbouring IMs + RFC, so to allow seamless flows of the trains and optimisation of the operations through longer transit routes (e.g. Turin–Lyon instead of Turin–Modane + Modane–Lyon or Ljubljana–Cervignano instead of Ljubljana–Villa Opicina + Villa Opicina–Cervignano);

*\* Specific Cost-Benefit analysis to be performed by interested parties to support the launch of specific projects*

### 3 / “Soft” issues and Smart investments - 3

- Completion of the **European vehicle register** so to provide at European level reliable and traceable safety information on rolling stock and to automate the vehicle-infrastructure compatibility check through an interface to the European Infrastructure Register (RINF)
- Implementation of a common European software for all timetable planning and capacity booking process (foreseen by **TTR project**) and substitution of all national ones;
- Development of an European IT tool to overcome the **lack of language knowledge** of operational railway staff and an European regulatory framework allowing its use;
- Harmonization at European Scale of the **technical standards of ETCS** and of the **operational rules** for locomotive drivers.

*\* Specific Cost-Benefit analysis to be performed by interested parties to support the launch of specific projects*

# Terminals feedback

Carles Rua  
TAG speaker

# 4 / Main bottlenecks (and relevant actions) - 1

- **Connections between Spain and France through LFP tunnel (UIC Line):** elimination of restrictions to freight trains for night trains and long trains, reduction of traction costs & introduction of competition; extension of UIC towards Tarragona and Valencia / Zaragoza and Madrid.
- **Connections between Spain and France through historical line:** inclusion of UIC on the Cerbere-Port Bou line towards Girona
- **Additional priorities:**
  - new **rail accesses** to Ports of Barcelona and Valencia
  - enhancement of the **maximum length** allowed in the section Barcelona-Zaragoza-Madrid to 740 m.



## 4 / Main bottlenecks (and relevant actions) - 2

**Fundamental issues** to propitiate an **effective increase in combined transport traffic** along the Mediterranean RFC:

- **The Frejus tunnel:** Until the **new basis tunnel** is opened to traffic, the current line remains a **huge limitation** on any viable increase in traffic, with the **cost per km up to 3 times higher** than the railway lines that cross Switzerland with the new tunnels of the Loetschberg and from Gotthard. Only a small part of the huge potential of 60 million tons passes through Frejus by rail.
- **Traffic in Spanish territory:** conversion to UIC standard of the “**entire network**” used by the combined traffic to a UIC, meaning **the line itself**, the **connections to the terminals** and the **rail shunting plants** (trriages) that are near the terminals. And all of them in a **competitive** and **economically viable context**.

## 4 / Main bottlenecks (and relevant actions) - 3

- Recently it was included in the core network corridor “Mediterranean” the **alignment Madrid – Valencia – Sagunto – Teruel – Zaragoza\***
- This alignment (actually used for both passengers and freight trains) connects the port of Valencia with the port of Sagunto and the city of Zaragoza, through the north access to the city of Valencia.



*\*European Parliament legislative resolution of 17 April 2019 on the proposal for a regulation of the European Parliament and of the Council establishing the Connecting Europe Facility and repealing Regulations (EU) No 1316/2013 and (EU) No 283/2014 (COM(2018)0438 – C8-0255/2018– 2018/0228(COD))*

## 4 / Main bottlenecks (and relevant actions) - 4

- Actually, **this alignment is registering high saturation rates** in several daily time slots (55% from Valencia to Sagunto and 58% Sagunto-Valencia) and peaks of 84%, and **it would be collapsed in 2025**, due to:
  - foreseen **increase in freight containers trains** linking Zaragoza and Valencia.
  - foreseen **freight trains coming from the South section, for a flow of vegetables** from Almería-Murcia to Europe through the border with France, that today, due to a missing rail link, is performed by thousands of trucks.
- From the Port Authority of Valencia's point of view, the above mentioned **section** of the RFC6 (**Valencia-Sagunto**) **is a current main bottleneck which requires actions**.
- **Construction works to upgrade this alignment** (single track, non UIC track, non-electrified and axial load less than 22,5 tons) **are already underway**, after the Port Authority of Valencia signed an agreement with ADIF in 2017 for co-financing 53 of 333 million EUR in total, and let freight trains to use it with a minimum security conditions.