Telematics Applications for Freight Technical Specification for Interoperability

Why is the TAF TSI important?
What are the prospects for implementing in the SE EU?

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Using Data to help revitalise rail freight in SE Europe

- **What is the TAF TSI?**
- **Why is the TAF TSI required?**
- **Visualise the Future for Rail Freight in SE Europe**
- **Steps for making the Vision a Reality**
- **Summary**

What is the TAF TSI?

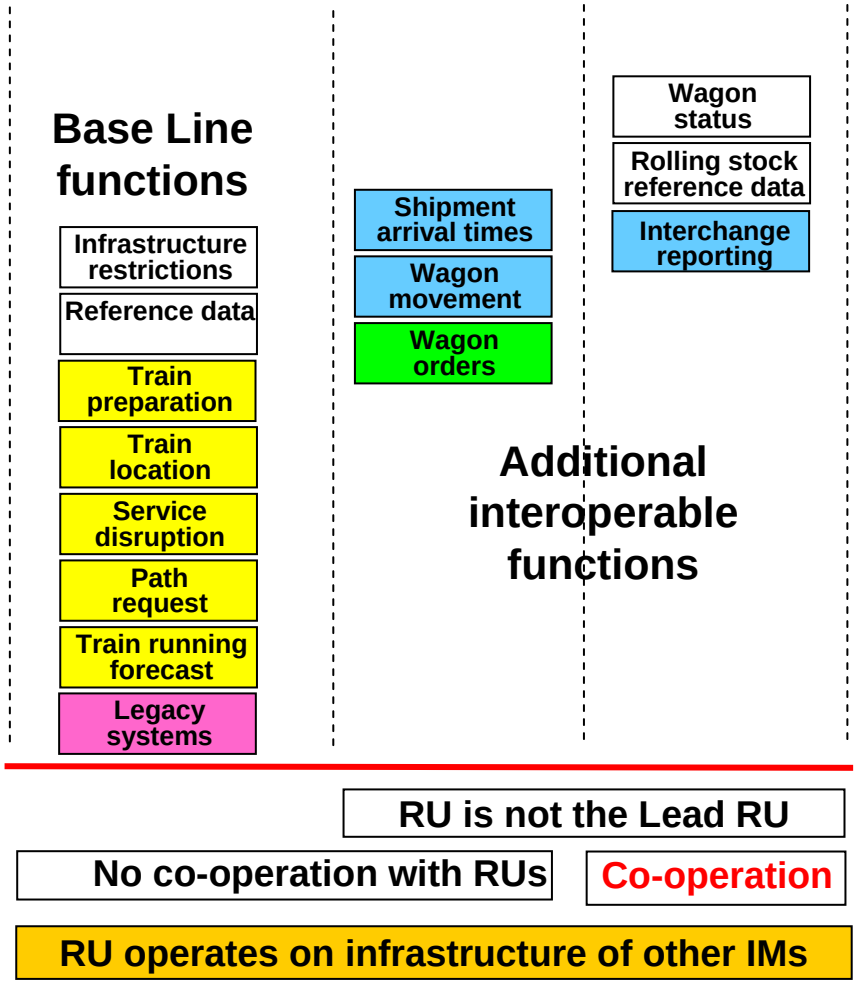
- **The TAF TSI is a European regulation that requires the railway industry to develop and implement common standards to increase the interoperability of information required for rail freight**
- **The TAF TSI exists to facilitate the exchange of information between companies regarding rail freight services, notably as far as cross-border and multi-company services are concerned**
- **The political intention behind the regulation is to boost the quality and productivity of rail freight in Europe, in the context of an increasing road competition.**

What is the TAF TSI?

- **An open-access data layer available to all rail actors**

- **Compulsory by regulation in the EU 25**
- **Became a Regulation upon RUs and IMs on 17th January 2006**
- **Its implementation is currently being co-ordinated by the Strategic European Deployment Plan team, representing all RUs and IMs**
- **TAF TSI links existing systems, whether shared or individual**
- **TAF TSI will provide some centralised functionality, but mostly under individual RU / IM control**

TAF TSI Functions



Market Overview - Why is the TAF TSI required by RUs?

- **European rail freight is in a financially unhealthy position and under constant threat. SE Europe has the additional challenges brought by the need for reconstruction and many borders**
- **RUs have lost market share to competing modes for decades**
- **In 2004 the market share of rail freight in the EU 25 stood at a 10% level on a ton-kilometer basis**
- **Road freight has grown to 44% and short sea handles 39%**
- **From 2004 to 2005 the average European ton kilometers for rail freight decreased by 2.6%**
- **Rail freight faces rate pressures with annual price decreases at a pace that even aggressive restructuring and efficiency gains can not compensate for**
- **As a result European freight RUs are losing a substantial amount of money.**

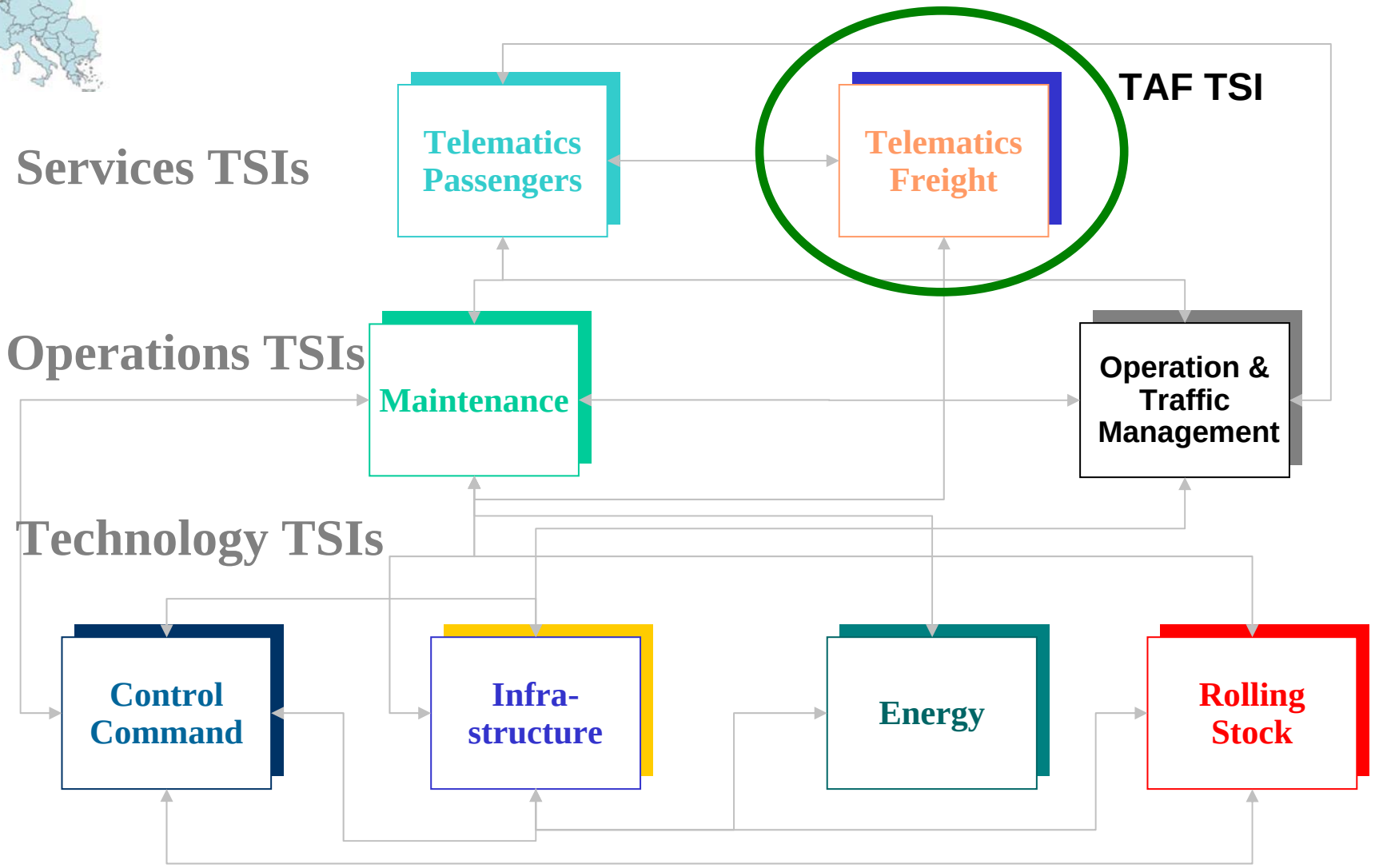
Market Overview - Why is the TAF TSI required by IMs?

- **An OECD/ECMT report has recently estimated infrastructure cost recovery rates for rail freight at an average of about 40%**
- **This is roughly equivalent to a loss of 2.5 €/train km by IMs**
- **If full infrastructure costs were proportionally allocated to rail freight, total RU freight losses would be more than doubled**
- **Some European railways have already more or less abandoned unprofitable single wagonload business, reducing payments to IMs**
- **In virtually all cases freight railways are under scrutiny**
- **European rail freight is fighting for its existence and income lost from freight cannot be easily replaced by IMs.**

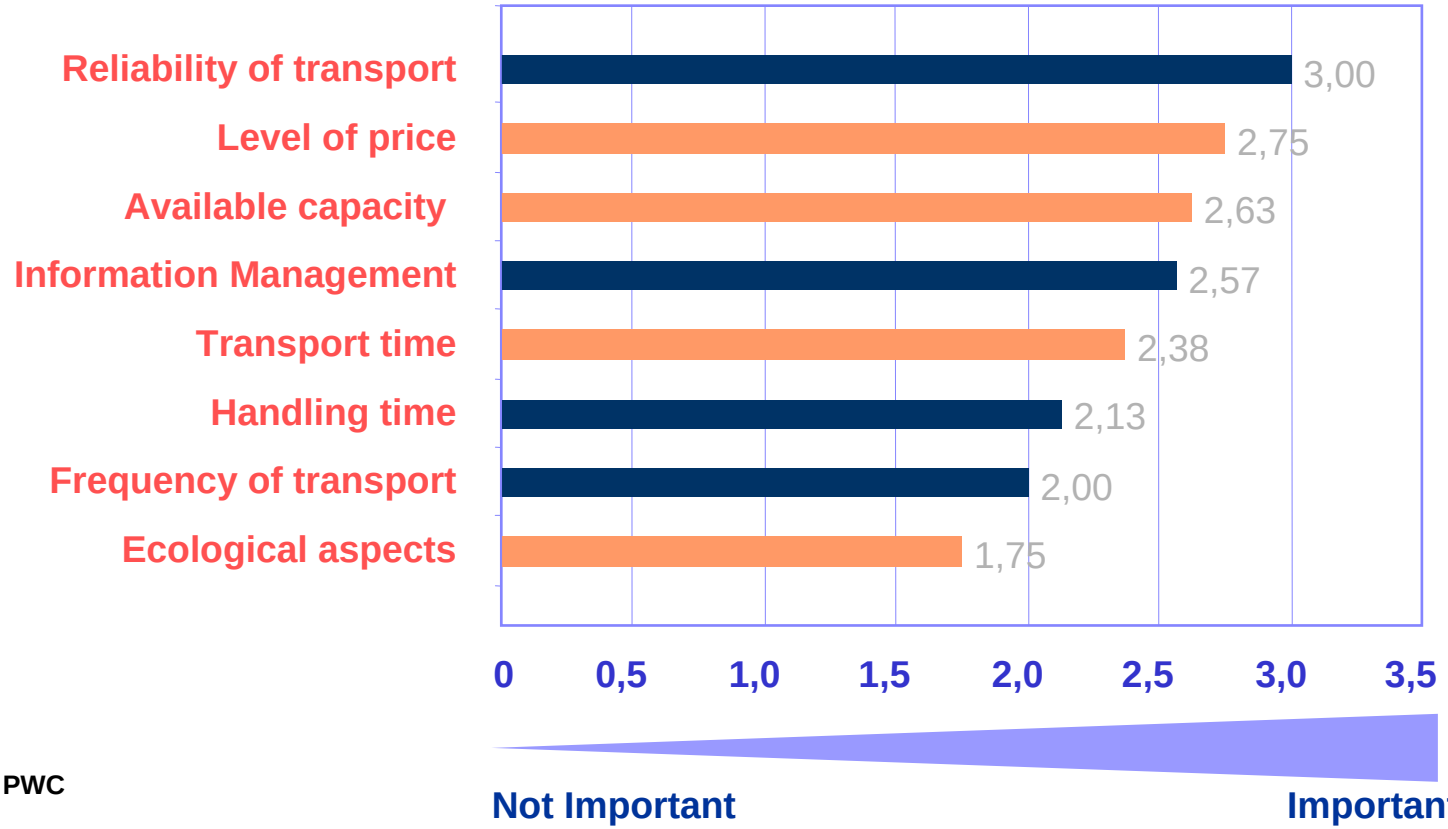
TAF TSI Benefits

- **Significant percentage service quality improvement possible**
- **Enables extension of additional available train length from the current ½ to ¾ of average maximum possible capacity**
- **Much improved prediction of freight arrival times**
- **Better utilisation of wagons**
- **Supports an open market using an interoperable data layer**
- **Better informed and more satisfied customers**
- **Restructuring possible through success and expansion, instead of failure and contraction**
- **Improved railway income because of better productivity**
- **Better company and industry image.**

Where does the TAF TSI fit?



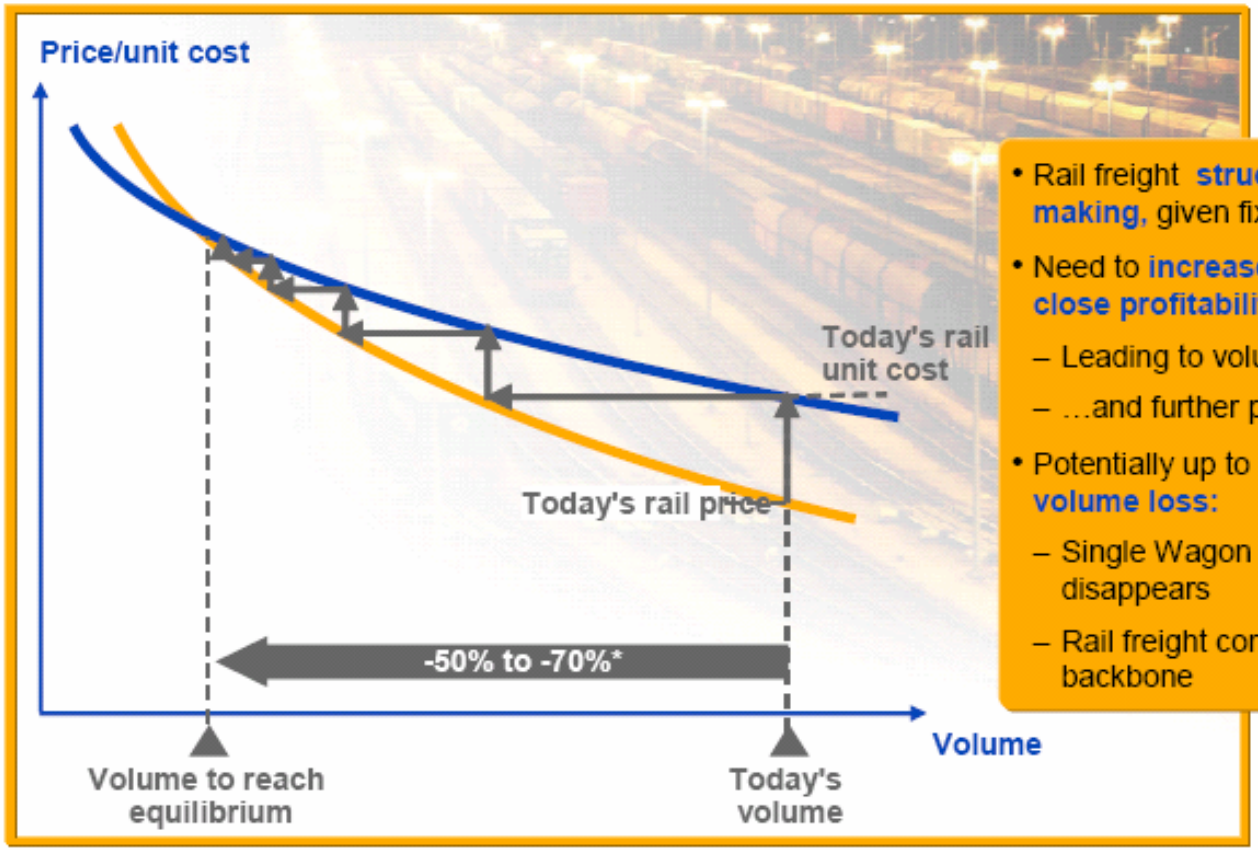
European Customer Requirements



Source PWC

When customer requirements are not met…

RAIL FREIGHT INDUSTRY COST AND DEMAND CURVES – TODAY



* 120 to 170 billion ton-km in EU-15; implies 35 to 50 thousand additional trucks on EU-15 roads

Source: EuroSimu, McKinsey analysis

Where is the industry going?

DYNAMIC EFFECTS OF LIBERALIZATION ("CHAIN REACTION")

Starting situation
- Most incumbent railways unprofitable
- Significant share of fixed cost (30 - 50%)
- Financial pressure

End situation
- Severe shrinkage of rail freight in Europe
- Decrease in revenues for infrastructure
- Possibly price increases for passenger traffic …
- … or heavier burden on state finance

1. **Reduction of Full Train profitability**
2. **Less contribution to network fixed costs**
3. **Less capacity to balance Single Wagon load deficit** (on full cost basis)
4. Some incumbents, especially in peripheral countries, **cut unprofitable Single Wagon**
5. **Full Trains are charged with more fixed cost**
6. **More volumes to be cut** from all products

Source: McKinsey

Why is the TAF TSI required to revitalise the rail industry?

- **Railways must focus on service – *requires data***
- **Accountability to customers for service – *people and data***
- **Quality control must be improved – *data and management action***
- **Railways can benefit from internet sales & pricing - *data***
- **Freight needs to operate and be tracked 7 days per week - *data***
- **Simplified processes are needed at borders – *people and data***
- **Focus on wagon management and yield management – *data***
- **Virtualise the market (sub-contracting model) - *data***

- **Data from many rail organisations is required to revitalise the rail industry (this is where TAF TSI is required).**

The challenging future of rail freight

	Single block trains Consignors siding to consignees siding without switching	**Multiple block trains** Blocks of Wagons with switching	**Single wagonload** Consignors siding to consignees siding with switching
Impact of open access	🔴	🟡	🟢
Impact of intermodal competition (trucks)	🟢	🟡	🔴
Existing volume	🔴	🟡	🟢
Potential of growth	🔴	🟢	🟢
Impact of intramodal competition (new entrants)	🔴	🟡	🟢
Profitability potential	↘	↗	↑

Visualise the Future for Rail Freight in SE Europe

The 2 challenges for SE Europe are essentially :

1. **Revitalise the capability for rail freight across the SE Europe area**
   - Focus on Single Wagonload where it can be profitable;
   - Focus on Multiple Block Trains between hubs;
   - Focus on Block Trains where the market exists;
   - and focus on Intermodal block trains between hubs

2. **Improve Productivity**
   - Making sure that the full available length of trains is used between hubs;
   - Ensuring that there is a data sharing agreement (paths, train operation, wagon management & tracking, billing) and process between all parties;
   - Focus on the management of customer traffic.

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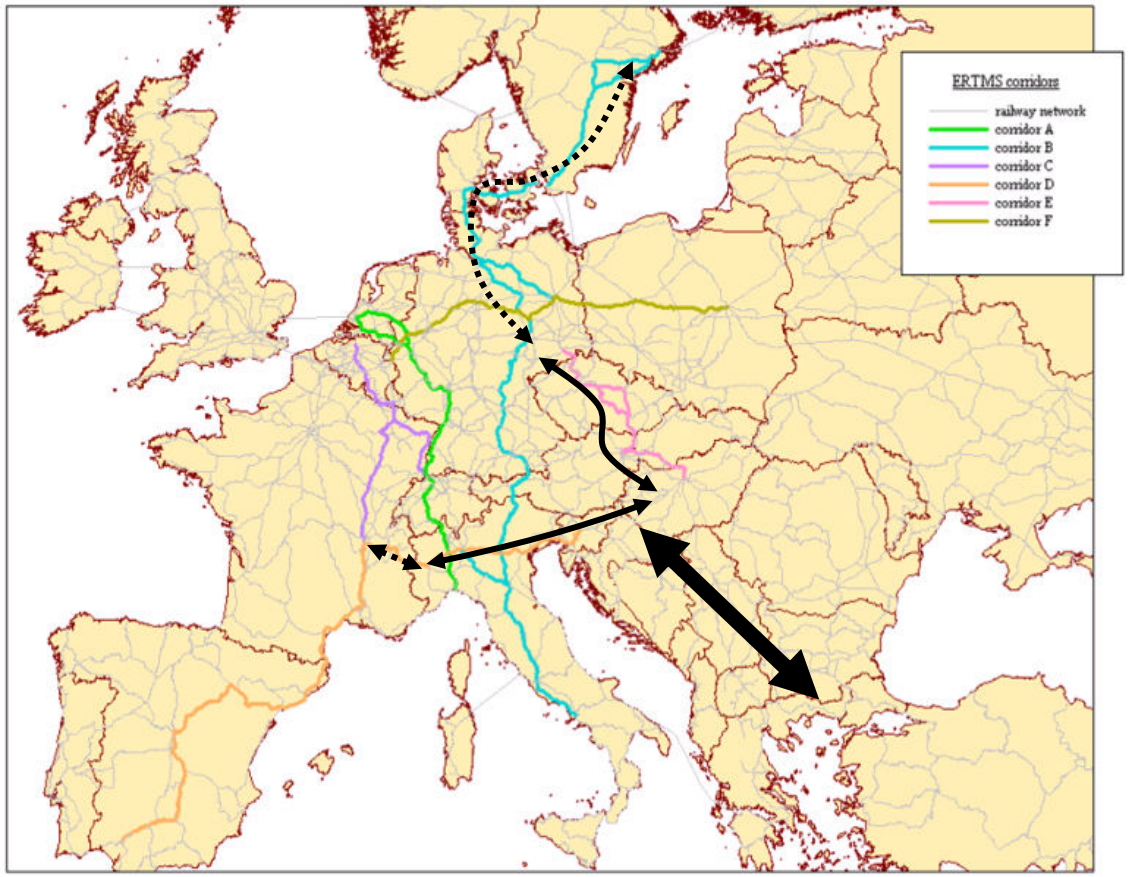
   - **Focus on the management of customer traffic.**

Business agreement + data

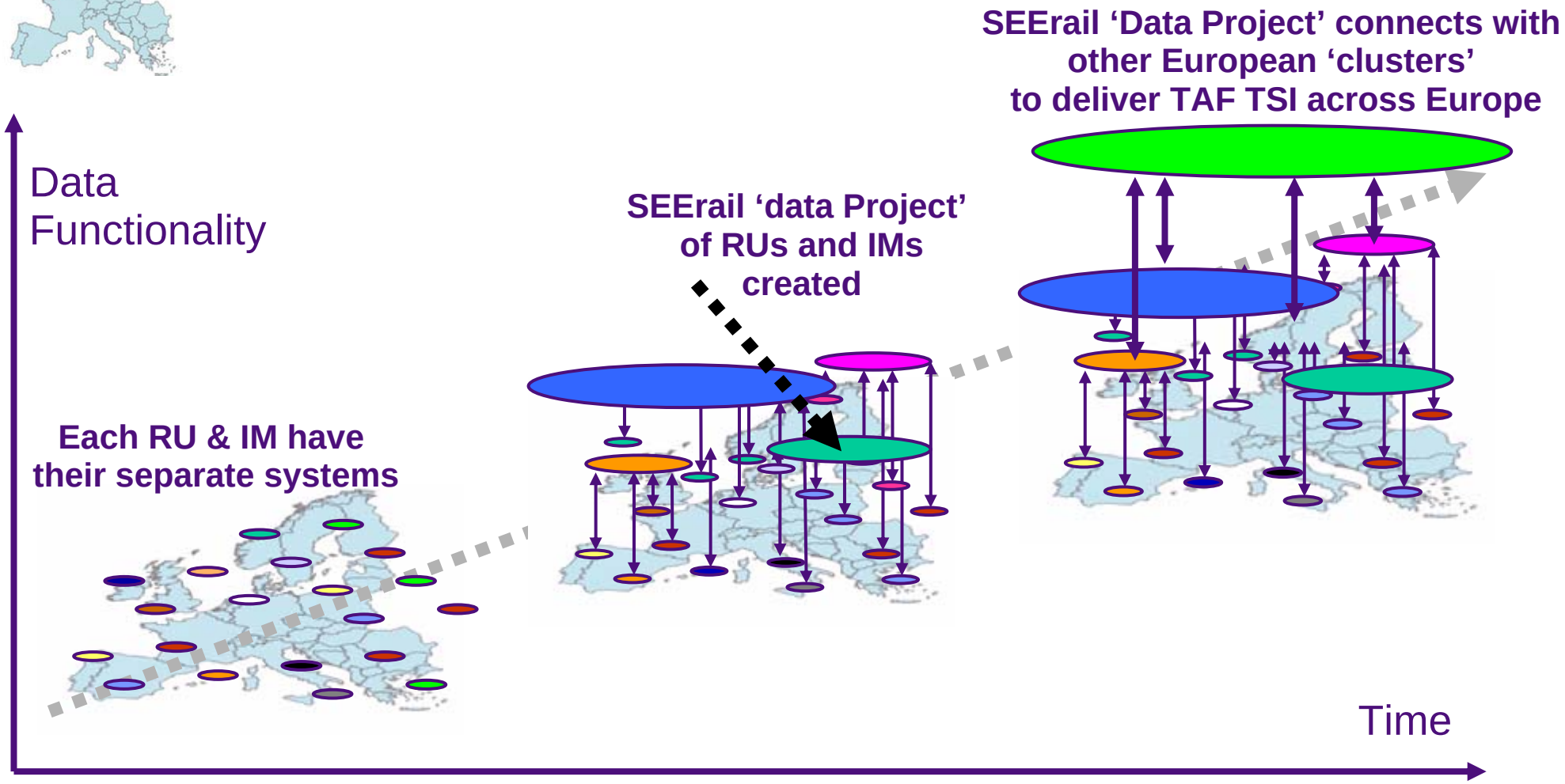
A SEErail Corridor linking with other corridors

A SE Europe corridor approach?

- To implement the TAF TSI consistently and quickly across SE Europe
- To develop the common parts at lowest cost.
- To implement the interfaces with all SEE RUs and IMs
- To apply for EC Funding for the central parts and local systems



Architecture of the approach



Steps for making the Vision a Reality in SE Europe

- **Assess the scope of co-operation for data within the SEErail area**
  - **Identification and agreement of the Business Strategy to be supported (including corridor 10)**
  - **Identification of the business processes and management decisions required to implement data sharing along SEErail freight Corridor**
  - **Identification of the systems and integration required to support the business, based on TAF TSI**
  - **Elaboration of the business case**
  - **Preparation of a framework implementation plan for the Data Project**
  - **Preparation of funding request to EC**

Summary

- **An effective and financially strong freight railway industry is essential for SE Europe to compete in today's increasingly globalised world. TAF TSI supports this objective as part of EU rail policy (liberalisation, open access, investment)**
- **SE European freight railways must therefore be transformed and this must start with RUs and IMs delivering what customers want most – reliable door to door transit times**

- **To achieve this transformation within the context of a wider SEErail project, agreement must also be reached for the inclusion of a Data Project using the TAF TSI.**

- **The TAF TSI team will help you achieve this.**

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- **Extra Slides**

Why is the TAF TSI required?

International rail transport requires data availability and exchange

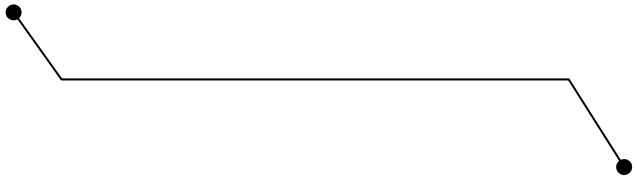
There are three rail freight Products to Serve Customers:

1. Single Wagonload:
   (Switching at Origin, En-route & at Destination)

2. Multiple Block Trains:
   (Switching at Origin and Destination)

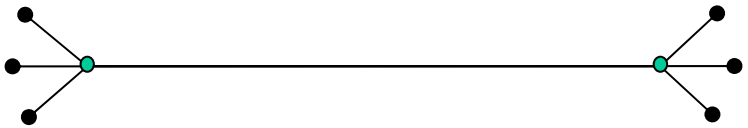
3. Single Block Trains**:**
   (No switching at Origin, En-route or Destination)

Single Block Trains



- **Open Access is having and will have more and more impact**
  → New Entrants…
- **Profitable in the past**
- **Rates & profitability will be more and more under pressure.**
- **Limited potential for industry-wide growth where services already exist**
- **Definite potential for SE Europe where services do not exist, particularly construction materials**

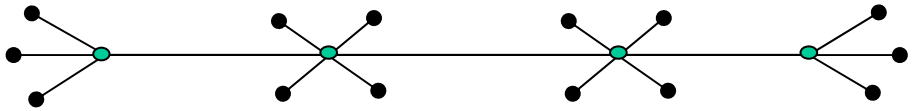
Multiple Block Trains



- **Low to medium impact of open access to IMs, due to cost of remote operations**
- **Some competition from trucks**
- **Reliability gap (between rail and road) is less than with single wagonload traffic**
- **Moderate potential for revenue growth**
- **RU cooperation necessary in most cases**

- **Definite opportunity for SE Europe, particularly between hubs.**

Single Wagon Load



- **Very limited impact from open Access to IMs, due to costs of remote operations.**
- **Competition primarily from trucks**
- **Low profitability for RUs**
- **Siding to Siding Reliability is “Number 1” Customer Priority but Truck Reliability is over 90% (Rail is 50% - 60%)**
- **Rail rates are less than truck rates to compensate for poor quality**
- **With improved reliability, there is a larger revenue growth potential**
- **RU cooperation remains essential**
- **This is a difficult market to start up**
- **Less of an opportunity for new traffic in SE Europe.**

Productivity

- **The average freight train uses only half to two thirds of its possible capacity**
- **Many days of wagon usage are lost due to lack of reliability**

  (Estimate of 100 Mio €/yr for the cost of this to Private Wagon users)

A SEErail Data Project within a wider SEErail Structure?