



## Mirror group

<b>Deliverable</b>	<b>D5 Mirror groups</b>
Date	19.01.2024
Version	1-00

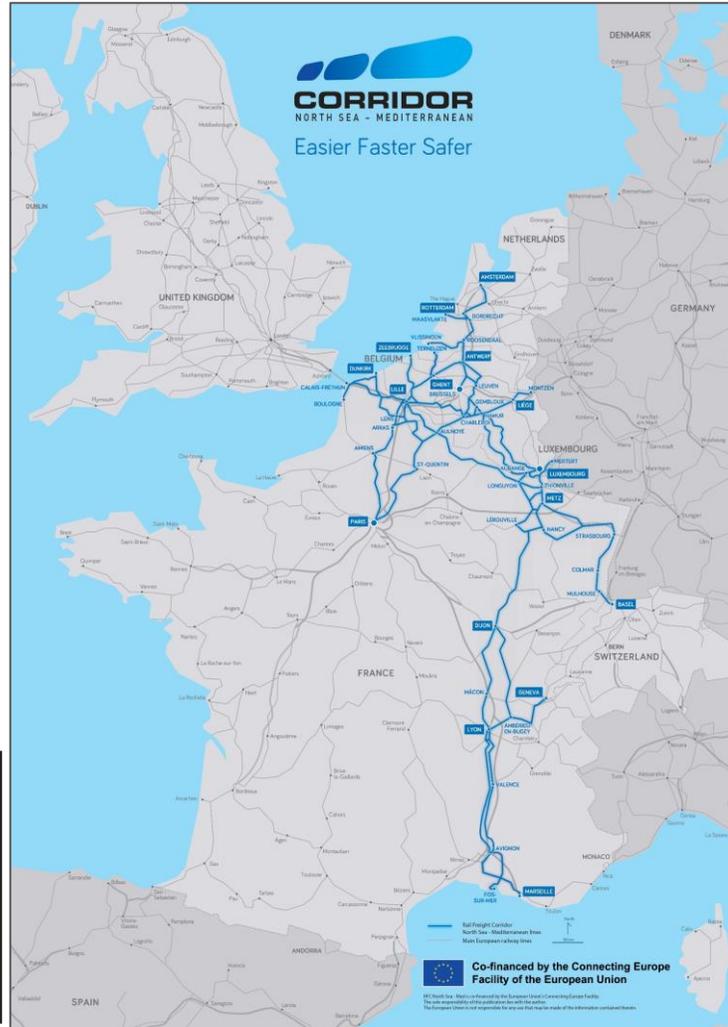
# Project governance

Name	Entity	Role
Le Floch Yann	RFC2	Project leader
Chassagne Rébecca	SMA	Project manager
Pelte Kathleen	ACF	Steering committee
Vanbeveren Thomas	Infrabel	Steering committee
Urbain Pierre	SNCF Réseau	Steering committee
Forster Pol	CFL	Steering committee
Stauffer Floraine	TVS	Steering committee

# Agenda

1. Context, scope, goals and methodology of the study
2. Participants
3. What was discussed
4. Contributions and reception

# Presentation of RFC North Sea-Mediterranean (RFC2)



Source : RFC2 website

Rail Freight Corridors deals with the organization of capacity for freight traffic at an international scale.

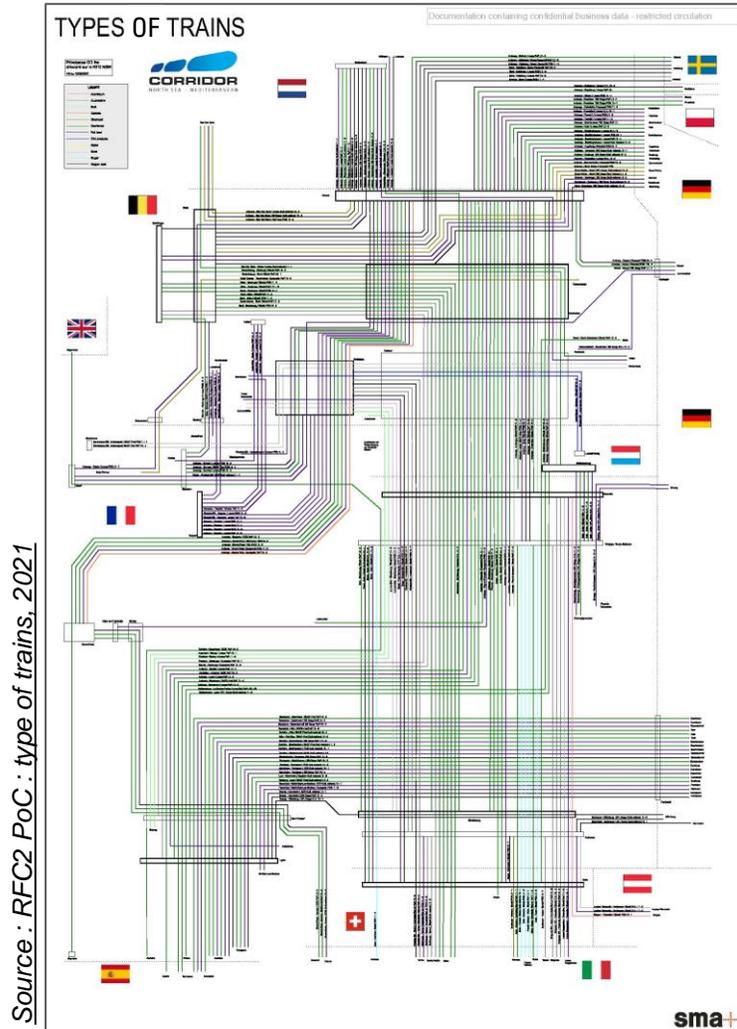
## Primary functions

- To coordinate IM's in order to elaborate pre-arranged international path for freight trains and to administrate the RU's requests for those PaPs,
- To facilitate the international coordination process on TCRs.

**Additional production functions** to monitor train performance and to launch problem-solving processes where the RFC identify low quality in terms of performance.

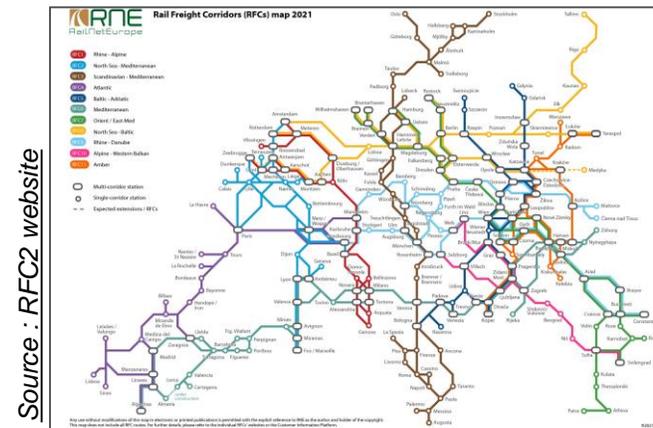
**Additional support functions** : to manage legal, financial and communication matters related with the administration of the RFC.

# Presentation of RFC2



The RFC2 coordinates capacity issues mainly on :

- The Benelux ↔ Switzerland / Italy routes & South of France routes (more than 90% of the Benelux traffic continues to Italy)
- The Germany ↔ Spain routes,
- The UK ↔ Benelux & South of Europe routes,
- The Belgium ↔ North & Eastern Europe routes.



Cooperation takes place with other corridors in order to coordinate appropriately the capacity on multi-corridor routes (RFC Atlantic, RFC Mediterranean, RFC Rhine-Alpine, RFC North Sea Baltic).

# Context

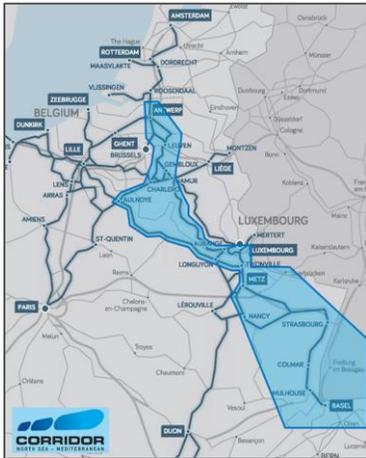
- In the context of climate change, investments need to be done in favour of rail,
- The degraded state of the networks in many regions lead to a lot of works, which have capacity impacts,
- Since traffic does not usually start and end on a specific network exclusively, coordination methods, visualisations, platforms and tools are needed in a way to harmonize the capacity planning and production processes across the borders,
- The stakeholders involved in capacity planning and allocation processes work with a lot of different tools and don't have the adequate cross-border decision-making tools. Capacity KPIs are often not defined, and not calculated/computed. In view of this, there is a lack of transnational view in KPIs and processes,
- RailNetEurope is working on TTR project, which should lead to a big change of the planning processes across Europe, our initiative takes place in this TTR new capacity framework.

The Proof of Concept (see next page) has shown that the import and treatment of trains and TCRs are possible in a single tool, and that the production of capacity KPIs and visualisations is possible with manual or automatic methods. It has also highlighted some hurdles. It is now time to go a step further:

- Apply these methods on real data and larger scale in order to produce results that can lead to real decisions
- Go over the hurdles, especially the ones linked to the processes in order to produce all the capacity visualisations needed
- Work with the different stakeholders on capacity visualisations and help them to understand the differences between their national processes in order to improve the cross-border planning processes of paths and TCRs.

# Presentation of the PoC

## Goals & steps



Source : RFC2 PoC

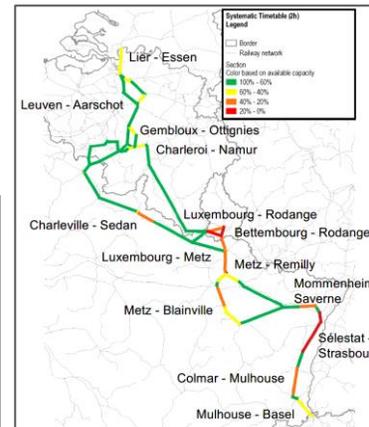
The primary goal was to demonstrate the feasibility of an international freight capacity production process centred around an integrated railway timetabling platform. Highlighting the benefits of such a coordination through original, synthetic and schematic visualisations based on a single database was the main objective.

- Creation of a merged international Viriato database
- Import of 2-hour regular timetables
- Capacity analysis of 2-hour regular timetable
- Saturation by path search in 2-hour regular timetable
- Import of yearly timetables and TCR data
- Capacity analysis of 24-hour timetable
- Saturation by path search in 24-hour timetable
- Production of KPIs and dedicated displays

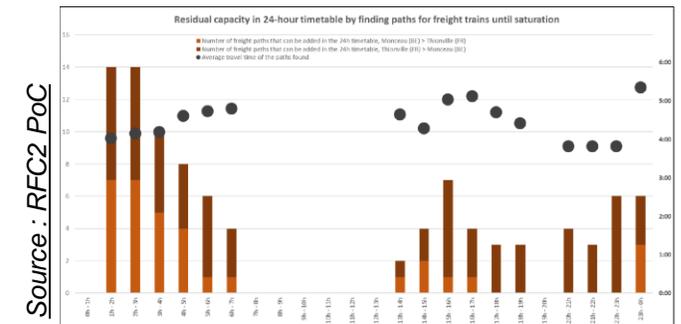
## Results achieved

The creation of a transnational merged database (planned infrastructure, trains, TCRs) is possible but some questions related to the IMs data models were raised. Important differences between planning processes which could jeopardise capacity analyses were highlighted.

Using a database with consistent data at the “appropriate level of granularity” allows to produce KPIs, evaluations and visualisations which support the international harmonisation for trains and works, as well as the understanding of capacity stakes.

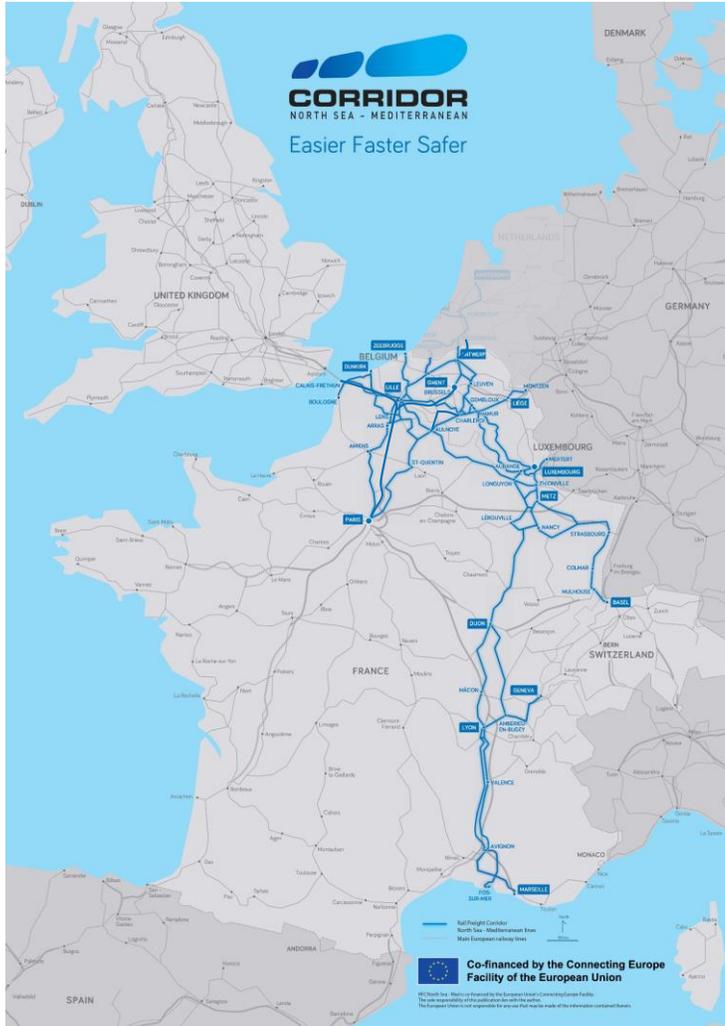


Source : RFC2 PoC



Source : RFC2 PoC

# Scope of the study



## Geographical scope :

- All the French, Luxembourgian and Belgian sections of the RFC NSM.
- Additional sections : Mons –Maubeuge section (via the Quevy Feignie border point),
- The Highspeed lines between the BE/NL Border + Eurotunnel border and Paris
- Alternative itineraries will also be considered if needed/required

## Time horizons and data considered :

- Infrastructure : topology and signalling performance
  - Timetable : paths with timetables (with added times), track line and station track
  - TCRs : closures and time penalties
- 2021, 2022, 2023, 2024, 2025 : planned (different states) and real

# Goals

**Produce visualisations to understand capacity issues, and on this basis, suggest process improvements to capacity stakeholders.**

- What is the **capacity currently available** ?
- How can the capacity be **increased** in the future ?
- What are the capacity **issues** (where, how much, what kind) ?
- How to **increase** capacity in these points ? How far ?
- How to create a capacity **transnational database** and use it ?
- Are there any **issues** in the capacity **processes** ?
- How can the **decision making process** about capacity be improved ?
- How can stakeholders manage a major **timetable change** ?

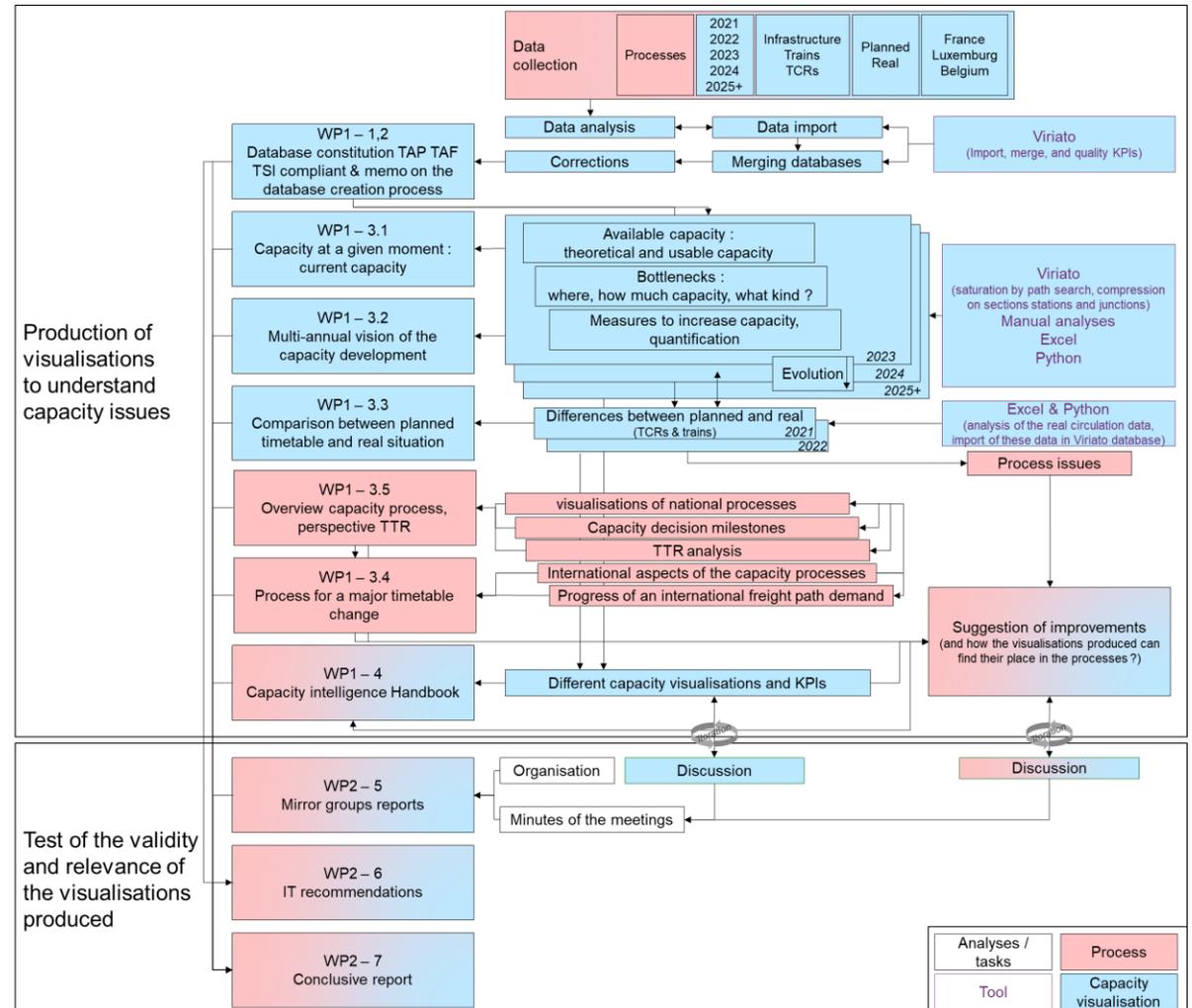
**Go further than the PoC**

- Work on **official** complete data,
- Add the import and analysis of the **real situation** data,
- Go further on the **365 days** analysis,
- Deepen the analysis on the **stations**,
- Identify some **measures** to have more capacity,
- Quantify the **additional capacity** that could be offered by different **measures**,
- Analyse the processes and the **entire capacity supply** chain, especially the **transnational aspects**,
- **Work with the stakeholders** to improve the visualisations and the capacity processes.

# General approach

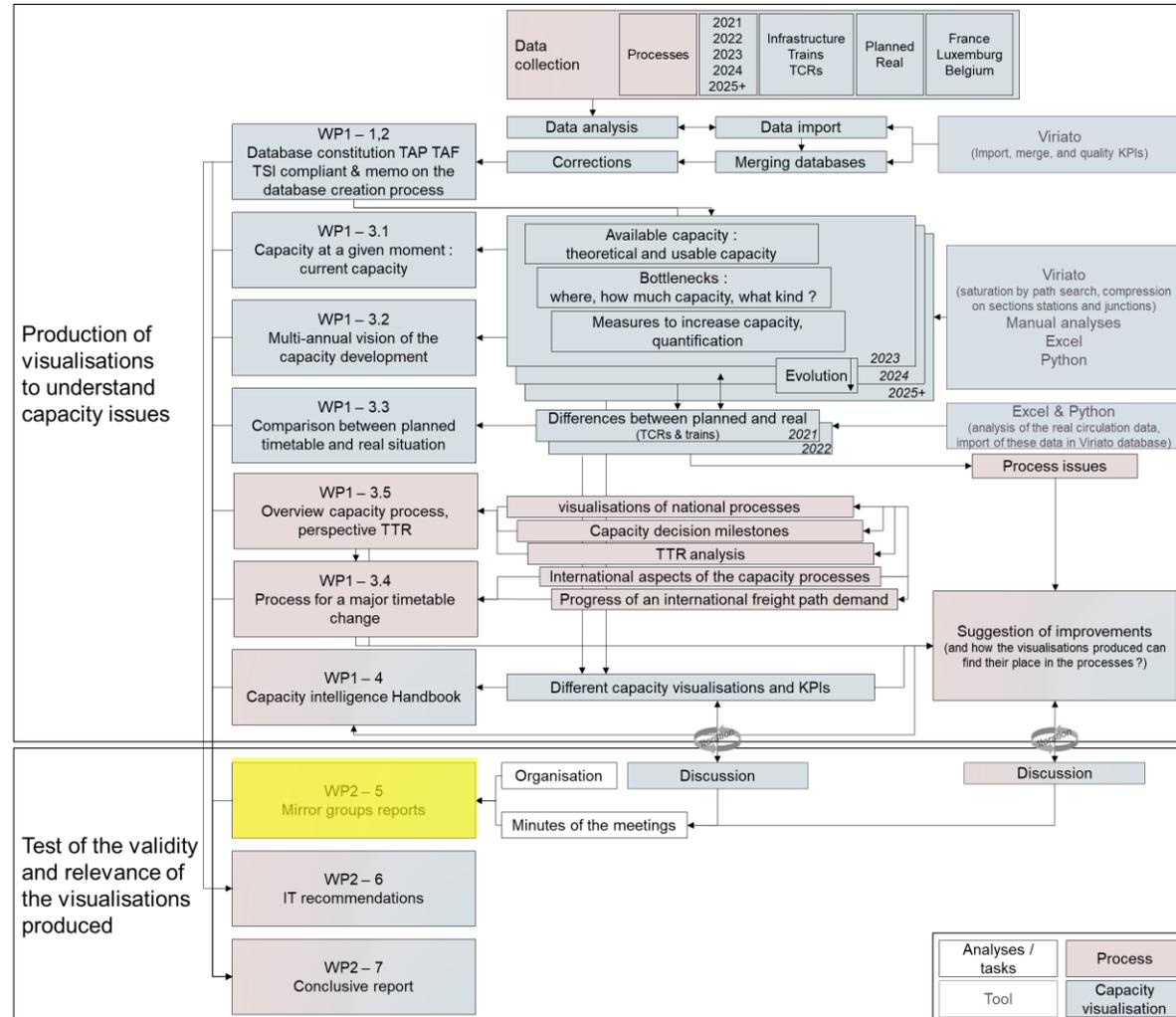
General methodology phases :

- **Collect, analyse and import** infrastructure, timetables and TCRs data of the 3 countries, of real circulation and TCRs, and planned data for short and middle-term in one single Viriato database,
- **Work on capacity KPIs and create visualisations** in order to characterise current and future available capacity, bottlenecks, and identify measures to increase available capacity,
- **Work on processes**, especially transnational aspects,
- **Discuss with the stakeholders** the capacity visualisations and outline how they can find their place in the different processes and make IT recommendations



CONTEXT, SCOPE,  
GOALS AND  
METHODOLOGY OF  
THE STUDY

# Deliverable 5



# Agenda

1. Context, scope, goals and methodology of the study
2. Participants
3. What was discussed
4. Contributions and reception

# Mirror groups

3 mirror groups took place :

- IMs : 11.10.2023
- RUs : 15.11.2023
- Authorities : 25.01.2024

# Infrastructure Managers

11.10.2023

IM	Division	Name	1st name
1. SNCF Réseau	POLE STRATEGIE TERRITORIALE	Caillot	Sylvain
2. SNCF Réseau	DGEX INCA	Zibat	Karim
3. INFRABEL		Moerman	Thomas
4. ACF		Mahowald	Claude
5. SNCF Réseau	DGEX INCA	Boyer	Sebastien
6. INFRABEL		Gerarda	Sels
7. INFRABEL		Vanden Broucke	Maarten
8. PRORAIL		Westgeest	Frank
9. SNCF Réseau	DGOP	Bonati-Coutier	Corinne
10. SNCF Réseau	DGEX INCA	Buche	Benoit
11. INFRABEL		Coinne	Philippe
12. INFRABEL		Maes	Cecilia
13. SNCF Réseau	DZP IDF	Delagouttière	Mélanie
14. SNCF Réseau	DG C&T DIR CAPACITES	Fichelson	Remi

# Railway undertakings

15.11.2023

<b>RU</b>	<b>Division</b>	<b>Name</b>	<b>1st name</b>
1. SIBELIT		Jacques	Arnaud
2. SIBELIT		Coelho	Adam
2. DB		Poussard	Paul
3. HUPAC		Flesch	André
4. SBB / FTE		Soldini	Matteo
5. SBB / FTE		Del Giudice	Lukas
6. LINEAS		Corbeel	Nicolas
7. LINEAS		Stoorvogel	Matthias
8. CFL		Hodgson	Paul
9. CFL		Pyrek	Kevin
10. DB Cargo		Kuhlmann	Sandra
11. SNCF Fret		Martinot Lagarde	Alix
12. UIC		Overdijink	Joost

# Institutional Bodies

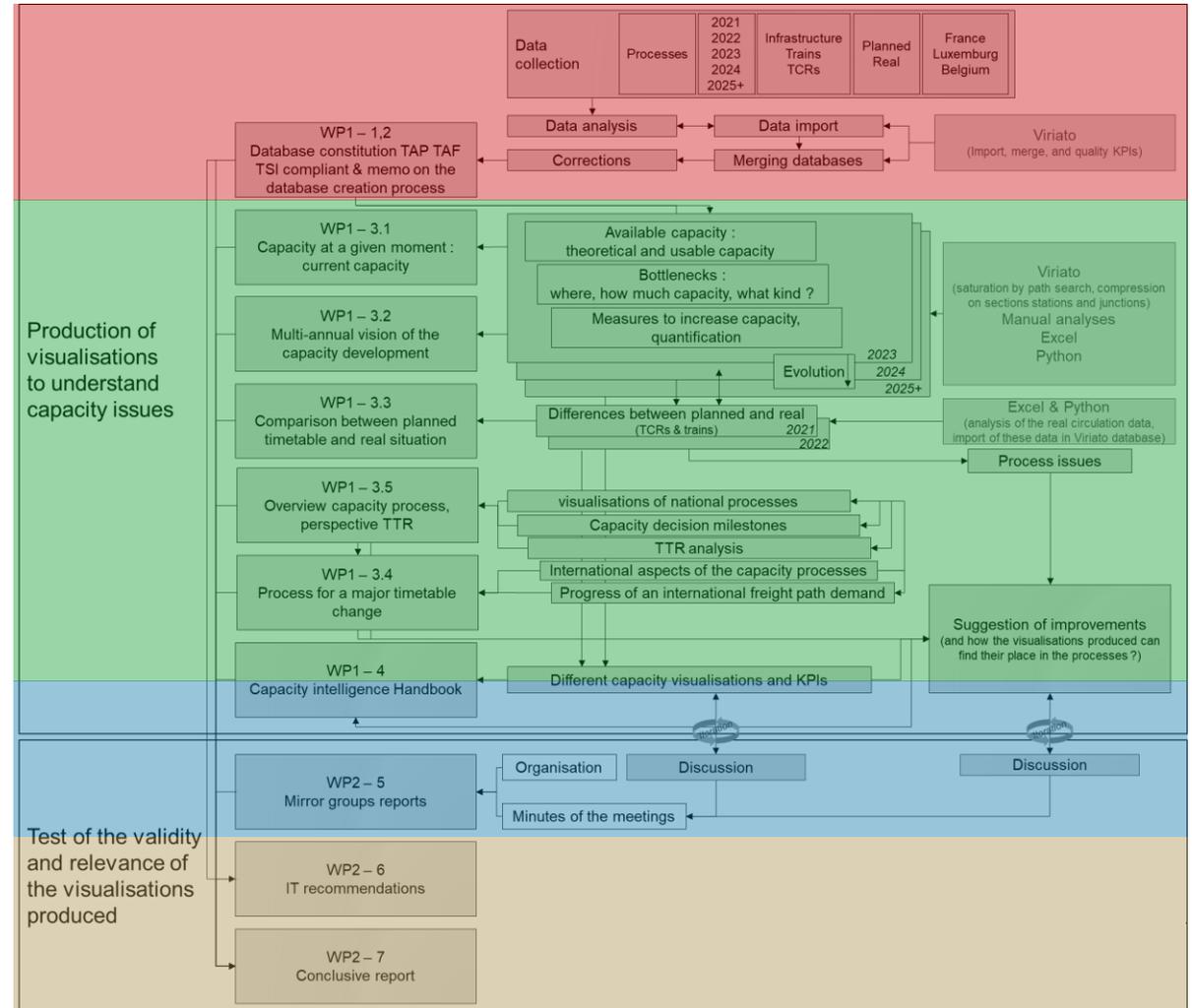
25.01.2024

Institutional Body	Division	Name	1st name
1. French MoT		Gyselinck	Hélène
2. French MoT		Kobler	Milena
2. Belgium MoT		Bodiaux	Pierre
3. Belgium MoT	Régulatory body	Panneels	Gretel
4. Switzerland MoT		Wagner	Matthias
5. Switzerland MoT		Carnal	Yoann
6. Netherland MoT		Hinne	Groot
7. German MoT		Bannash	Wolfgang
8. Luxembourg MoT		Bissen	André
9. DGMov		Haller	Reinhard
10. RNE		Ungvári	Zslot
11. RNE		Kogler	Miloslav
12. RNE		Kertain	Ádám
13. Liège Airport		Voneche	Bernard

# Agenda

1. Context, scope, goals and methodology of the study
2. Participants
3. What was discussed
4. Contributions and reception

1. Data collection, **database constitution**
2. Production of **capacity KPIs** and visualisations, Analysis of the capacity planning and allocation **processes**
3. **Mirror groups** : discussions about capacity KPIs, visualisations, processes
4. IT recommendations, **conclusive report**



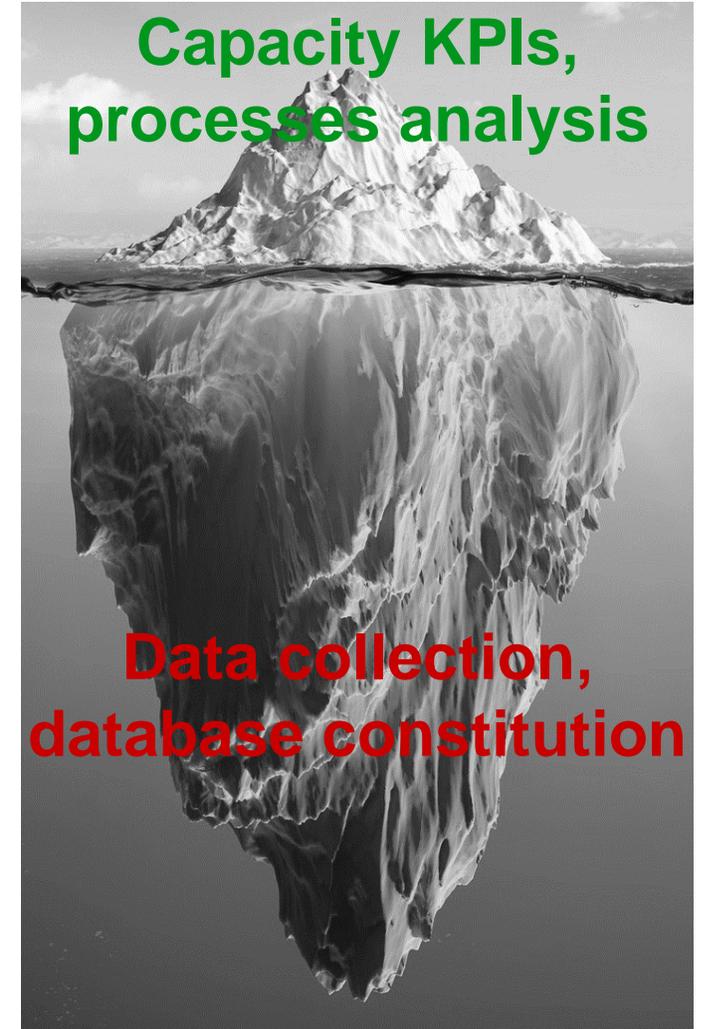
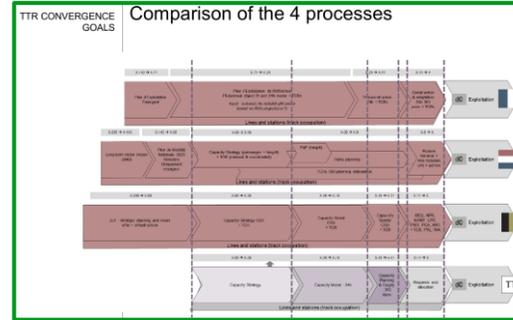
WHAT WAS DISCUSSED

# Project methodology

Processes analysis is documented in the “Overview processes memo”

On the following pages, studied:

- Days are written in blue (for all year 2022 = all the 365 days of 2022 are analysed).
- Trains are all trains which run at least on 1 section of the perimeter, except if no empty runs, it's then specified.



SYNTHESIS		Overview					
		France		Belgium		Luxembourg	
		Line	Station	Line	Station	Line	Station
Past (1940)	Trains	**	**	**	**	**	**
Past (1940)	TCRs						
Past, current & planned short-term	Infrastructure topo.						
	*Infrastructure perf.						
	Trains					Imported	
	TCRs			Imported	Not imported	Imported	Not imported
Planned middle-term	Speed restrictions						
	Infrastructure topo.						
	*Infrastructure perf.						
	Trains			Imported	Not imported	Imported	Not imported
Planned long-term	Speed restrictions						
	Infrastructure topo.						
	*Infrastructure perf.						
	Trains			Imported	Not imported	Imported	Not imported
	TCRs			Imported	Not imported	Imported	Not imported
	Speed restrictions						

Lessons learned are documented in the “Database creation memo”

# Meeting goals

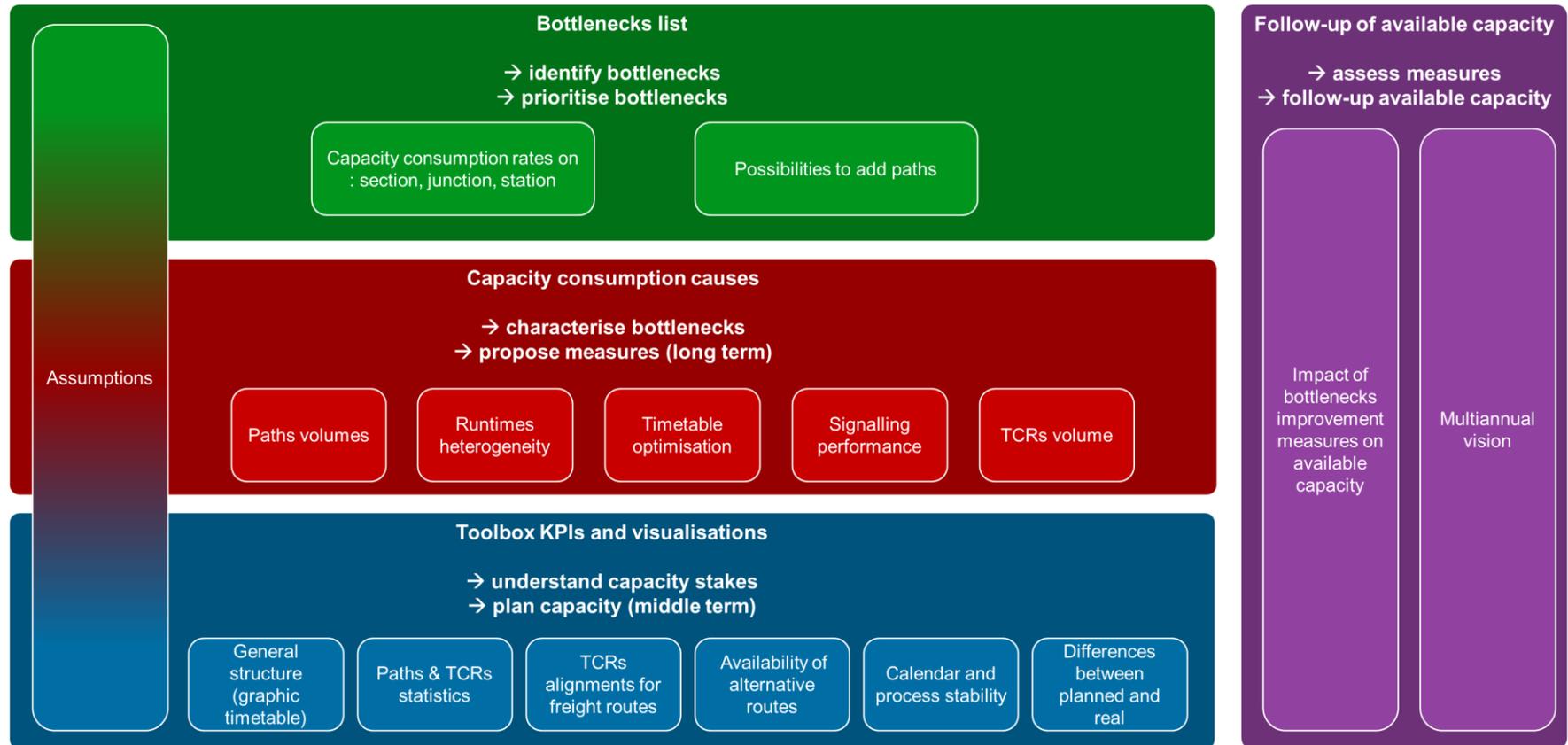
Share the proposed capacity KPIs ...

... and challenge it :

- Is it understandable ?
- Could it help you in the decision process ?
- At what milestone of the process ?
- Does it show your known capacity stakes ?
- Do you understand and agree with the calculation method ?
- Do you think it could be integrated in your process ?

# Usages of the capacity KPIs and visualisations

Past, planned, and projected capacity for paths & TCRs



# Agenda

1. Context, scope, goals and methodology of the study
2. Participants
3. What was discussed
4. Contributions and reception

# Decisive contributions

***IMs, RUs and Institutional Bodies Mirror Groups* expressed that the approach is very innovative and valuable.**

The 3 groups, particularly the *Institutional Bodies Mirror Group*, confirm it is a significant contribution which should provide food for thought for the ongoing discussions on the new European framework on capacity.

**Furthermore, decisive inputs from stakeholders has strongly influenced the study :**

- Due to the richness and variety of indicators and visualisations, the IMs mirror group highlighted the need to structure the results. This has led to the 3 steps presentation : (1. **bottlenecks** / 2. **capacity consumption causes** / 3. **toolbox**).
- The IMs mirror group was an opportunity to share **a wish for a common capacity language**, hence the development of our **reading grid**.
- **Calendar stability KPIs have been promoted** by the IMs, although we haven't found the right indicator yet. There is a need to explore this issue further.
- RU mirror group emphasise that the capacity is mainly an IMs business, but that there is a **need for transparency** and that our “Capacity Intelligence” approach can help in this way.
- The approach by “routes” is promoted by RUs, especially if it can integrate all the possible itineraries. **Following this request from RUs, we have explored this "route approach" in more detail.**

# European Union

Co-Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union.

Neither the European Union nor the granting authority CINEA can be held responsible for them.



**Co-funded by  
the European Union**

# Contact

SMA und Partner AG  
Gubelstrasse 28  
8050 Zurich  
Switzerland

Phone +41 44 317 50 60  
info@sma-partner.com  
www.sma-partner.com