

 **RNE TIS**
Train Information System

TIS and Terminals
TrainLinking based on TCM

Legal context for rail freight terminals

Data-sharing is allowed between cooperating companies

Implementing Regulation (EU) 2017/2177 on access to service facilities and rail-related services

Article 7.3

Where relevant, operators of service facilities, infrastructure managers and applicants shall cooperate to ensure efficient operation of trains from and to service facilities. In the case of trains using rail freight terminals, including those in maritime or inland ports, this cooperation shall include the exchange of information on train tracking and tracing and, where available, the estimated time of arrival and departure in the event of delays and disturbances.

Telematics Applications for Freight -Technical Specifications for Interoperability (TAF-TSI)

Functional and technical specifications of the subsystem

- Path Details Message
- Train Running Information message
- Train Running Forecast message
- Train Ready message
- Train Running Interruption message
- ETA/ETI calculation

Terminals connection to the RNE TIS

Why the Terminals data connection is important



Vital part of the supply chain

First/Last mile for rail services

Interface of transport modes along logistical chains

Facilitates the cooperation with Combined Transport Operators (CTOs)

Helps to improve efficiency of resources

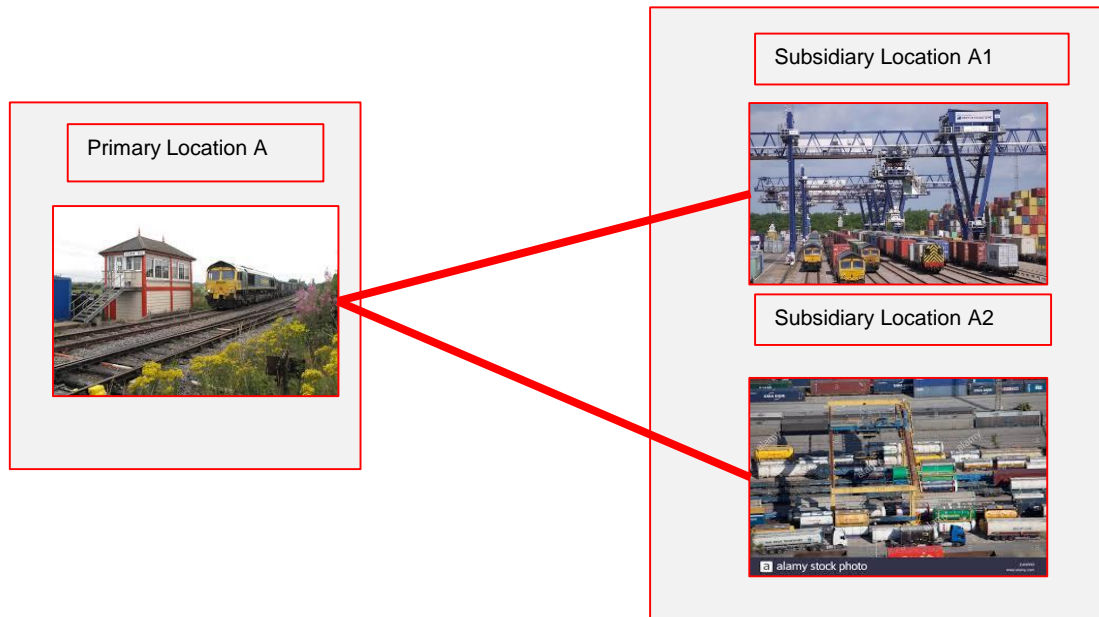
Contributes to a greener Europe

Reduces congestions

Integration of the Terminals into TAF/TAP Reference Files

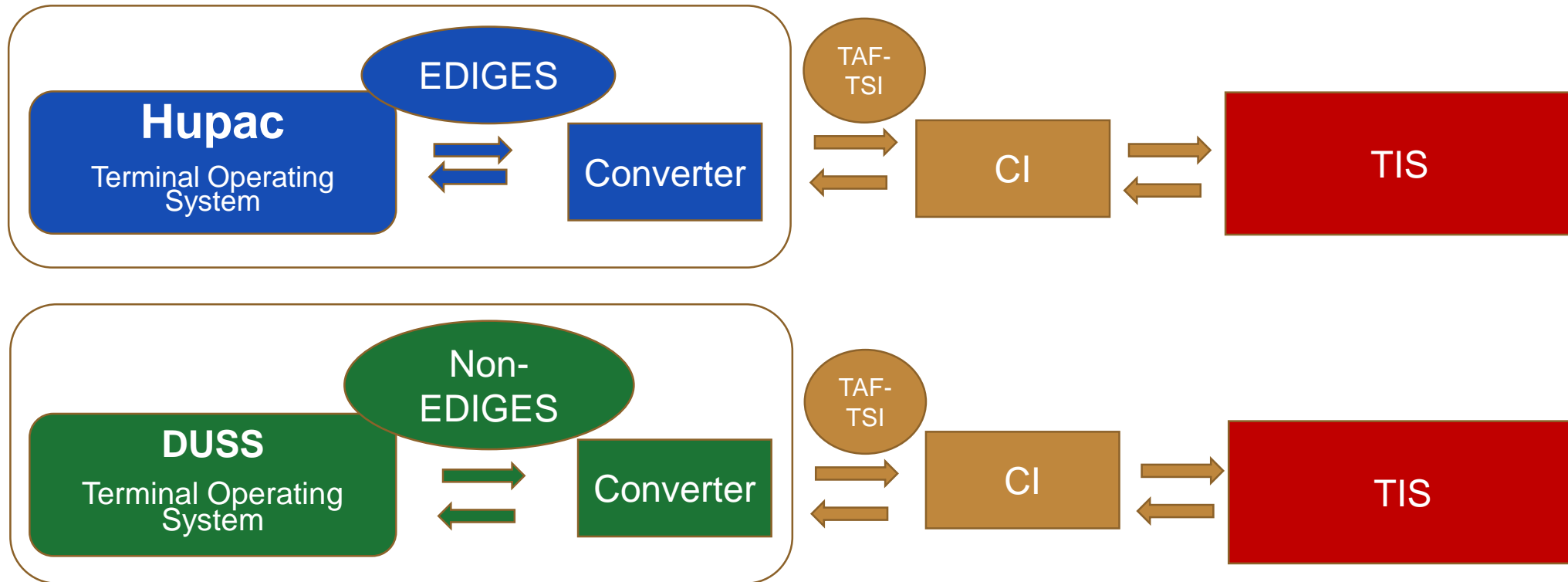
Technical Agreement

- Terminals will be defined as Subsidiary Locations
- Terminals are linked to the last operating point on the IM network
- Information from the Terminals can be processed and displayed in TIS
- Information can be distributed to the railway sector



- Primary Location code by IM
- Subsidiary Location code based on UIRR terminal code with code 57 for terminal as a type in the Subsidiary Location code.

How TAF/TAP TSI helps with data provisioning

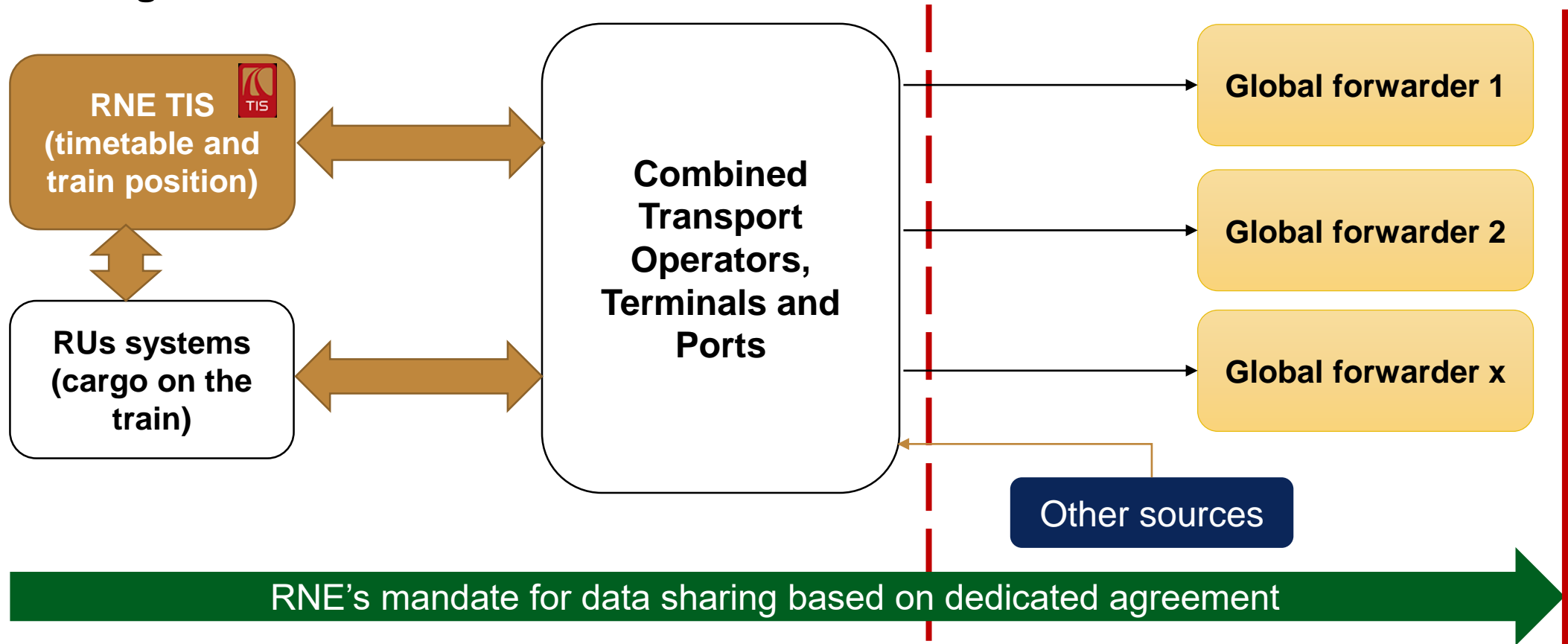


Essentially the data for the messages to be sent by terminals to TIS in TAF TSI format are available in (most) Terminal Operating Systems (TOS)

Use existing EDIGES messages
EDIGES S34 to TAF Train Running message
EDIGES S36 to TAF Train Running Forecast message

Data sharing of TIS train information

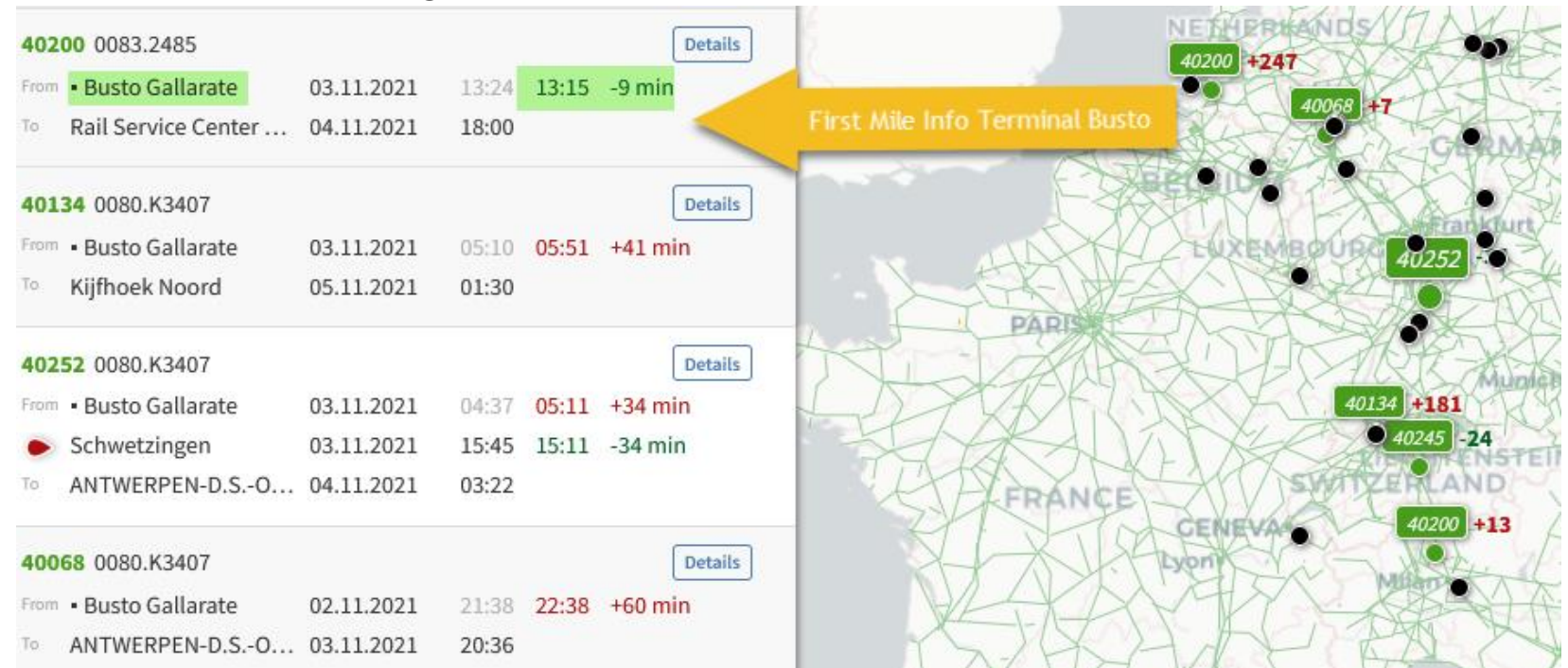
Data sharing



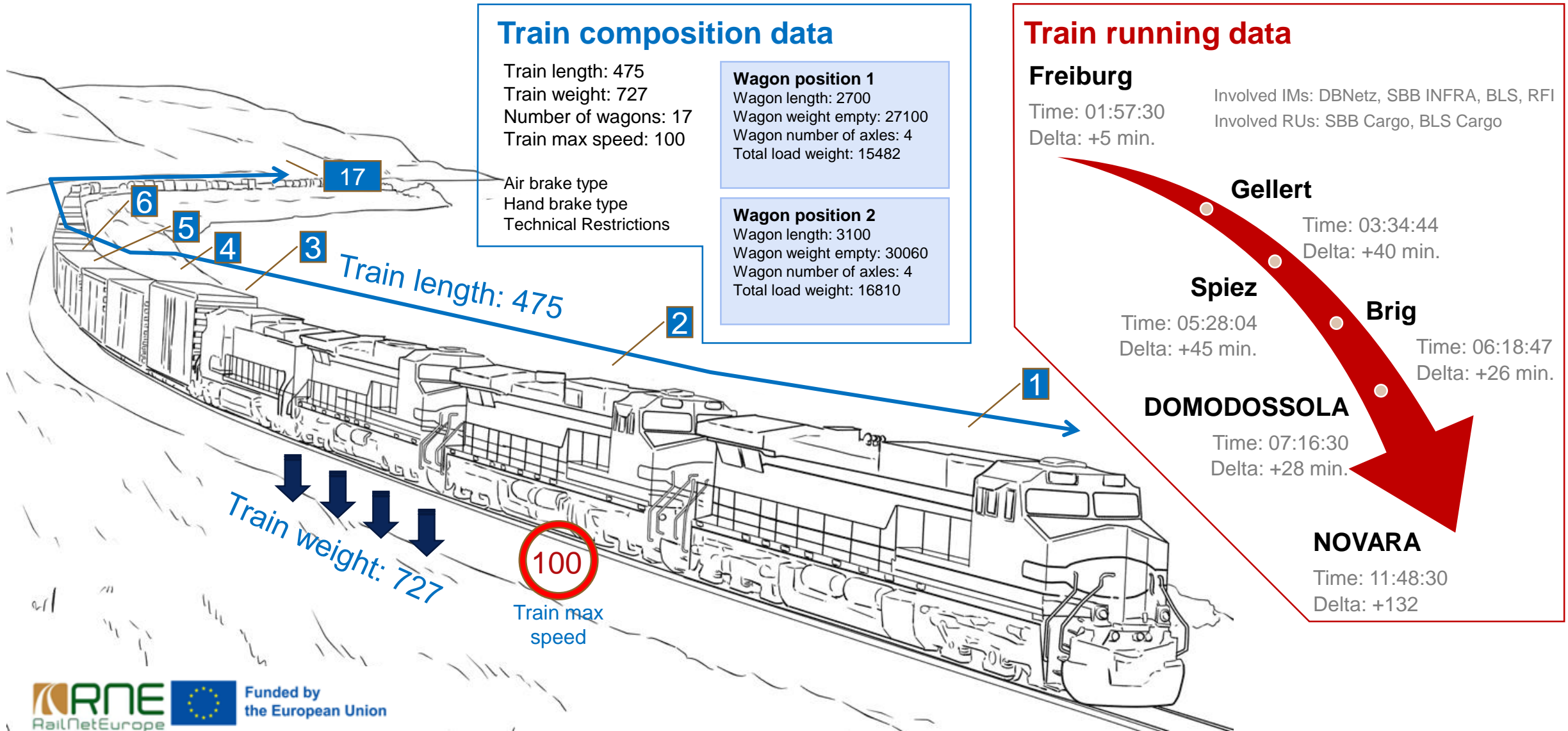
Integration of the Terminals – Next Steps

Next Steps

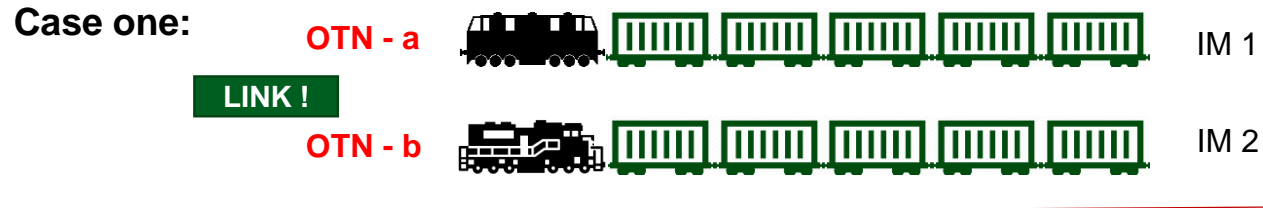
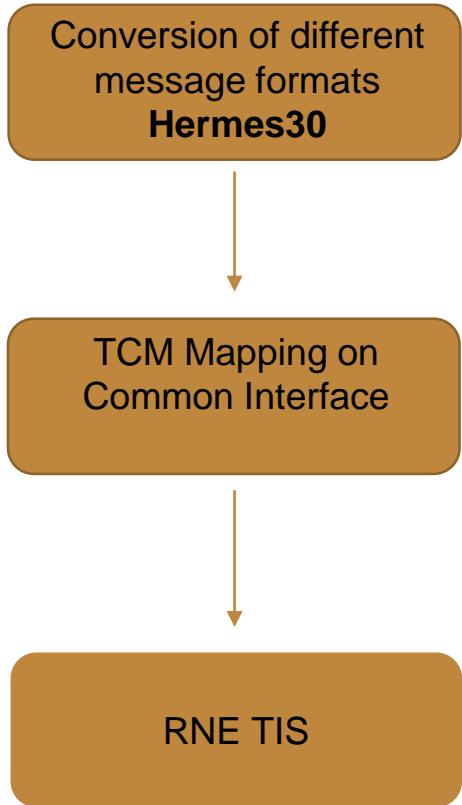
- Include more terminals into TIS
- Already in the pipeline
 - Corridor 2 - North Sea – Mediterranean (Amsterdam – Marseille)
 - Bettembourg (Luxembourg)
- Share the first and last mile information with cooperating companies
- Additional optimizations in TIS



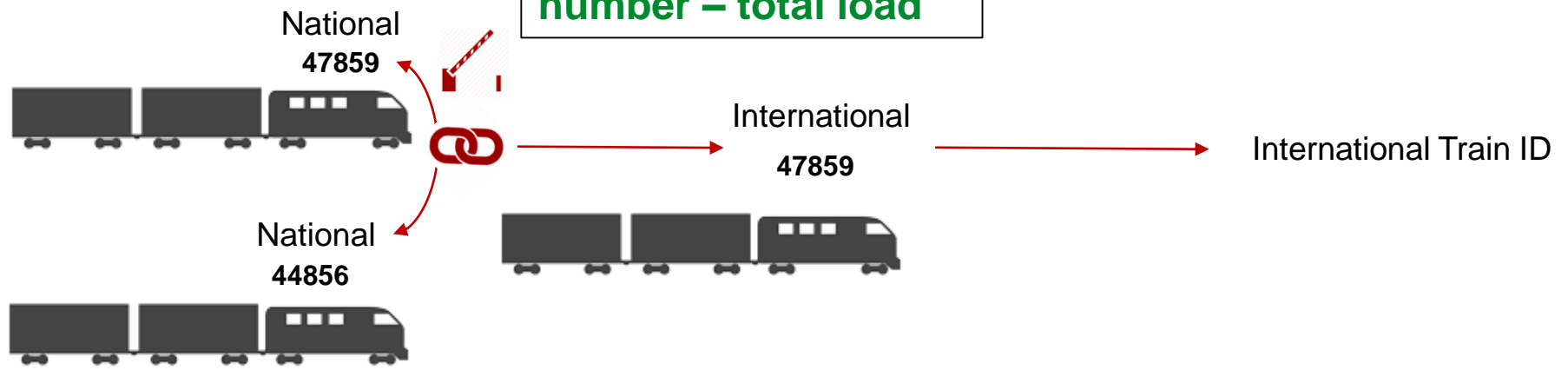
Train Run / Composition



Different Train Number Linking based on Train Composition

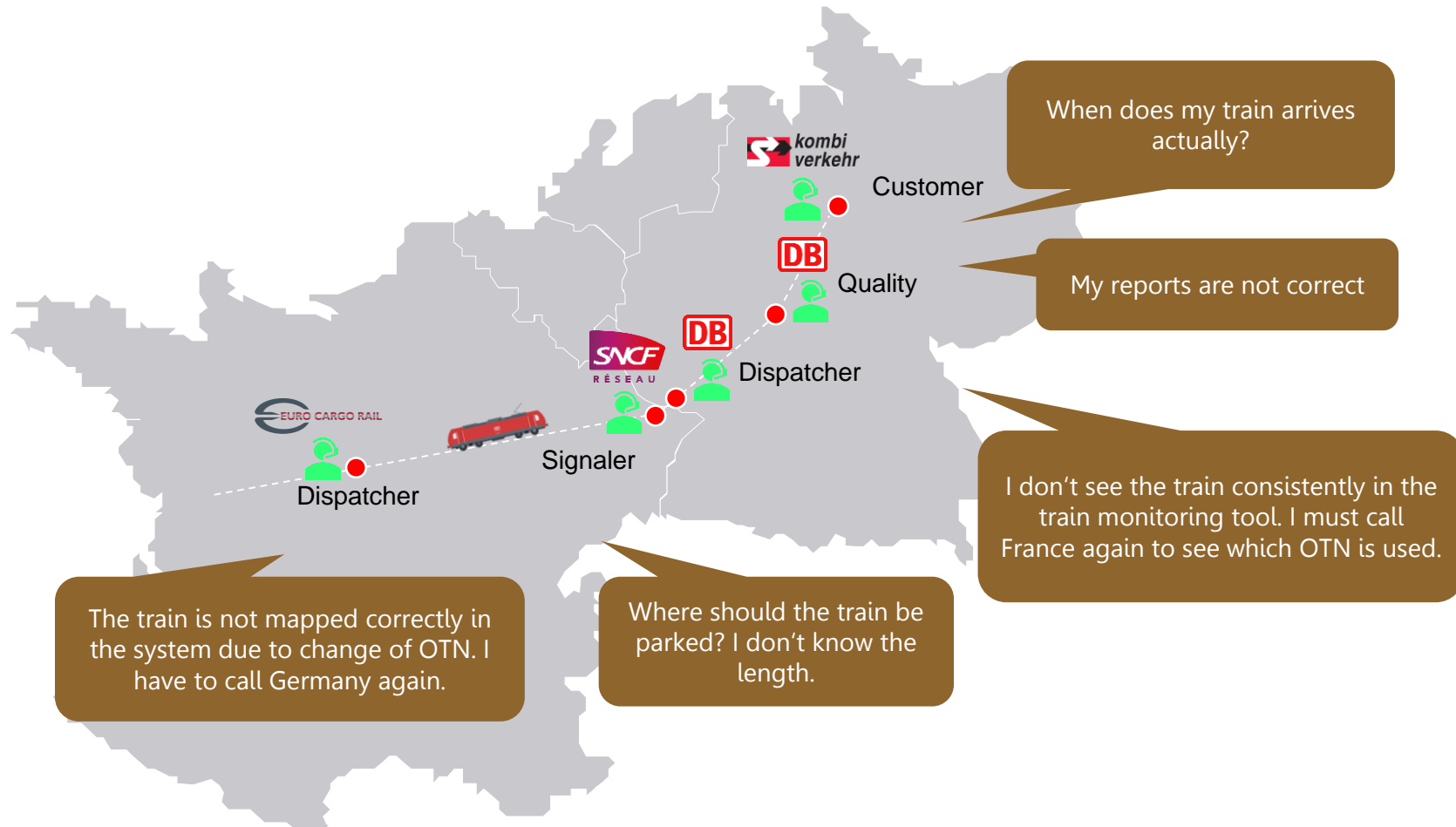


80 % Fitting: wagon number – total load



Previous State

The cross-border traffic has the challenge of missing and / or incorrectly mapped train running data due to frequent change of OTN



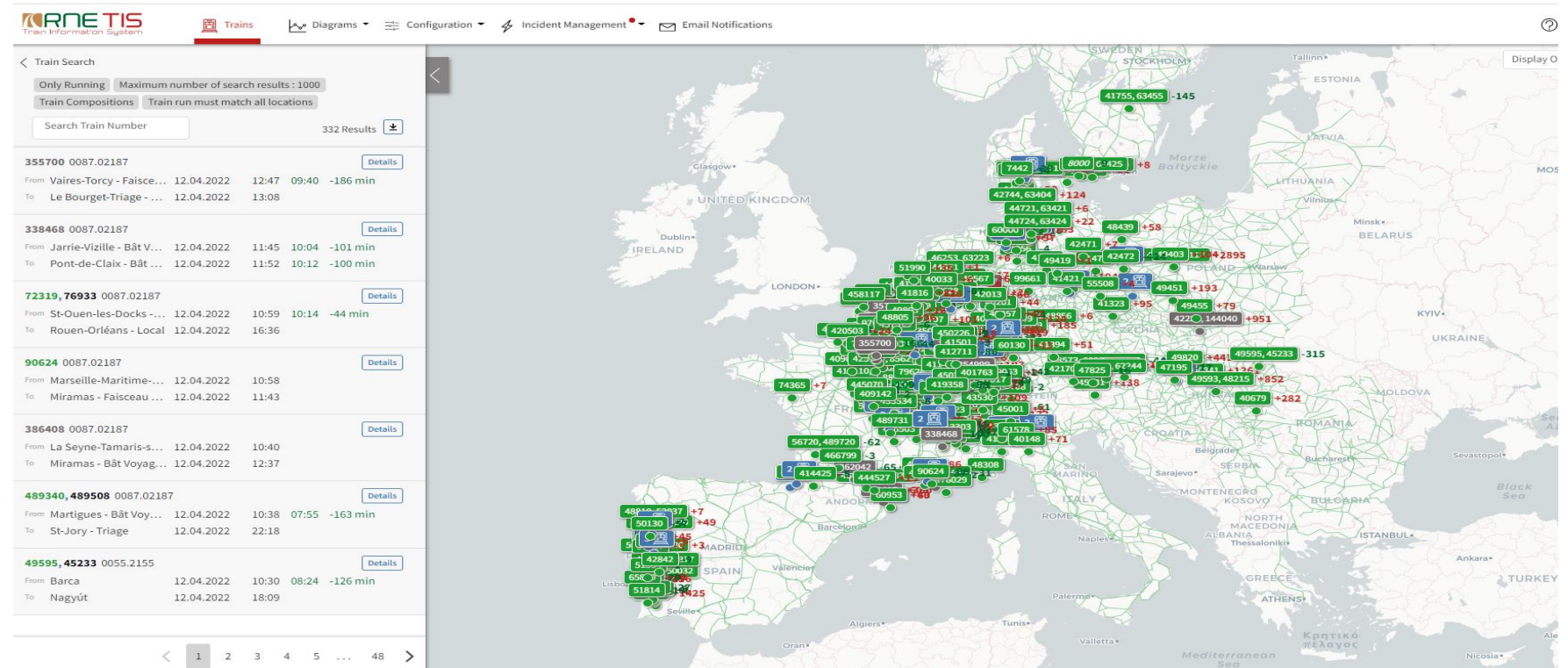
- 28.02.2020: Start of the project „LinkingTrains“ by automated linking of trains with different OTN – starting in Forbach
- Regularly coordination appointments with the participants

Train Composition Next Steps

Train Composition Messages for around 1200 trains daily \approx 10% of International traffic
5.000 trains per month are linked based on Train Composition Information

Next Steps

- Collect more Train Compositions from RUs/IMs
- More TIS participants through common interfaces
- More train linking results
- Make use of the Wagon Performance Message (WPM)
- Improve the data quality on message level



Train Linking based on TCM at border PL-CZ

Details Forecasts Incidents Statistics Chat

International Train Number 49599, 444199, 43287 National Train Numbers 54385, 43287, 444199, 49599	Actual Location Břeclav přednádraží	From Łazy To Staatsgrenze nächst Thörl-Maglern	06.10.2022 12:38 08.10.2022 02:09	Planned Distance 825,34 km Actual Distance 355,91 km	Train Type International Freight Last Update 07.10.2022 12:58	Train Identifier TR.3161.-METAN303875.20221006.00.2022
---	--	---	--	---	--	---

Layout: [Refresh] [Print] [Download] [Share]

Planned

Actual

Forecast

Location	Status	Date	Time	Status	Date	Time	Delta	Delay Reason	OTN	Infrastructure Manager	Railway Undertaking	Status	Date	Time	Delta	Median Forecast Qualifier	Forecast sender
Nędza	↓	06.10.2022	16:57	↓	07.10.2022	03:53	+656 min		444199	PKP Polskie Linie Kolejowe S.A.	LTE Polska Spółka z o.o.						
Nędza	↓	06.10.2022	16:57	↓	07.10.2022	03:53	+656 min		444199	PKP Polskie Linie Kolejowe S.A.	LTE Polska Spółka z o.o.						
Racibórz	↓	06.10.2022	17:06	↓	07.10.2022	04:04	+658 min		444199	PKP Polskie Linie Kolejowe S.A.	LTE Polska Spółka z o.o.						
Racibórz	↓	06.10.2022	17:06	↓	07.10.2022	04:08	+662 min		444199	PKP Polskie Linie Kolejowe S.A.	LTE Polska Spółka z o.o.						
Krzyżanowice	↓	06.10.2022	17:17	↓	07.10.2022	04:20	+663 min		444199	PKP Polskie Linie Kolejowe S.A.	LTE Polska Spółka z o.o.						
Chatupki	↓	06.10.2022	17:24	↓	07.10.2022	05:15	+711 min		444199	PKP Polskie Linie Kolejowe S.A.	LTE Polska Spółka z o.o.	↓	06.10.2022	17:45			PKP Polskie Linie Kolejowe S.A.
Bohumín-Vrbice st.hr	↓	06.10.2022	19:03	↓	07.10.2022	07:12	+729 min	84	43287								
Bohumín-Vrbice S618a	↓	06.10.2022	19:09	↓	07.10.2022	07:18	+729 min		43287								
Bohumín-Vrbice	↓	06.10.2022	19:13	↓	07.10.2022	07:22	+729 min		43287	0051 PKP Polskie Linie Kolejowe S.A.	43287 6790	Chatupki				0051 PKP Polskie Lin...	6793 Chatupki (Gr)
Bohumín-Vrbice	↓	06.10.2022	20:22	↓	07.10.2022	07:25	+663 min		54385	0054 Správa železnic, statni organizace	43287 30025	Bohumín-Vrbice st.hr				0054 Správa železnic...	38084 Bohumín-Vrbice
Ostrava-Hrušov	↓	06.10.2022	20:26	↓	07.10.2022	07:29	+663 min		54385	0051 PKP Polskie Linie Kolejowe S.A.	444199 50232	Zawiercie GT				0051 PKP Polskie Lin...	6790 Chatupki
Ostrava hl.n.	↓	06.10.2022	20:28	↓	07.10.2022	07:33	+665 min		54385	Správa železnic, statni organiz...	LTE Logistik a Transport Czechia s.r.o.						
Ova hl.n. Sc101,102	↓	06.10.2022	20:28	↓	07.10.2022	07:33	+665 min		54385	Správa železnic, statni organiz...	LTE Logistik a Transport Czechia s.r.o.						
Ostrava-Mar.Hory z	↓	06.10.2022	20:29	↓	07.10.2022	07:36	+666 min		54385	Správa železnic, statni organiz...	LTE Logistik a Transport Czechia s.r.o.						
Ostrava vjezd.vých.	↓	06.10.2022	20:31	↓	07.10.2022	07:37	+666 min		54385	Správa železnic, statni organiz...	LTE Logistik a Transport Czechia s.r.o.						
Ostrava-Svinov	↓	06.10.2022	20:33	↓	07.10.2022	07:38	+665 min		54385	Správa železnic, statni organiz...	LTE Logistik a Transport Czechia s.r.o.						
Vých Polanka n.Odrou	↓	06.10.2022	20:36	↓	07.10.2022	07:41	+665 min		54385	Správa železnic, statni organiz...	LTE Logistik a Transport Czechia s.r.o.						

Train Compositions

Infrastructure Manager Start	OTN	PLC Start	Location Start	Infrastructure Manager End	PLC End	Location End
0051 PKP Polskie Linie Kolejowe S.A.	43287	6790	Chatupki	0051 PKP Polskie Lin...	6793	Chatupki (Gr)
0054 Správa železnic, statni organizace	43287	30025	Bohumín-Vrbice st.hr	0054 Správa železnic...	38084	Bohumín-Vrbice
0051 PKP Polskie Linie Kolejowe S.A.	444199	50232	Zawiercie GT	0051 PKP Polskie Lin...	6790	Chatupki

Thank you