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COUNTRY FICHE

GENERAL INFORMATION

A: Legal Basis:

	Status of relevant national/regional R&I programmes
	Identification of cooperation areas including concrete actions for deployment/uptake of technologies/innovative solutions
Art 20.9 of the Single Basic Act:	Dissemination events, communication activities
The SRG shall report to the GB, and act as an interface with the JU, on the following matters:	National/regional measures concerning deployment activities in relation to JU
	National/regional initiatives ensuring complementarities with JU SRIA Agenda/AWP
Art. 20.10 of the Single Basic Act:	Describing national/regional policies in the scope of the JU
The SRG shall submit, at the end of each calendar	
year, a report:	Identifying specific ways of cooperation with the actions funded by the JU

B. General Information – to be filled in by each SRG representative and submitted to the EU-RAIL JU on an annual basis:

Policy	Competent authority:	MS: Ministry of Infrastructure and Water Management
	Contact details:	Marcel Tijs
	name and e-	Marcel.tijs@Minienw.nl
	mail	
Strategy	Short description of	1.Toekomstbeeld OV
	priorities	In 2019 the policy document Future of Public Transport
		(in Dutch: Toekomstbeeld OV 2040 (TBOV)) was drawn
		up together with decentralized authorities and public
		transport parties. This document provides insight into
		the choices and offers a perspective towards 2040, also



related to some innovative solutions. At this moment a recalibration of the program takes place.

2. The Acceleration Agenda for Rail

The Netherlands is facing major challenges and public transport has an important role in tackling these challenges (as described Future of Public Transport: Toekomstbeeld OV 2040 (TBOV)). Innovation is necessary and promising to move forward on this topic. Capitalizing on these opportunities requires more intensive collaboration in the innovative field, especially in the lenW-ProRail-NS triangle. In 2021, the three parties therefore decided to start the joint ' Acceleration Agenda for Rail 'and, where necessary, to involve other stakeholders (including a.o. other railway undertakings for passenger and freight).

The aim of the agenda is to accelerate innovations so that they can make a maximum contribution to four joint ambitions in the rail sector. These are formulated as follows in the Innovation Agenda:

- 1. Maximize network use by increasing capacity on existing track and stations;
- 2. More affordable transport through innovations throughout the chain;
- 3. Environmental impact down, contribution to energy transition up;
- 4. Flexible and demand-driven public transport/train traffic (focused on the needs of the traveler/shipper.

Based on these ambitions, we look for concrete cases that will lead to tangible results within a few years. The cases are exemplary of the larger system transitions that the rail sector will undergo in the coming years. The Rail Field Lab 5G is the first case taken up in this context, the expected result is an operational Field Lab at the end of 2024. A dissemination event is planned for December 2023 in the city of Amersfoort.

3. Development of rail freight based on technological innovations/digitalization

a. ELETA

MoT NL is supporting Projects on Electronic Exchange of Estimated Time of Arrival Information (ELETA), Rail Collaborative Decision Making (R-CDM) on the Rhine Alpine rail freight corridor, Digital Train 1.0 and 2.0 projects, and Enhanced Data Interoperability for Combined Transport (EDICT) project for the period up to and including 2024.

<u>Enhanced Data Interoperability for Combined Transport</u> (EDICT)



EDICT is a sequel to the projects ELETA (2017-2019), Digital Train 1.0 (2020-2021), Digital Train 2.0 (2021-2022). Its chief aim is to facilitate the implementation of electronic ETA data exchange (TAF TSI) between terminals and the rail sector. The project had three components:

- Activity 1: Implementation of electronic data exchange between terminals and the rail sector
- Activity 2: Development of a common Quality Management System for European Combined Transport (Q-ELETA)
- Activity 3: Initiating data exchange with (new) identifiable and eligible stakeholders (upgrade CESAR)

b. Automatic Train Operation ATO (DE-NL)
The project objective is to get fully functional and operational testing of ATO target systems es in order to achieve first-in-class certification, boosting growth of Combined Transport from the ZARA ports via Betuweroute by 2025. ATO is key to improve resource productivity, capacity utilization and energy efficiency for growth on the corridor, production stability, reduced cost and transit times. The development of ATO will require various innovations at production process and technology level. The consortium will also rely on proven, state of the art automation technology, while building on the European standardization.

c. Pilot automation container transport shuttles (INDIGO+)

Pilot to automated train preparation and breaking process (automatic brake testing, automatic wagon inspection, digital automatic coupling (DAC)). The project includes process integration, an impact evaluation (Scenario development, Baseline measurement, KPI development & elaboration, Business casting and Societal impact assessment) and optimizing process chain digitalization.

d. Sensoring Better use of Last Mile
By using sensors and cameras, capacity at railway yards can be used more effectively. In 2022, resources have been made available for a pilot at the Botlek rail yard (Rotterdam area). Due to positive interim results, it has been agreed to roll out to three new pilot locations:
Rotterdam Maasvlakte West, Moerdijk and Amsterdam Houtrakpolder. The aim of the pilots is to increase the3laned capacity at these yards by 25%, thereby achieving better use of the existing rail infrastructure.
The financial coverage of the pilots is provided by the Ministry of I&W and different port authorities.



4. ERTMS

a. ERTMS Roll out in NL: <u>ERTMS in the Netherlands</u> <u>ERTMS NL</u>

b. ERTMS on-board unit (OBU) financing (NL-DE) Aligning on relevant topics to the ERTMS rollout on a ministerial as well as program level. Currently, working groups are working together to align their approaches and learn from each other's experiences, and to explore where both countries can join forces and bring best practices to EU level.

Other:

5. 5G Fieldlab (FRMCS)

The Rail Acceleration Agenda aims to accelerate innovations in order to achieve the goals of Toekomstbeeld OV 2040. We see 5G as an important enabler in rail. Various examples show the potential of 5G for rail. It is therefore necessary that we can experiment with 5G and develop knowledge together in the rail sector but as of yet there is no suitable railspecific testing ground for 5G. A 5G Rail field lab thus contributes to the goal of the Acceleration Agenda. This ambition has now been translated into an action plan that was drawn up in collaboration with the consortium of TU Delft, TNO and MCS because of their experience with 5G and specifically (setting up) 5G field labs. The action plan has a duration of about 2 years, with a start date of September 2023, with focus on users cases first. NL MOT, ProRail and NS each contribute €300k to execute the plan that takes care of the preparation and testing of the 5G Fieldlab so that it will be fully operational at the end of 2025. The preparation and testing of the Fieldlab is structured in phases and has decision moments for important decisions and investment.

6. Capacity Study Turboplan

TNO, TU Delft and Royal HaskoningDHV are conducting a study on behalf of the NL MOT and ProRail into the feasibility of mixing passenger and light freight flows on the existing public transport network. Turboplan thus aims to make passenger rail operation more efficient in de off-peak hours. Moreover it can form a solution for logistics towards city centres since zero-emission zones will be introduced in a lot of Dutch city centres in the coming years. The study will be published at the end of this year.



		7. MAAS Mobility as a Service:
		Public mobility Public mobility enables travelers to meet their mobility needs in a traveler-friendly and cost-efficient manner by organizing the public mobility system in a coherent manner. Definition: Interaction of transport modes/services to facilitate accessibility and for which the traveler owes a commercial fee.
		8 MaaS apps have been developed/tested. They are part of 7 national pilots. The Ministry of Infrastructure and Water Management (IenW) and 7 regions have developed this. Each pilot has a different focus on a policy goal or target group. The apps contain as many transport options as possible that the traveler can plan, book and pay for. A selection remains in operation and is further developed.
		MaaS cross-border traveling It is now possible to travel between Maastricht - Heerlen-Aachen via Mobility as a Service (MaaS) in Limburg with platform of Arriva (GLIMBLE) with cross- border tickets. This will be further scaled up in North Rhine-Westphalia (NRW). The ambition is to to also extend this to Belgium as the Three-Country Train to Liège. From December 2023 it should be possible with contactless check-in and check-out
	Areas covered	Digitalisation ERTMS ATO DAC Improvement of capacity Maas
	Web-links	Toekomst openbaar vervoer 2040 Openbaar vervoer (ov) Rijksoverheid.nl TU Delft DelftRail Institute 1900019 Brochure MaaS-pilots A4-NL.indd (overheid.nl)
Dedicated or other related programmes	Short description, including Technology Readiness Levels covered within the programme	ASAP ERTMS is a ProRail programme which called the market to develop innovations to increase the rollout of ERTMS in the Netherlands. A number of companies are now being funded to elaborate their ideas which will help accelerate ERTMS (.e.g. by decreasing costs and complexity of installation or increasing the pace of



		rollout through new work methods and tools). More
		info: https://www.prorail.nl/programmas/ertms/asap-er
		Universities initiatives :
		TU Delft DelftRail Institute
		ProRail has initiated an official research alliances with Delft University of Technology, University of Twente. TNO and Deltares where ProRail invests in new research and development programmes and also the knowledge institutes dedicate efforts to innovate the rail sector. ProRail has actively taken care these parties also joined EU Rail during the flagship projects awarded in 2022. ProRail also supports through the alliances the education of new railway experts.
		DelftRail is initiated to increase the value of advanced research in railway engineering and operations, ensuring a sustainable, robust and future proof railway system. DelftRail contributes to enabling railway as the backbone of Europe's sustainable mobility, attract more funding for research and catalyse the education of new railway experts with inter-disciplinary profiles so urgently needed in the coming decades.
Calls/Funding scheme identifications	Short description	-
	Time-plan	-
	Available budget	-
	Strategic priorities	Digitalization
	Web-link	-
	Future calls (time plan if any)	-