Public Kickoff

29.04.2025

The project FP5-DACtiVate is supported by the Europe's Rail Joint Undertaking and its members.

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Anti-Trust-Statement

While some activities among competitors are both legal and beneficial to the industry, group activities of competitors are inherently suspect under the antitrust/ competition laws of the countries in which our companies do business.

Agreements between or among competitors need not be formal to raise questions under antitrust laws. They may include any kind of understanding, formal or informal, secretive or public, under which each of the participants can reasonably expect that another will follow a particular course of action or conduct. Each of the participants in this initiative is responsible for seeing that topics which may give an appearance of an agreement that would violate the antitrust laws are not discussed. It is the responsibility of each participant in the first instance to avoid raising improper subjects for discussion, notably such as those identified below.

It is the sole purpose of any meeting of this initiative to provide a forum for expression of various points of view on topics

- (i) that are strictly related to the purpose or the execution of the initiative,
- (ii) that need to be discussed among the participants of the initiative,
- (iii) that are duly mentioned in the agenda of this meeting and
- (iv) that are extensively described in the minutes of the meeting.

Participants are strongly encouraged to adhere to the agenda. Under no circumstances shall this meeting be used as a means for competing companies to reach any understanding, expressed or implied, which restricts or tends to restrict competition, or in any way impairs or tends to impair the ability of members to exercise independent business judgment regarding matters affecting competition.

As a general rule, participants may not exchange any information about any business secret of their respective companies. In particular, participants must avoid any agreement or exchange of information on topics on the following non-exhaustive list:

1. Prices, including calculation methodologies, surcharges, fees, rebates, conditions, freight rates, marketing terms, and pricing policies in general;
2. any kind of market allocation, such as the allocation of territories, routes, product markets, customers, suppliers, and tenders;
3. production planning; marketing or investment plans; capacities; levels of production or sales; customer base; customer relationships; margins; costs in general; product development; specific R&D projects;
4. standards setting (when its purpose is to limit the availability and selection of products, limit competition, restrict entry into an industry, inhibit innovation or inhibit the ability of competitors to compete);
5. codes of ethics administered in a way that could inhibit or restrict competition;
6. group boycotts;
7. validity of patents;
8. ongoing litigations.

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Introduction and Welcome

Marc-André Sahba (DB AG)

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#	TOPIC	Speaker
1	Introduction and Welcome	Marc-André Sahba
2	Europe's Rail JU Presentation	Javier Ibáñez de Yrigoyen
3	FP5-TRANS4M-R – Common Goals and Collaboration	Patrick Seeßle
4	FP5-DACtiVate – General Information and Objectives	Marc-André Sahba
5	FP5-DACtiVate Work Packages	Work package Leads
6	Final remarks and closing	Marc-André Sahba

Europe's Rail Joint Undertaking Presentation

Javier Ibáñez de Yrigoyen (EU-Rail)

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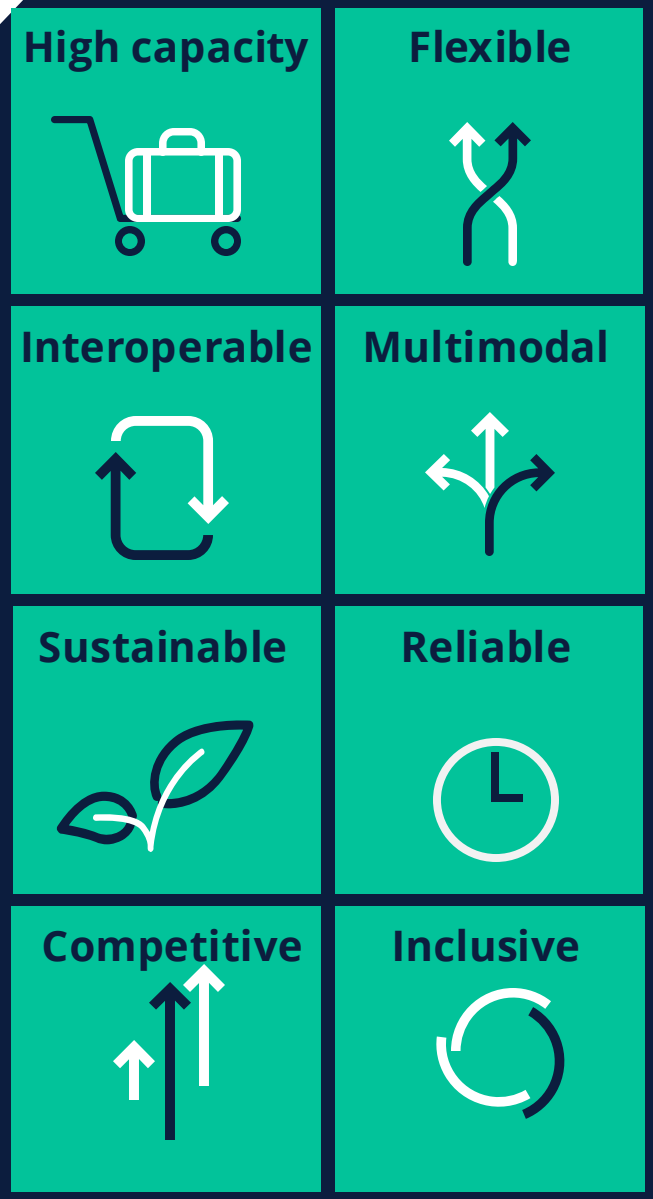
FP5-DACtiVate

Activating DAC Development Through Testing and Engineering

Europe's Rail JU Vision

To deliver a **fully integrated European railway network for citizens and cargo.**



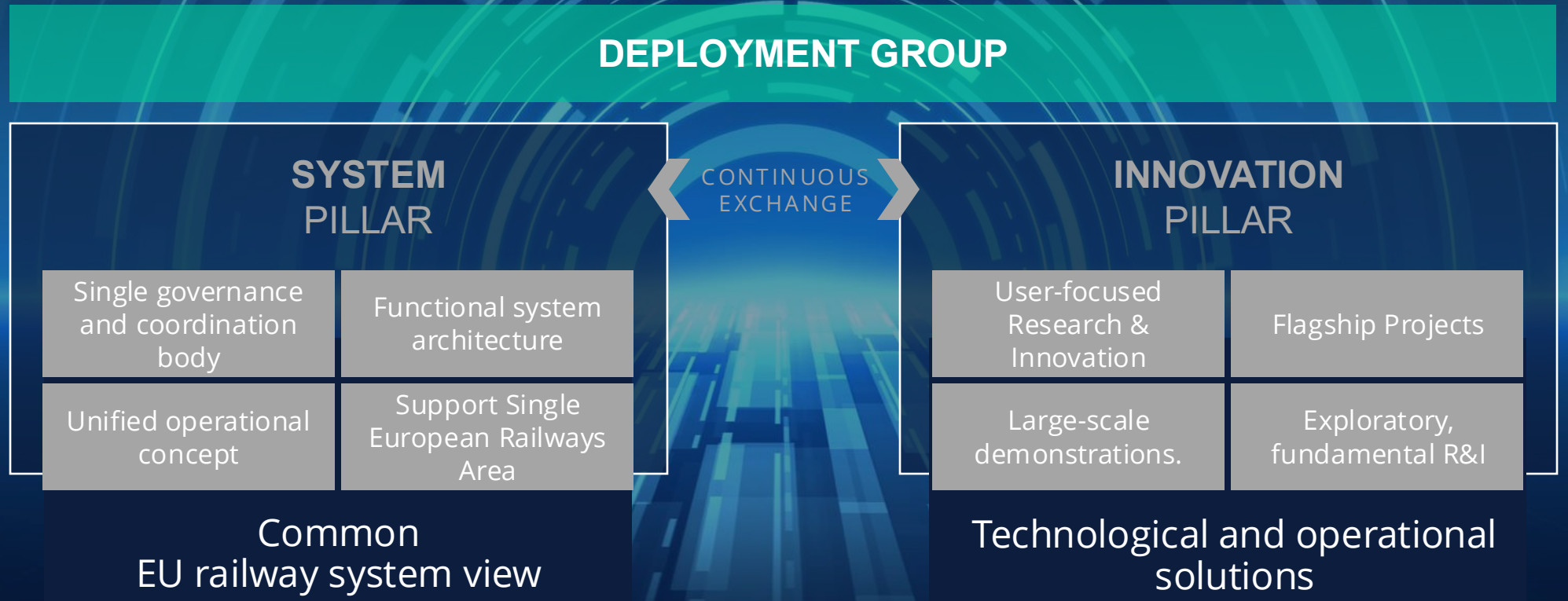
Priorities

SYSTEM VIEW

- A multimodal transport system
- Digital and automated operations
- Sustainability
- Competitive and digital freight
- Cost-efficient regional lines

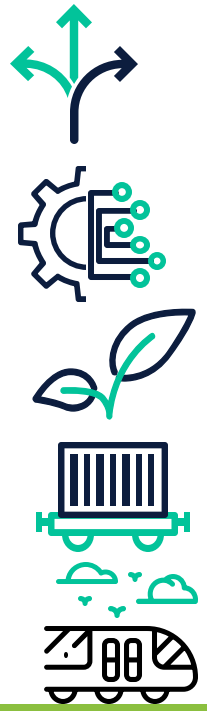
Europe's Rail

Single R&I Programme based on a system view



Flagship Areas (FAs) / Projects (FPs)

- **FA1**: European Rail Traffic Management System (TMS)/ Capacity Management System (CMS); FP1-MOTIONAL
- **FA2:** Digital and automated up to autonomous train operations: FP2 – R2DATO
- **FA3:** Intelligent and integrated asset management: FP3-IAM-4RAIL
- **FA4:** Sustainable and green rail system: FP4-Rail4Earth
- **FA5:** Sustainable **competitive digital green rail freight** services: **FP5-TRANS4M-R**
- **FA6:** Regional rail services / innovative rail services to revitalise capillary lines: FP6-FutuRe
- **FA7:** Innovation for new approaches on guided transport modes: Pods4Rail



Exploratory research activities

- Technologies and innovations from other sectors
- Game changing methodologies
- Disruption of innovation cycle

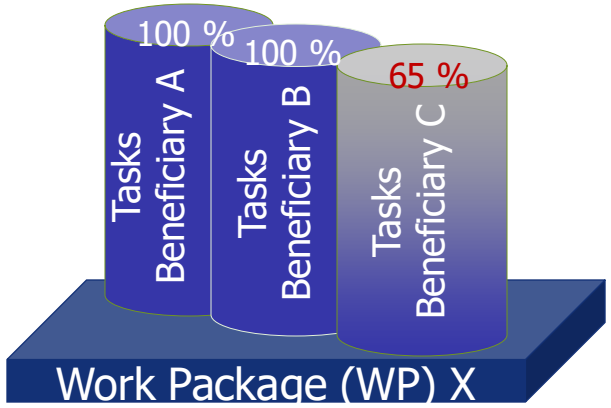
Overview of the various DAC/EDDP related projects

	FP5TRANS4M-R	FP5DACtiVate	DACcelerate	DACcord	DAC FIT
	Description: • Core project for developing the DAC for Europe • Development of 16 rail freight innovations, including DAC Type 4 +5, automated shunting, → Innovation	**Description:** • derailment and propelling safety tests, crash tests, clim. chamb. • interchangeability of DAC across suppliers • Hybrid coupler locos • Wagon Onboard Unit (WoBu) → Innovation	**Description:** • Accelerating DAC adoption through EDDP streamlining • Standardizing DAC specifications for seamless integration • Guiding comprehensive DAC integration by 2030 → Management/Integration	**Description:** • Aligns DAC implementation for rail freight • Creates deployment roadmap aligned with EDDP goals • Facilitates funding and activity coordination for DAC deployment. → Management	**Description:** • Drives the implementation of DAC • Ensuring smooth transition of vehicles and facilities to DAC, optimizing logistics efficiency. → Transformation
	Partners: 75 Diverse Participants - Includes rail end users, industry, operators, SMEs, academia	**Partners:** 12 beneficiaries, 21 partners Includes RUs, industry, operators, SMEs, …	**Partners:** ViF, railiable, hwh, Molinari, OWITA, TRV, SNCF, RINA	**Partners:** railiable, Railenium, TRV, LSP, UNIFE, UIC	**Partners:** DB C, k+v, Instytut Kolejnictwa, VUKV, BME ITS, VERS, IML
	Duration: 07/22 – 12/26	**Duration: 24 months**	**Duration:** 06/21 - 01/23	**Duration:** 04/23 – 03/26	**Duration: 24 months**
	Lead: DB	**Lead:** DB	**Lead:** VIF	**Lead:** RAILIABLE	**Lead:** DB C
€	**EUR:** 95,1 Mio. EUR	**EUR**: 10,7 Mio. EUR	**EUR:** 2,1 Mio. EUR.	**EUR:** 1,5 Mio. EUR	**EUR**: 1,5 Mio. EUR
			ended		

FP5-DACtiVate
Grant Agreement

FP5-DACtiVate Grant Agreement

- **Funded** by **EU-Rail JU**
- **GA** signed by **Deutsche Bahn AG** (FP5-DACtiVate Coordinator) and **EU-Rail JU** (i.e. manages the GA)
- **Horizon Europe Model/Lump Sum:**
  - **No obligations on actual cost reporting and financial audits** (Certificate of Financial Statement and ex-post audits) at project implementation phase, however, the granting authority can verify **at any time** through checks, reviews, audits the compliance with the conditions for using lump sum contribution per work package
  - **Focus on performance:** Shift from focus on financial management and checking costs to focus on scientific-technical content of the projects (Work Packages (WPs))



FP5-DACtiVate Grant Agreement

- 5% of the total lump sum is retained as contribution to the Mutual Insurance Mechanism (MIM) to cover against financial risks

- The amount contributed to the MIM will be **reimbursed at the payment of the balance** after the end of the project

- The MIM **belongs to all beneficiaries** of grant agreements under Horizon Europe

Lump Sum Grants - Useful Resources

- **Lump sums – what do I need to know?** - General presentation for applicants to get started, including details on how to set up a lump sum budget

- **Quick guide** - The key steps explained and possible concerns addressed

FP5-DACtiVate Grant Agreement - Amendments

- Amendments ***to the signed GA*** must not have the purpose of making changes that might call into question the decision of awarding the grant
- Request in writing (electronically) – specific time windows for submission announced yearly by the EU-Rail JU
- Only the Coordinator may submit an amendment request
- Enlargement of the consortium to new contractors and new activities may be foreseen
- In severe cases, it can lead, upon the decision of the EU-Rail JU to a reduction of the grant, its termination or any other appropriate measures, in accordance with the provisions of the grant agreement and HE rules
- A guide to amendment is available through the participant portal

FP5-DACtiVate - Consortium Agreement

Key aspects to be addressed between the partners:

- Management
- Distribution of funds
- Internal organisation of work, internal reporting
- Evolution of the consortium
- IPR (to be decided before signature of contract) – ANNEX V HE Grant Agreement
- Risk management / collective responsibility
- Decision-making process

EU-Rail JU Consortium GA template

FP5-DACtiVate GA – General considerations

- **The grant can be reduced** if GA obligations are not met
- **Reinforcement on the monitoring of compliance** with dissemination, exploitation and communications obligations is possible
- **No plagiarism and no duplication of work** of other R&I activities
- **Coordination and cooperation** with the relevant projects as per DoA

FP5-DACtiVate GA – General considerations

- **Delivering on time** the expected results in accordance to the GA

- **Regular dialogue with the EU-Rail JU Programme Manager** to ensure a good flow of information about the project and its progress

- **Collaboration with the bodies of the Joint Undertakings**
  - EU-Rail JU: Flagship Projects (FPs), System Pillar (SP), System and Innovation Programme Board (SIPB), working groups set-up by the Governing Board (GB)

- **Coordination and communication** amongst the **FP5-DACtiVate WPs**

- Europe's Rail JU Governance and Process Handbook: **https://rail-research.europa.eu/wp-content/uploads/2024/01/ED-DECISION-ED-23-09_Annex_GovProc.Handbook.pdf**

FP5-DACtiVate

Kick-Off Meeting

29 April 2025

THANK YOU!

www.rail-research.europa.eu

FP5-TRANS4M-R - Common Goals and Collaboration

Dr. Patrick Seeßle (DB Cargo)

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The FP5-TRANS4M-R Project delivers with 76 partners the Full Digital Freight Train

Workstream Seamless

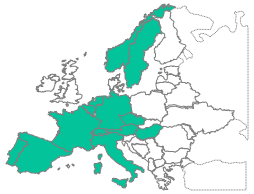
Facilitating **multimodal and intermodal** logistics across borders

Workstream Full Digital Freight Train

Digitalising and Automating Freight Train Operations

Innovative Freight Assets

Developing **Sustainable and High-Efficiency** Freight Solutions



Collaboration of **76 european partners** from the whole railway sector

The **Digital Automated Coupler (DAC)** is the central enabler of the project

Demonstrating new technology up to **TRL 8**

95 Mio. € TPC

30% by 2030

Increasing the modal split for rail freight

Innovation Project for European Rail Freight funded by the EU

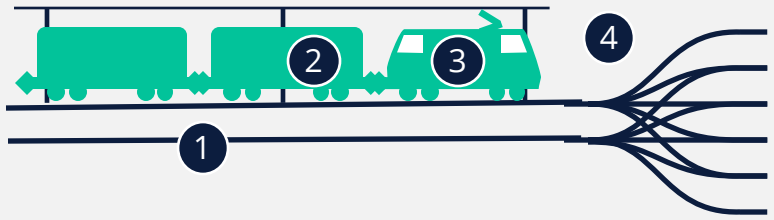
European Green Deal

Part of Europe's Rail

Jointly Operators & Industry are developing, testing and demonstrating the FDFTO System

FP5DACtiVate

Full Digital Freight Train Operations (FDFTO)



1. **Digital Automated Coupler (Typ 4+5+Hybrid)**
2. **Energy and Communication (400V + Train integrity)**
3. **Train functions (e.g. automated brake test)**
4. **Automated Yard Operations**

Development

- Coordination between operators
- Definition of requirements with industry partners
- Prototype development

1) Definition of Oper. procedures, functi. requirements and system architecture

2) Prototype develop-ment by suppliers

Testing

- Testing the new technologies
- Finding fields of action for improvements
- Collecting data

1) Interoperability testings at the Train Test Lab and other testing facilities

Demonstration

- Demonstration of results
- Demonstrate benefits
- Collecting more data

1) Demonstration of DAC in the Demo Trains

<u>Common Goal:</u> Realisation of Full Digital Freight Train Operations in Europe

FP5-DACtiVate & FP5-TRANS4M-R

Success of both projects is closely linked. Joint collaboration is key to enable Pioneer trains.

FP5DACtiVate

WP1 Validation tests for the DAC (derailment, crash)

WP1 Measurement data for validation of simulation tool

WP4 Provide additional 27 **WoBU**

FP5TRANS4M-R

Authorization

Demo trains

104 wagon test

WP3 Hybrid coupler solution for Stadler Euro Dual Locomotive

WP5 Hybrid coupler solution for legacy locomotive PKP SM42

Hybrid coupler solutions for mainline and shunting locomotives

WP8 Hybrid coupler solutions for Siemens Vectron / Alstom Traxx AC2/DC3

WP2 Mix and Match tests (interface A)

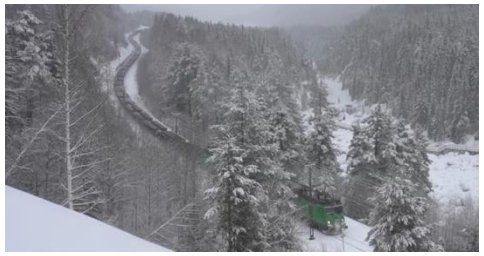
WP1 Climate chamber tests to test winter conditions

Demonstrate modularity / interchangeability and validate DAC technology

WP14 – WP 17 validation and demonstrate DAC technology

The FP5-TRANS4M-R project already delivered important results for the European FDFT

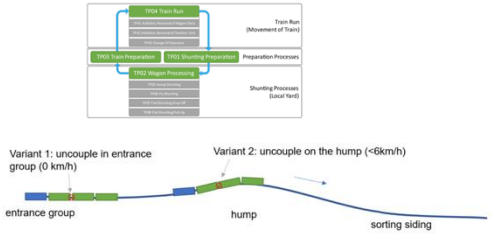
Electric Coupler Design decision
02/2024



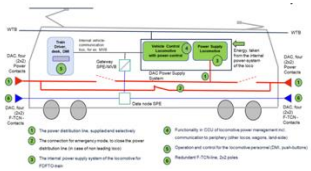
Start Swedish Demo Trains (Intermodal and Steel)
08/2024

Continuous Early Testing
2023-2026

FDFTO User Requirements
03/2024



European FDFTO Operational Procedures
06/2023



Specification mainly finalized
01/2025

Installation of Train Test Lab
09/2023

Multitude of Events
2022-2025

Reference Test System
01/2024

Interoperability demo at InnoTrans 2024
09/2024

DAC Basic Package Decision (EDDP) and development focus
01/2024

FP5-TRANS4M-R is closely working together with other initiatives and DAC projects

	FP5TRANS4M-R	DAC FIT	FP5DACtiVate	DACcord	DAC4EU
	Description: • Core project for developing the DAC for Europe • Development of 16 rail freight innovations, including DAC Type 4 + 5, automated shunting, cross-border scheduling → Innovation	**Description:** • Workshop capacity in Europe and migration scenarios • Analysis of Wagon and Loco Fleet in Europe • Installation Tests in Europe → Migration	**Description:** • DAC coupler safety • DAC supplier interchangeability assessment • Locomotive hybrid coupler development. • Wagon Onboard Unit (WoBu) implementation. → Testing	**Description:** • Aligns DAC implementation for rail freight • Creates deployment roadmap aligned with **European DAC Delivery Programme (EDDP)** goals → Management	**Description:** • Standardisation and implementation of DAC Type 4 for efficiency and safety • Development and testing of prototypes for Europe-wide use → Demo + Standardisation
	Partners: 76 div. Participants - Includes rail end users, industry, operators, SMEs, academia	**Partners:** DBC, k+v, Instytut Kolejnictwa, VUKV, BME ITS, VERS, IML	**Partners:** DB, Dellner, KB, Voith, Wabtec, UIP, Stadler, HVLE, Mercl, PKP, OEBB-RCA, TRV	**Partners:** Railenium, TRV, UNIFE, UIC and many partners over EDDP	**Partners:** DB, DBC, ERMEWA, GATX, OEBB-RCA, SBBCARGO, VTG
	Duration: 07/22 – 12/26	**Duration:** 07/24 - 07/26	**Duration:** 12/24 – 12/26	**Duration:** 04/23 – 03/26	**Duration:** 06/20 - 06/26
	Lead: DB	**Lead:** DB	**Lead:** DB	**Lead:** RAILIABLE GMBH	**Lead:** DB
€	**EUR:** 95,1 M. EUR	**EUR**: 1,5 Mio. EUR	**EUR:** 10,7 M. EUR	**EUR:** 1,5 M. EUR	**EUR:** 20 M. EUR

To ensure the successful development of the FDFT the projects need to work closely together

FP5DACtiVate

+

FP5TRANS4M-R
Transforming Europe's Rail Freight

Main Objectives

- Common Standards in testing
- Close exchange of information and data
- Clear communication and marking of sensitive/public data
- Sharing of know-how and experiences
- Aligned time plan to ensure Pioneer Trains

Next Step: Collaboration Agreement

General Information and Objectives

Marc-André Sahba (DB AG)

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FP5-DACtiVate – FACT SHEET

21 Partners from all over Europe

DB, TRAFIKVERKET, VOITH, DELLNER, MERCITALIA INTERMODAL, hvle, KNORR-BREMSE, PKP, Rail Cargo Group, STADLER, UIP, Wabtec

EU-Rail Flagship Project focusing on the DAC deployment through testing of the Interface A DAC and development of hybrid coupler solutions

Main goals

- **DAC testing** (validation tests as well as Mix & Match tests for Interface A ready Couplers)
- **Hybrid Couplers integration** into two additional types of locomotives
- **Wagon-Onboard Units** being provided to the FP5-TRANS4M-R Train Test Lab.

- **Project start**: 01.12.2024
- **Project duration**: 25 month

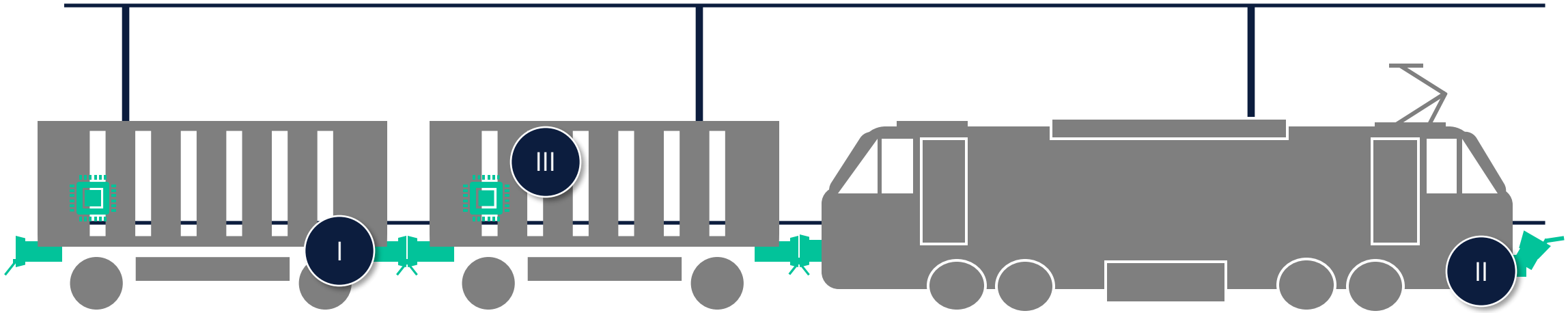
Linked projects

DACtiVate supports the **European DAC Delivery Programme (EDDP)** and **FP5-TRANS4M-R**

Part of Europe's Rail

FP5-DACtiVate – Mission Statement

Enabling the Digital Automatic Coupling Pre-Deployment in Europe



I DAC Testing

Validation Tests
Mix&Match Interface A

II Hybrid Coupler for Locomotives

DAC integration

III Wagon Onboard Units

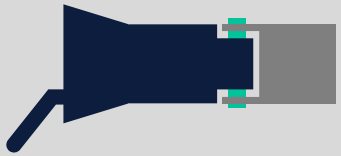
WOBU provision for
Train Test Lab

Enabling DAC Pre-Deployment
in **close collaboration** with **FA5 projects**

FP5-DACtiVate – Work packages

Strong commitment to deliver results within the work packages (WP)

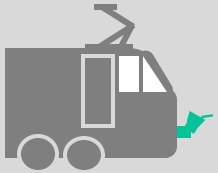
I DAC Testing



WP1 Validation Tests Interface A capable DACs
(Lead: DB)

WP2 Mix&Match test specification Interface A
(Lead: TRV)

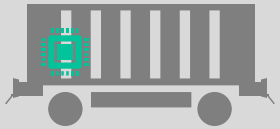
II Hybrid Coupler for Locomotives



WP3 Dual Use Locomotive DAC integration
(Lead: KB)

WP5 Legacy Locomotives DAC integration
(Lead: PKP)

III Wagon Onboard Units



WP4 Wagon Onboard Units provision for FP5-TRANS4M-R
(Lead: FT)

WP6 Project Management, Dissemination and Communication
(Lead: DB)

The FP5-DACtiVate Grant Agreement is the guiding document defining the scope of the project in terms of **quality**, **time** and **costs**. WP Leads are committed to implement the actions to achieve the defined targets of their work package.

WP1 - Validation tests on Interface A capable DACs

Dr. Simon Funke (DB Cargo AG)

The project FP5-DACtiVate is supported by the Europe's Rail Joint Undertaking and its members.

WP1 - Validation tests on Interface A capable DACs

Main Objectives

- Perform dedicated tests validating the readiness of the technologies for commercial use
  - Derailment and propelling safety
  - Crash Tests
  - Climate Chamber Tests


© Rail Sweden

Involved Partners

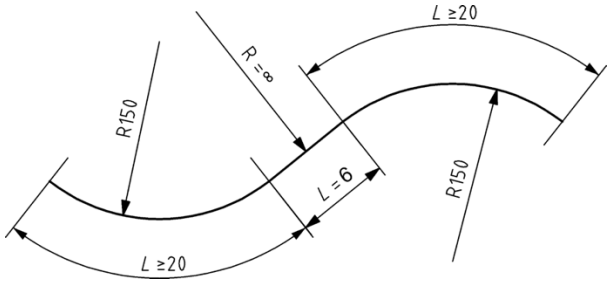
WP1 - Details on the Tests

Technical and operational

Derailment & propelling safety

June 25– July 25

- Validation to verify derailment safety
- 100 individual tests
- Involvement of certification experts to oversee tests

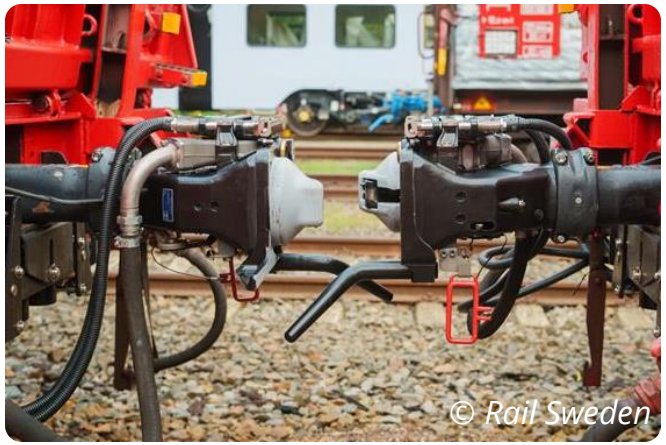


Test track according to EN 15839

Crash Tests

Q1 2026

- Validation of anti-climbing of wagons with standard couplers and couplers with AX draft gears
- Involvement of certification experts to oversee tests



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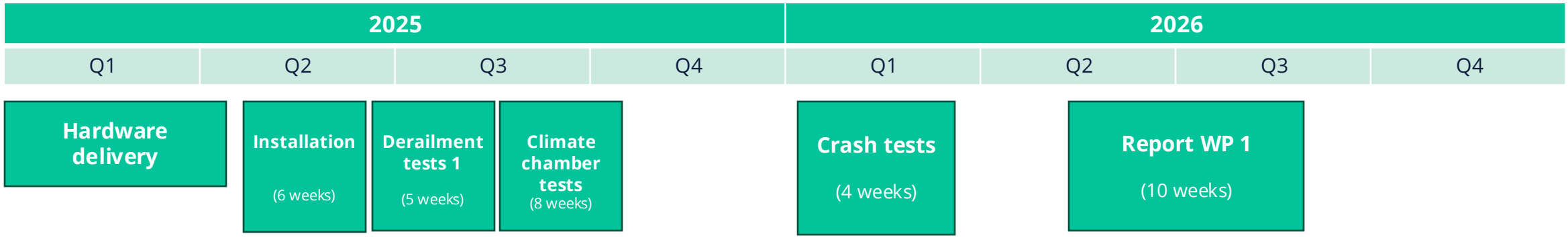
Climate Chamber Tests

August 25 – October 25

- Validation of couplers endurance against ice and snow
- Functional tests compliant to T1 standard at temperatures between -25°C to +40°C
- Involvement of certification experts to oversee tests

© DAC4EU

WP1 - Timeline and results



Results will be published in two public deliverables:
D1.1 Test specification – due month 8 (July 2025)
D1.2 WP1 test reports (PU) – due month 20 (July 2026)

WP2 - “Mix and Match” test

Anna Björkman (Lindholmen Science Park)

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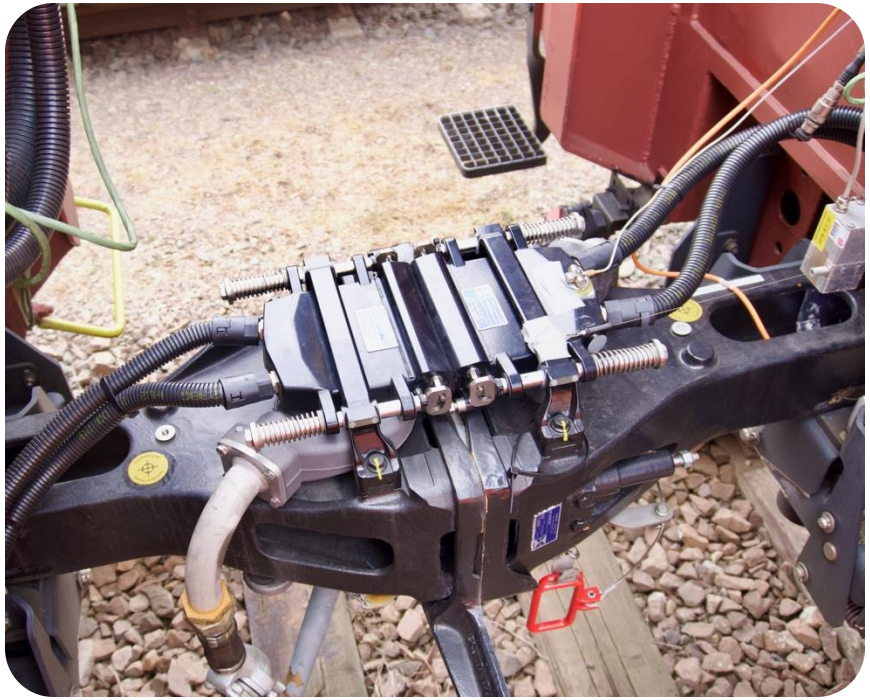
WP2 - “Mix and Match” test

Main Objectives

- Provide a **risk analysis** investigating the impact on the performance of the couplers directly related to the interchangeability of interface A in DAC
- Provide initial tests for first results of **interchangeability across different DAC suppliers**
- Create a **validation** plan based on the provided input from the risk analysis and tests



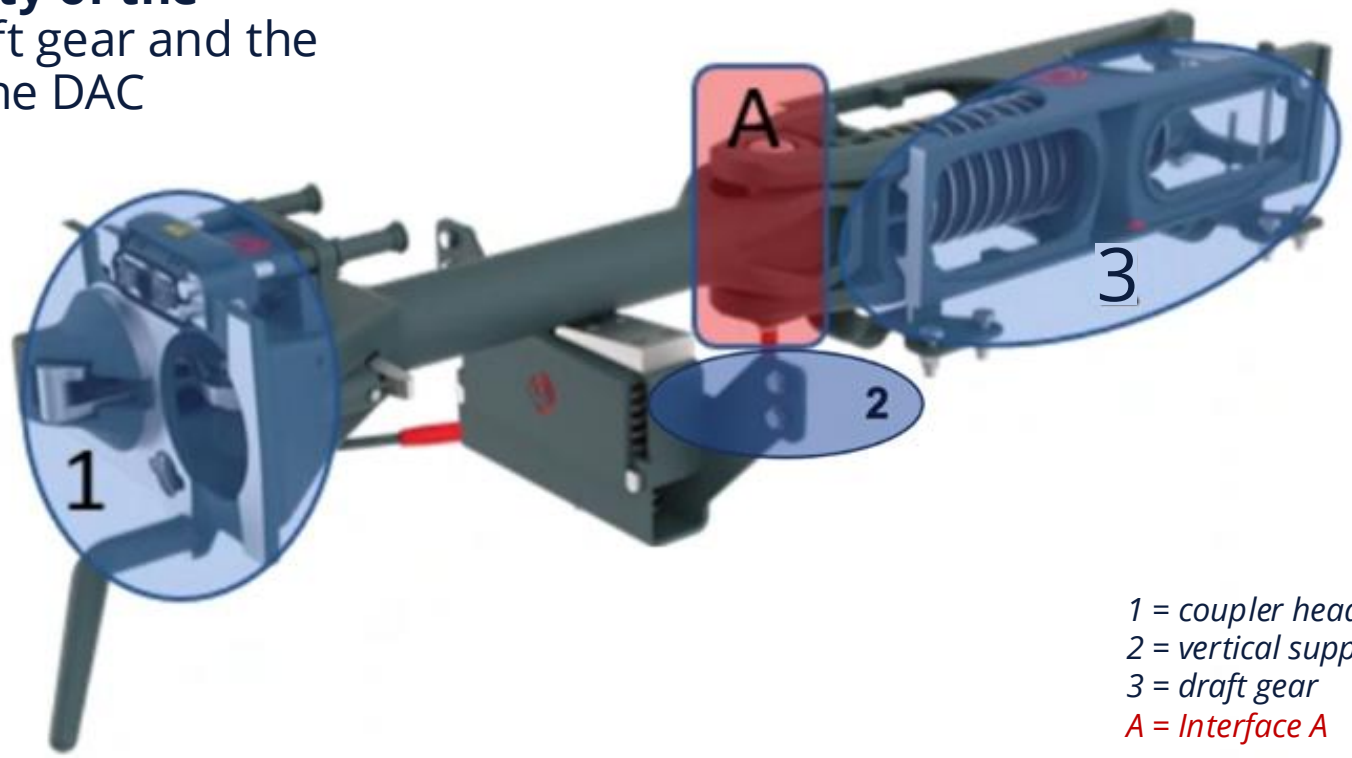
Involved Partners

KNORR-BREMSE, VOITH, PKP, TRAFIKVERKET, UIP, DB, DELLNER, Rail Cargo Group Member of ÖBB, Wabtec CORPORATION

WP2 – Interface A

Description and purpose

- Interface A is the **joint** between the DAC draft gear and the coupler head
- It is the enabler for **interchangeability of the components** draft gear and the coupler head in the DAC



1 = coupler head
2 = vertical support
3 = draft gear
A = Interface A

WP2 - “Mix and Match” test

Risk analysis and validation plan for mix and match

- **A risk analysis for mix & match**
  - The risk analysis should be investigating the impact on the performance of the couplers directly related to the interchangeability of interface A in DAC.

- A **validation plan for the interchangeability of interface A** in DAC will be derived if required based on the risk analysis.

WP2 - “Mix and Match” test

Test specification and setup

- **Identify and prioritise useful tests to gain understandings related to the interchangeability of interface A in DAC**.
  - The selected tests which will be looked into could be static installation test, derailment tests, maintenance tests, operability tests, impact tests and failure modes to analyse.
- **Test specifications will be defined** with the basis of available input from e.g. work package 1. Preparation works such as definition of test set-up, required assets, test location and measurement specifications will be carried out.

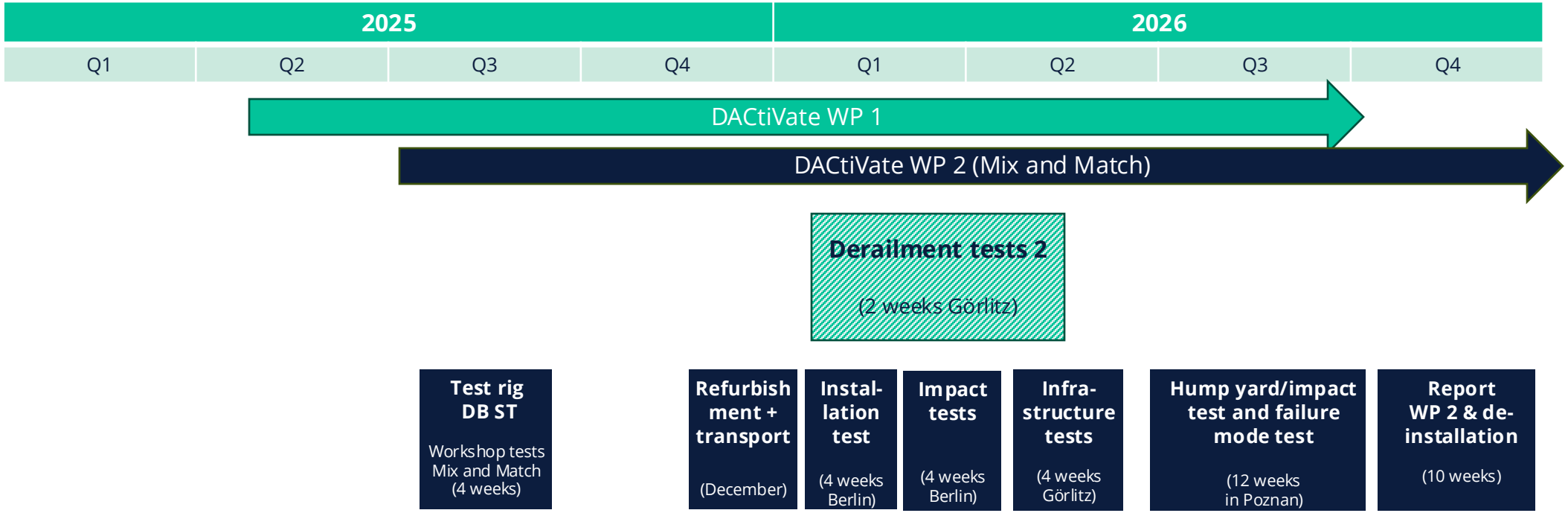
WP2 - “Mix and Match” test

Test execution and results evaluation

- Assets (20 DAC and wagons) from WP1 will be used.
- Tests will be executed according to test specifications and documented and provided as input for the risk analysis and validation plan.
- Tests are planned to be executed in Minden, Görlitz and Spandau in Germany as well as Poznan in Poland.

WP2 - “Mix and Match” test

Time schedule



Results will be published in two public deliverables:
D2.1 Test specification – due month 10 (September 2025)
D2.2 WP2 test reports (PU) – due month 25 (December 2026)

Work Package 3

Steffen Jass, Gyorgy Tarnai (Knorr-Bremse)

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WP 3: Dual Use Locomotive DAC Integration

Main Objectives

Provide and test the EDDP Basic Package equipment for the EuroDual Locomotive of HVLE

- ***Phase 1:*** Engineering and installation planning as well as installation tests, commissioning
- ***Phase 2:*** Re-Installation, re-commissioning, functional tests and validation

Involved Partners

STADLER hvle KNORR-BREMSE

Responsibilities of the partners in WP3

KNORR-BREMSE

- Provision of Hybrid DAC 5 system incl. lifting device
- Provision of Loco CCU incl. SPN network node, user interface app, 48V DC Power Supply
- Lead of functional commissioning tests

- D3.1 - Hybrid coupler for dual-use locomotive

STADLER

- Provision of loco Power Supply (400V AC)
- Provision of vehicle cabling for additional equipment
- Lead of vehicle integration of Hybrid Coupler and all control equipment

- D3.2 - Dual-use locomotive equipped with hybrid coupler

hvle

- Provision of the locomotive
- Provision of the workshop area for installation and testing facilities
- Lead of all testing and validation activities

- D3.3 - Validation document dual-use locomotive

WP4 - Wagon Onboard Units

Luc Imbert (Wabtec)

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WP4 - Wagon Onboard Units

Main Objectives

- Manufacturing and delivery of 27 Wagon OnBoard Unit prototypes
- Prototypes will be built according to the FP5-TRANS4MR specification
- The prototypes are needed for FP5-TRANS4MR's Train Test Lab

Example of CCU
By Wabtec

Involved Partners

Wabtec CORPORATION

KNORR-BREMSE

VOITH

Delivering WOBUs to FP5-TRANS4M-R

- In order to fulfil the testing needs in the Train Test Lab, additional Wagon Onboard units are needed. This work package is dedicated to ensuring the prototypes will be available for testing.
- The partners Wabtec, Knorr Bremse and Voith have agreed to equally share and provide **9 prototypes each**.

Example of CCU by Wabtec

WP5 - Legacy Locomotives DAC Integration

Szymon Finke (Polskie Koleje Panstwowe SA)

The project FP5-DACtiVate is supported by the Europe's Rail Joint Undertaking and its members.

WP 5 Legacy Locomotives DAC Integration

Main Objectives

- Conduct functional testing of key train features (composition, length determination, integrity monitoring, decoupling, brake testing) on retrofitted locomotives based on **FP5-TRANS4M-R specifications**.
- Develop and deliver integration analysis and documentation for authorization purposes, focusing on **SM42 (shunting)** and **ET22 (mainline)** locomotives.
- Demonstrate the viability of a standalone FDFT retrofit kit on a legacy locomotive, with component contributions from **Wabtec** and **Voith**, and full integration support by **PKP**.

Involved Partners

PKP VOITH Wabtec CORPORATION Łukasiewicz PKPCARGO

Task 5.1

Installation of hybrid-coupler on a legacy locomotive SM42

- Deliver a standalone FDFT system kit to retrofit legacy locomotives
- Functionally demonstrate the system's viability on at least one locomotive
- Develop a complete documentation set required for the authorization of the locomotive

- The FDFT system, based on the EDDP basic package, will be provided for PKP's **SM42 shunting locomotive**
- All new technology contributions are based on specifications or results from the FP5-TRANS4M-R project

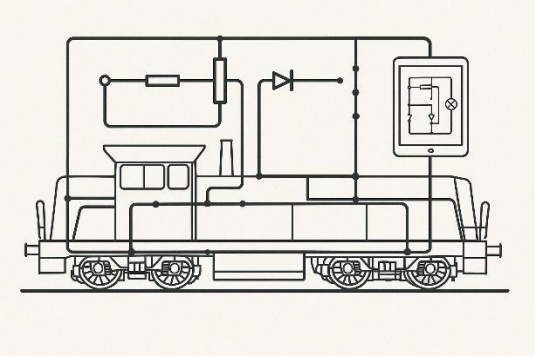
Task 5.1

Installation of hybrid-coupler on a legacy shunting locomotive SM42

Hybrid-Digital-Automated-Coupler system

Hybrid-Digital-Automated-Coupler system

Human Machine Interface (HMI)



Wires

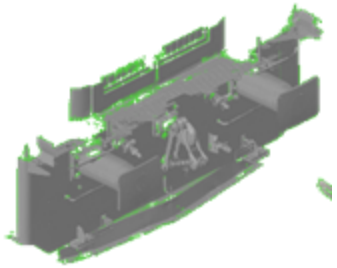
Locomotive Control Unit (LCU)

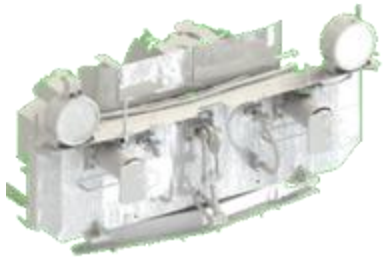
Power supply

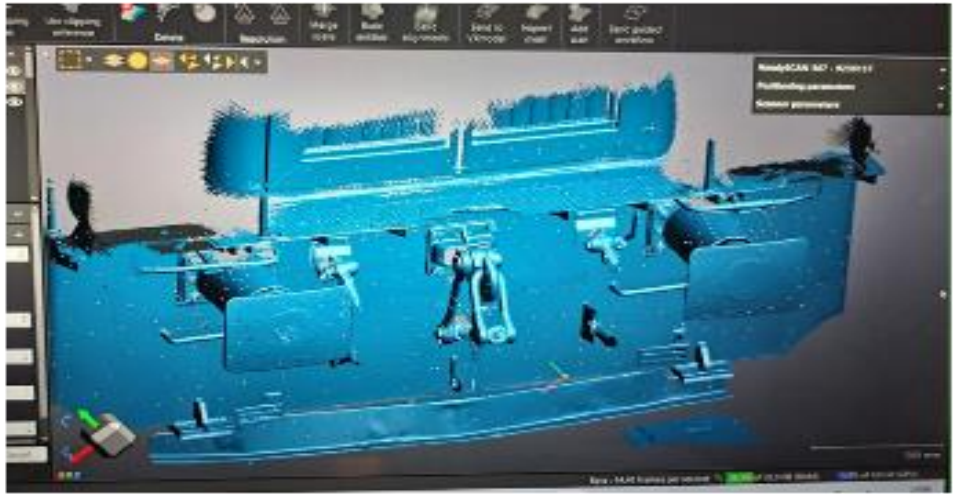
Task 5.2

Detailed integration analysis of hybrid-coupler on a legacy mainline locomotive ET22

- Detailed integration analysis of the mainline **ET22 locomotive,** and to establish the documentation set for the authorization documentation
- PKP will carry out the analysis, whereas Voith and Wabtec will support the task with available component documentation and basic technical advice if required





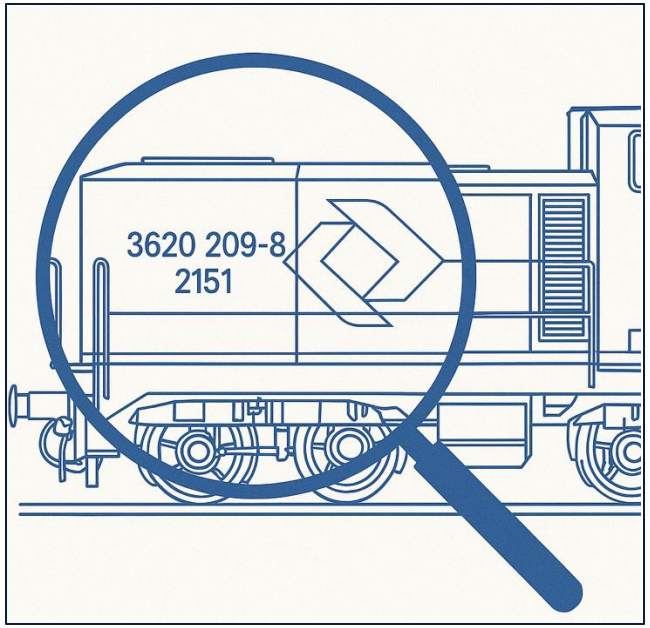


Task 5.3

Functional Tests and Documentation

The locomotive functional testing will be led by PKP, supported by Wabtec and Voith. In this context, **the following train functions will be tested** as technically specified and validated in the FP5-TRANS4M-R project:

- train composition
- train length determination
- train integrity monitoring
- decoupling of consists
- automated brake testing

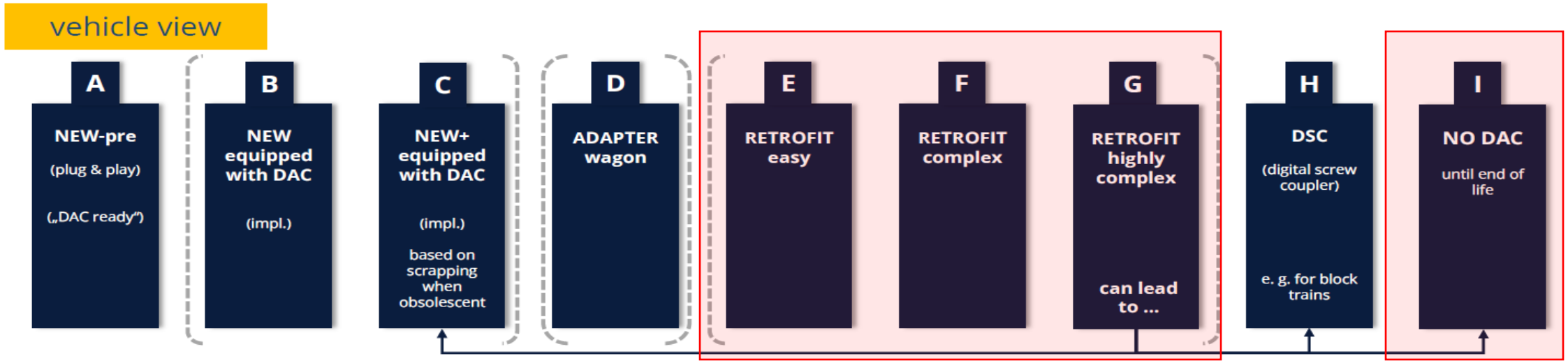


The adaptation for the SM42 locomotive of the generic authorization plan established in the FP5-TRANS4M-R project will be led by PKP. The authorization process of the tested new equipment and functions is not part of this project.

Outcomes

WP5 Legacy Locomotives DAC Integration

Technical Evaluation: **Which Legacy Locomotives Types Are Suitable for Hybrid DAC Implementation and is It Economically Justifiable?**



WP5 is going to analyze Locomotive type ET22 and SM42

Dissemination and Communication

Fabian Acker (DB Cargo AG)

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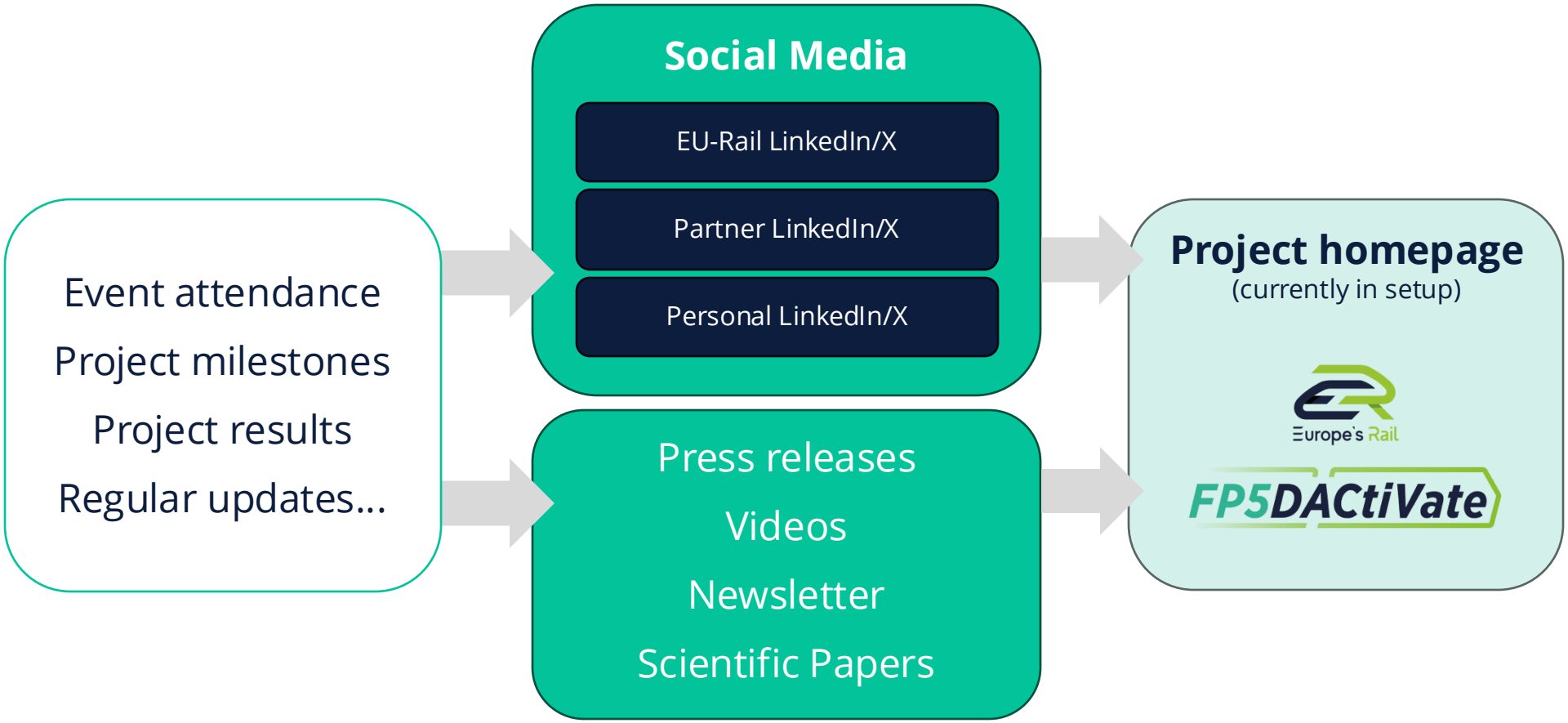
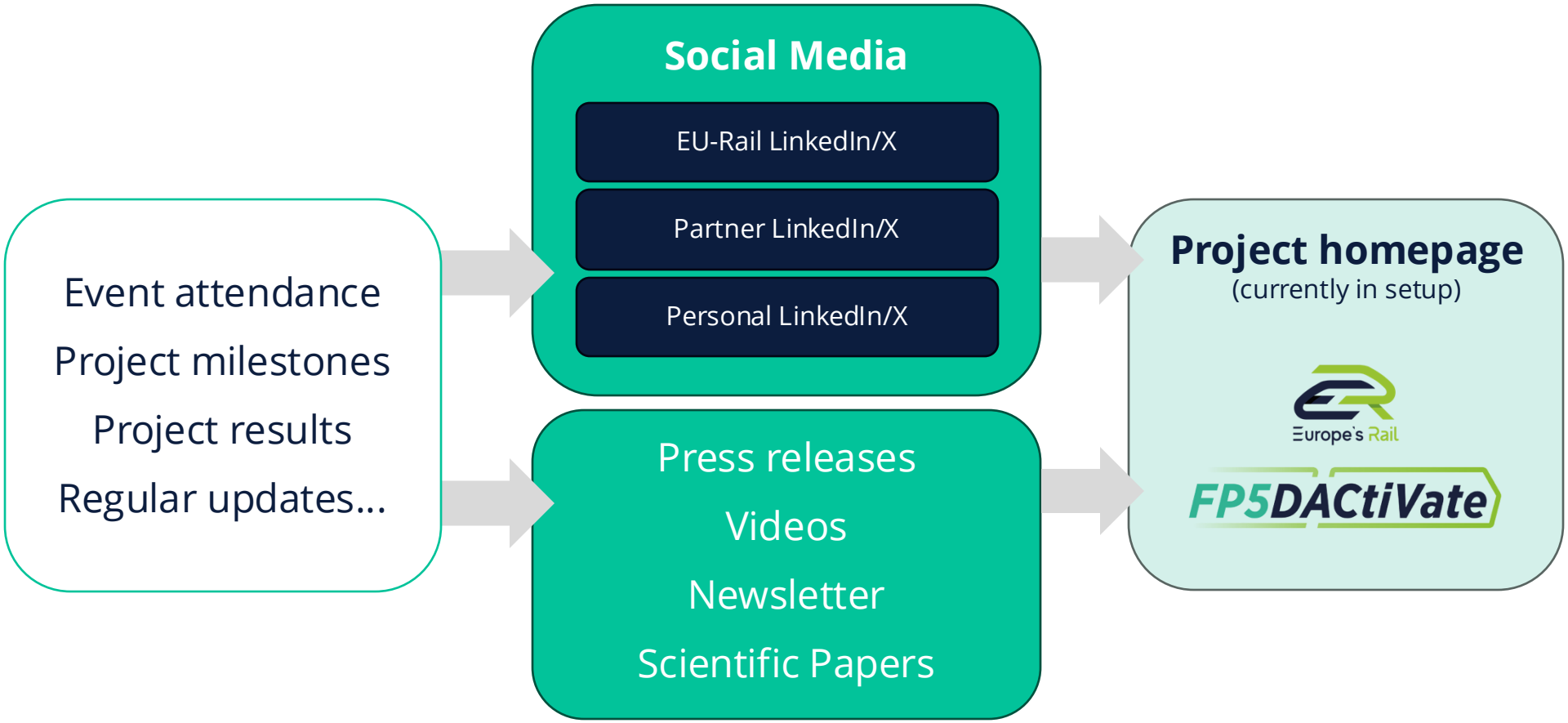
Stay up to date about the DAC and the project



Stay up to date about the DAC and the project



Follow these hashtags on LinkedIn/X to stay up to date:
#DAC #FP5 #DACtiVate #EU_Rail

Final remarks and closing

Marc-André Sahba (DB AG)

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More information and regular updates on the project homepage

FP5-DACtiVate Partners

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Member of ÖBB

TRAFIKVERKET

VOITH

Wabtec
CORPORATION

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