



COUNTRY FICHE *GERMANY*

SPECIFIC INFORMATION

A: Legal Basis:

Art 20.9 of the Single Basic Act: The SRG shall report to the GB, and act as an interface with the JU, on the following matters:	Status of relevant national/regional R&I programmes
	Identification of cooperation areas including concrete actions for deployment/uptake of technologies/innovative solutions
	Dissemination events, communication activities
	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: Specific Information – *to be filled in by each SRG representative and submitted to the EU-RAIL JU before SRG meetings:*

1. Potential synergies and complementarities with EU-RAIL JU

a. Priority areas linked and/or related to EU-RAIL JU activities:

EU-RAIL JU area	Country's priority area

b. Priority areas linked and/or related to EU-RAIL specific objectives (art 85(2) SBA)

EU-RAIL Specific Objectives	If any Country's objectives (in prioritization 1st, 2nd, 3rd..) - With specific reference to national project developed <i><u>Note:</u> presentation to be delivered at SRG meetings on project details for sharing or publication on EU-RAIL website</i>	Suggestions for potential synergies with on-going EU-RAIL projects Please note that the list of national projects relevant to ERJU is not exhaustive and may be updated as necessary.



facilitate research and innovation activities to deliver an integrated European railway network by design, eliminating barriers to interoperability and providing solutions for full integration, covering traffic management, vehicles, infrastructure also including integration with national gauges, such as 1 520, 1 000 or 1 668 mm railway, and services, and providing the best answer to the needs of passengers and businesses, accelerating uptake of innovative solutions to support the Single European Railway Area, while increasing capacity and reliability and decreasing costs of railway transport;		Projects funded by the German Government (ongoing projects) • Magnetic card-based positioning using magnetic profile analysis for rail vehicles¹ • GINT-Gigabit Innovation Track² • Safety assessment of infrastructure structures using digital technologies – Takeoff for practical application (AISTEC-PRO)³ • MINOS⁴ - Real-time data service for emergency vehicles - forecast for delay-free crossing of trackside level crossings • DigiOnTrack⁵ - Increasing the future viability of local rail passenger transport through sensors, artificial intelligence and shared data use
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¹ <https://www.bmv.de/SharedDocs/DE/Artikel/DG/mfund-projekte/mzls.html>

² <https://www.bmv.de/SharedDocs/DE/Artikel/DG/InnoNT-Projekte/gint.html>

³ https://www.sifo.de/sifo/shareddocs/Downloads/P-Umriss/projektumriss_aistec-pro.pdf?_blob=publicationFile&v=2

⁴ <https://i3mainz.hs-mainz.de/projekte/minos/>

⁵ <https://www.bmv.de/SharedDocs/DE/Artikel/DG/mfund-projekte/digiontrack.html>



		• AIFRI⁶ - Artificial Intelligence For Rail Inspection • NDEface-V⁷ - Development of a universal NDE data interface for the optimisation of design and maintenance for rail vehicles - feasibility study • Digital Approval of 3D-printed components for rail vehicles - DIGIZUG⁸ DZSF: planned projects for 2025 • Validation of the calculation method for the vibration behavior of overhead lines with multiple pantographs
deliver a sustainable and resilient rail system by developing a zero-emission, silent rail system and climate resilient infrastructure, applying circular economy to the rail sector, piloting the use of		Projects funded by the German Government (ongoing projects)

⁶ <https://www.bmv.de/SharedDocs/DE/Artikel/DG/mFUND/Aktuell/mpact-big-data.html>

⁷ <https://www.bmv.de/SharedDocs/DE/Artikel/DG/mfund-projekte/ndeface-v.html>

⁸ <https://digizug.de/>



innovative processes, technologies, designs and materials in the full life-cycle of rail systems and developing other innovative solutions to guided surface transport;		• Energy-efficient coordination and control of rail traffic in real time - EKSSE⁹ • Tree vitality monitoring and modeling of drought-related risks along railroads with remote sensing and dendroecology - RailVitaliTree¹⁰ • Modular scalable energy storage system for sustainable local rail passenger transport - MOSENAS¹¹ DZSF: planned projects for 2025 • Optimization of measures to reduce wildlife accidents on railways
develop through its System Pillar a unified operational concept and a functional, safe and secure system architecture, with		Projects funded by the German Government (ongoing projects)

⁹ <https://www.scs.fraunhofer.de/de/referenzen/EKSSE.html>

¹⁰ https://www.dzsf.bund.de/SharedDocs/Standardartikel/DZSF/Projekte/Projekt_168_RailVitaliTree.html?nn=1692966#doc1860512bodyText6

¹¹ <https://www.dlr.de/de/ve/forschung-und-transfer/projekte/2022/projekt-mosenas>

due consideration of cyber-security aspects, focused on the European railway network to which Directive (EU) 2016/797 of the European Parliament and of the Council applies, for integrated European rail traffic management, command, control and signalling systems, including automated train operation which shall ensure that research and innovation is targeted on commonly agreed and shared customer requirements and operational needs and is open to evolution;		• AutomatedTrain¹² • Railaix¹³ - Development and testing of an AI-based environment detection in the track area for driverless rail transport • QUDIS – Quantum-secure digital rail¹⁴ • SQUIRRL - Secure quantum infrastructure for road, rail, and air transport¹⁵ DZSF: planned projects for 2025 • Manipulation of satellite position data in the rail sector through GNSS spoofing and jamming • Emergency and incident management in ATO GoA 3 and GoA 4
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¹² <https://verkehrslage.vkw.tu-dresden.de/de/forschung-1/projekt-automatedtrain-zuege-fahren-vollautomatisiert-und-fahrerlos>; [Deutsche Bahn und Industrie erproben vollautomatisiertes Fahren von Zügen](#)

¹³ <https://www.bmv.de/SharedDocs/DE/Artikel/DG/mfund-projekte/railaixs.html>

¹⁴ <https://www.forschung-it-sicherheit-kommunikationssysteme.de/projekte/qudis>

¹⁵ <https://www.forschung-it-sicherheit-kommunikationssysteme.de/projekte/squirrl>

		• Investigation of the acoustic effect of whistles as warnings in rail transport > ATO • Data basis for the attractive and safe operation of individual rail transport on reactivated railway lines - REAKT-DATA¹⁶
facilitate research and innovation activities related to rail freight and intermodal transport services to deliver a competitive green rail freight fully integrated into the logistic value chain, with automation and digitalisation of freight rail at the core;		Projects funded by the German Government (ongoing projects) • Development of a showcase platform for the free display of standardized timetables for combined transport - EiFa-S¹⁷ • Demonstration of quantum advantages for mobility and logistics (NaQuaMo)¹⁸

¹⁶ <https://www.bmv.de/SharedDocs/DE/Artikel/DG/mfund-projekte/reakt-data.html>

¹⁷ <https://www.bmv.de/SharedDocs/DE/Artikel/DG/mfund-projekte/eifa.html>

¹⁸ <https://www.quantensysteme.info/projektatlas/projekte/q/naquamo>



		• Data-based automated vehicle for the last mile – DAWN-LM¹⁹ • General exchange platform for the complete recording of road and rail vehicles - GAPLESS²⁰
develop demonstration projects in interested Member States;		DAC4EU ²¹
contribute to the development of a strong and globally competitive European rail industry;		Projects funded by the German Government (ongoing projects) • Development of a data space in the international railway industry using cloud-edge technology for data collection and processing (Railway-X)²² DZSF: planned projects for 2025

¹⁹ <https://www.bmv.de/SharedDocs/DE/Artikel/DG/mfund-projekte/dawn-lm.html>

²⁰ <https://www.bmv.de/SharedDocs/DE/Artikel/DG/mfund-projekte/gapless.html>

²¹ <https://www.bmv.de/SharedDocs/DE/Artikel/E/schiene-innovationen-forschung/schienengueterverkehr-digitale-automatische-kupplung-dak.html>

²² https://www.bundeswirtschaftsministerium.de/Redaktion/DE/Publikationen/Digitale-Welt/manufacturing-x-programm.pdf?__blob=publicationFile&v=25



		• Employment Impact 2.0 – Multimethod analysis of rail-specific labor market data and strategies for recruiting skilled workers
enable, promote and exploit synergies with other Union policies, programmes, initiatives, instruments or funds in order to maximise its impact and added value.		German national calls/funding schemes, see https://www.foerderdatenbank.de/FDB/DE/Home/home.html

2. Measures concerning deployment activities in relation to the JU

DAC4EU, EULynx

3. Specific project-level dissemination events, communication activities

DZSF-Dissemination events by topic or by project:

https://www.dzsf.bund.de/DZSF/DE/Veranstaltungen/veranstaltungen_node.html;jsessionid=01BC0ECB9F36AAA36788AC55BF231F0E.live21301