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TRANSPORT, MOBILITY AND LOGISTICS
BERLIN BRANDENBURG

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Rail Systems Technology in Berlin-Brandenburg
Support for Contribution to Shift2Rail

Lutz Hübner
Project Manager Transport | Mobility | Logistics
Rail Systems Technology

Phone +49 30 46302-573
Mobile +49 172 994 75 73
lutz.huebner@berlin-partner.de

Berlin Partner für Wirtschaft und Technologie GmbH
Fasanenstr. 85 | 10623 Berlin | Germany

www.berlin-partner.de
www,businesslocationcenter.de

ERCI
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The Cluster Transport, Mobility and Logistics Berlin-Brandenburg is Partner of the **European Railway Clusters Initiative (ERCI)**

EUROPÄISCHE UNION
Europäischer Fonds für regionale Entwicklung

THE GERMAN CAPITAL REGION
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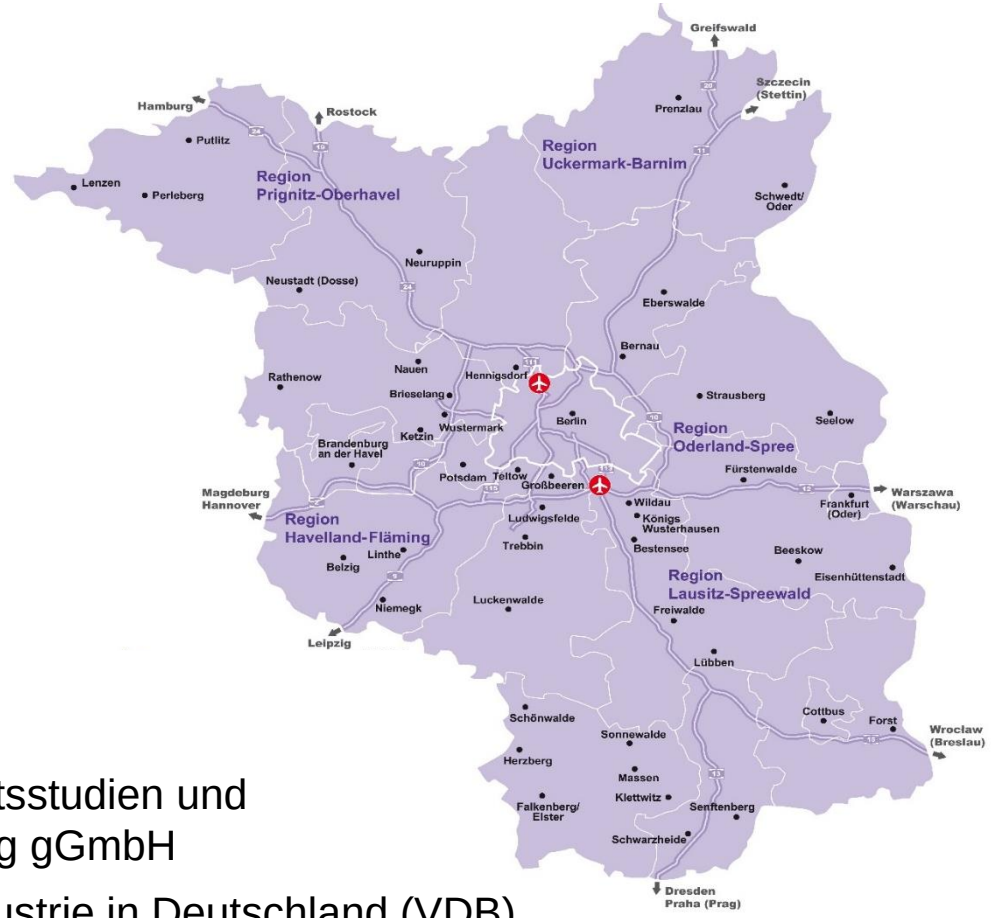
Cluster Transport, Mobility and Logistics Berlin-Brandenburg
Contribution to finished/ongoing Shift2Rail Projects



Shift2Rail Members

- ConTraffic GmbH
- Deutsche Bahn AG
- IZT Institut für Zukunftsstudien und Technologiebewertung gGmbH
- Verband der Bahnindustrie in Deutschland (VDB)
- Bombardier Transportation GmbH

Contribution to Shift2Rail Open Calls

- Contecht GmbH
- EURNEX e. V.
- Forster SMT GmbH
- Havelländische Eisenbahn AG
- IAV Ingenieurgesellschaft für Auto und Verkehr GmbH
- Schrey & Veit GmbH
- Technische Universität Berlin
- VBB Verkehrsverbund Berlin-Brandenburg GmbH
- Witt Industrieelektronik GmbH

Cluster Transport, Mobility and Logistics Excellence to the Call Topics

	S2R-OC-IP1-01-2020	S2R-OC-IP1-02-2020	S2R-OC-IP1-03-2019	S2R-OC-IP2-01-2020	S2R-OC-IP2-02-2020	S2R-OC-IP3-01-2020	S2R-OC-IP3-02-2020	S2R-OC-IP3-03-2020	S2R-OC-IP4-01-2020	S2R-OC-CCA-01-2020
Bundesanstalt für Materialforschung und Prüfung (BAM)										
CERSS Ltd										
Deutsche Eisenbahn-Service GmbH (DESAG)										
Forschungsbahnhof GmbH										
Hochschule für Technik und Wirtschaft Berlin (HTW)										
Hörmann Vehicle Engineering GmbH										
hotsplots GmbH										
IAV GmbH										
IVU Traffic Technologies AG										
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Pilz GmbH & Co KG										
ROBEL Bahnbaumaschinen GmbH										
Schrey & Veit GmbH										
SIGNON Deutschland GmbH										
SIUT GmbH										
Technische Universität Berlin, Chair of Rail Vehicles										
Witt Solutions GmbH										

Cluster Transport, Mobility and Logistics Contributions, Ideas

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S2R-OC-IP1-01-2020 (RIA) - Support to Development of next generation of Traction systems (TD1.1)

- Software system for vehicle run optimization and track occupancy planning in stations
- AI methods in the field of predictive maintenance of rail vehicles → Wide experience from the INNOWAG project, leadership in WS4

S2R-OC-IP1-02-2020 (IA) - Technical solutions for the next generation of TCMS

- Software system for ITCS
- WS3: Develop methodology for SIL4 function development for FDF, including transfer of experience from aerospace SW development and certification
- WS3: Perform independent safety studies for DbD, FDF and Wireless TCMS.

S2R-OC-IP1-03-2020 (RIA) - Innovative technologies for Carbodies and Running Gear of the future

- Online monitoring of wheelset axles using guided ultrasonic waves
- Improved noise and vibration control by innovative approaches on vibration absorption at the wheel
- Easing the application of noise reduction measures due to standardized specification / assessing approaches

S2R-OC-IP2-01-2020 (RIA) - Modelling of the Moving Block system specification and support for Railway Minimum Operational Performance Standards

- WS1: Perform modelling and model-based analysis of Moving Block system, applying MBSE/SysML methodology including methodology enhancements supporting safety aspects
- WS2: Perform safety analyses on candidate approaches and architectures for fail-safe train localization

S2R-OC-IP2-02-2020 (RIA) - Study on alternative bearers and on communication protocols

- Software system for ITCS and passenger information

Cluster Transport, Mobility and Logistics Contributions, Ideas

S2R-OC-IP3-01-2020 (RIA) - Next Generation Track Transition Zones

- Assessing noise related design parameters for improved track systems: integrated spare part improvement in combination with adaptive measures
- Assessing the reliability of the infrastructure

S2R-OC-IP3-03-2020 (RIA) - On track machines shift to collaborative robots (TD3.8)

- Machine learning and data fusion for clever and smart evaluation of non-destructive rail testing data (ET, UT, VT) to optimize rail maintenance
- WS1: Contribute extensive experience on ROS (Robot Operating System), autonomy, and collaboration. Participate in developing system architecture, safety analysis and SW development for demonstrator.

S2R-OC-IP4-01-2020 (IA) - Supporting the implementation of the IP4 ecosystem

- **Idea**: Making train stations smarter
- **Contribution**: Providing/displaying information and guidance signals to passengers in train stations using products based on ultra-high-performance concrete and optical fibers.
- Equipment of train stations with robust concrete display systems applicable to walls and floors.
- Examples for information to be displayed: (1) Status and function of escalators and elevators (floor), (2) the most favorable waiting zone for passengers based on the current train load (floor), (3) stop and door position of the train (floor), (4) situational information, e.g. directions to rail replacement transport (wall & floor)