

IRSA 2023 PROGRAMM



4. International Railway Symposium Aachen

22. bis 23. November 2023 im Eurogress, Aachen

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VERANSTALTER



PARTNER





22.11.2023

BRUSSELS HALL (German talks, simultaneous translation)

09.30

Opening Remarks

*Prof. Dr. Christian Schindler, RWTH Aachen
Manuel Bosch, DVV Media Group GmbH*

9.45

Prospects for rail transport in Germany and the political framework

*Prof. Dr. Corinna Salander, Bundesministerium für
Digitales und Verkehr (BMDV)*

10.10

Keynote 2

Prof. Dr. Lutz Eckstein, VDI e.V.

10.30

Coffee Break

11.00

All signals point to the future! Deutsche Bahn's long-distance transport strategy

Dr. Thomas Hempe, DB Fernverkehr AG

11.30

Less complexity – more rail

Daniel Scherrer, SBB CFF FFS

12.15

Lunch

ROOM K1 (German talks, simultaneous translation)

13.30–13.55	Future of Rail Transport	Deutschland-Takt: Sprinting and being on time – is that possible? <i>Dr. Felix Berschin, Ramboll Deutschland GmbH</i>
13.55–14.20	Future of Rail Transport	Artificial intelligence in rail applications – new attack vectors and protective mechanisms <i>Jan Malte Hilgefort, ESE Engineering und Software-Entwicklung GmbH</i>
14.20–14.45	Future of Rail Transport	Reversing under ETCS L2 in commercial operation <i>Dr. David Grabowski, SBB AG</i>
14.45		Coffee Break
15.15–15.40	Timetable Design	A new approach to creating robust, low-disruption operational concepts in highly Congested networks <i>Giorgio Medeossi, Trenolab Srl</i>
15.40–16.05	Timetable Design	Supplementing track capacity planning processes with railway operations science approaches <i>Dr. Alexander Kuckelberg, VIA Consulting & Development GmbH</i>
16.05–16.30	Timetable Design	Rolling week-by-week construction planning from the perspective of an infrastructure manager and a railway undertaking - effects and advantages from the perspective of DB Netz and DB Fernverkehr <i>Tobias Mohn, DB Fernverkehr AG</i> <i>Dr. Daniel Pöhle, DB Netz AG</i>
16.30		Coffee Break
17.00–17.25	Wheel-Rail II	Practical wheel wear forecast for the series 423 – the digital twin as an approach to information value creation <i>Sebastian Wilbrecht, Technische Universität Dresden</i>
17.25–17.50	Wheel-Rail II	Investigations of friction behavior in the wheel-rail contact when using railhead conditioning agents <i>Dr. Dani Bechev, Lubricant Consult GmbH</i>
19.00		Dinner Reception

ROOM K2 (German talks, simultaneous translation)

13.30–13.55	Automation	Digital monitoring and automation in rail freight transport <i>Günter Petschnig, PJ Monitoring GmbH</i>
13.55–14.20	Automation	Operational Impacts of ETCS and ATO using the Example of a non-federally owned railway <i>Frederic Raths, Rurtalbahn GmbH</i>
14.20–14.45	Automation	The Assisted Brake Test as a Bridge to Full Automation of Rail Freight Transport <i>Prof. Dr. Manfred Enning, FH Aachen</i>
14.45		Coffee Break
15.15–15.40	Energy Supply	Innovative Rail Energy Supply for the rapid electrification of the Eifel Routes <i>Jan Pape, Technische Universität Dresden</i>
15.40–16.05	Energy Supply	Use of Liquid Organic Hydrogen Carriers in Rail Vehicles <i>Dr. Julian Kadar, Helmholtz-Institut Erlangen-Nürnberg für Erneuerbare Energien (HI ERN)</i>
16.05–16.30	Energy Supply	HYPP (Hydrogen Power Pack) – A second life with a green heart <i>Gregor Reitz, ISATEC GmbH</i>
16.30		Coffee Break
17.00–17.25	Vehicle Technology I	Track maintenance vehicle on the path to autonomy <i>Dr. Bernhard Wilhelm Lichtberger, System7 railsupport GmbH</i>
17.25–17.50	Vehicle Technology I	Intelligent primary spring level – from condition monitoring of system-critical components to predictive maintenance concepts <i>Dr. Bernhard Kager, Engenium GmbH</i>
19.00		Dinner Reception

ROOM K4+5

13.30–13.55	Infrastructure + Operation	Bane NOR's utilisation of network Total condition grade for renewal planning <i>Thomas Benjamin Frogner, Bane NOR</i>
13.55–14.20	Infrastructure + Operation	ACHILLES: handling uncertainty in railway earthworks maintenance and renewals <i>Dr. John Armstrong, University of Southampton</i>
14.20–14.45	Infrastructure + Operation	Analysis of Railway Operation Efficiency: A Case Study of Mixed Operation Services on Thailand's Southern Line <i>Dr. Waessara Weerawat, Mahidol University</i>
14.45		Coffee Break
15.15–15.40	Wheel Rail I	Reduction of wheel and rail wear by application of actuators in the primary suspension of an articulated tram <i>Jan Vrba, Czech Technical University (CTU)</i>
15.40–16.05	Wheel Rail I	Impact prediction of higher operating speeds on wheel wear of a high-speed train <i>Dr. Xin Ding, CRRC CHANGCHUN Germany RailTech GmbH</i>
16.05–16.30	Wheel Rail I	A wheel-rail electrical contact experiment at the laboratory scale <i>Luna Ammar Haydar, Centralesupelec</i>
16.30		Coffee Break
17.00–17.25	Mobility Management	Impact of access to rail transit on mode choice in rural regions of Germany <i>Fabian Kühnel, ISB RWTH Aachen</i>
17.25–17.50	Mobility Management	Optimising service networks for rail freight transport between China and Europe <i>Jing Shan, TU Dresden</i>
19.00		Dinner Reception



23.11.2023

ROOM K1 (German talks, simultaneous translation)

09.00–09.25	Capacity Management I	Determination of the performance capability for train reporting points in railway networks <i>Alexander Fink, Universität Stuttgart</i>
09.25–09.50	Capacity Management I	Determination of railway line capacity considering network effect <i>Maren Maus, Verkehrswissenschaftliches Institut RWTH Aachen</i>
09.50–10.15	Capacity Management I	Extended approaches for determining the additional load on diversion routes for network-wide preventive planning using Infrastructure Utilisation <i>Jonathan Hecht, VIA Consulting & Development GmbH</i>
10.15		Coffee Break
10.45–11.10	Maintenance of Infrastructure	Impact model and procedure for the development of quality-oriented maintenance strategies in railway infrastructure <i>Lea Elfert, Karlsruher Institut für Technologie (KIT)</i>
11.10–11.35	Maintenance of Infrastructure	Assessment of the infrastructure condition of railway stations – development of a key indicator <i>Hakan Aktaş, DB Station&Service AG</i>
11.35–12.00	Maintenance of Infrastructure	Establish the cause-effect relationship between the use of funds and the network condition score <i>Dr. Björn Dickenbrok, DB Netz AG</i>
12.00–13.00		Lunch

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ROOM K1 (German talks, simultaneous translation)

13.00–13.25	Capacity Management II	Investigation of the Performance of Route Interchanges in Regular and Disruption Cases – Development of a Methodology for Comparative Analysis of Infrastructure Planning Paradigms in Europe <i>Maïke Krips, DLR Institut für Verkehrssystemtechnik</i>
13.25–13.50	Capacity Management II	Identification of capacity bottlenecks <i>Philipp Scherer, quattron management consulting GmbH</i>
13.50–14.15	Capacity Management II	Development of a dimensioning procedure for marshalling yards based on mathematical optimisation <i>Dr. Jan Eisold, Technische Universität Dresden</i>
14.30–14.45		Closing Remarks
14.45		End

ROOM K2 (German talks, simultaneous translation)

09.00–09.25	Tram Technology	Optimisation of maintenance for tram tracks through intelligent monitoring using smartphone sensors <i>Philipp Leibner, RWTH Aachen</i> <i>Dr. Thomas Hempel, Siemens Mobility GmbH</i>
09.25–09.50	Tram Technology	Reliability analysis of an AI-supported maintenance system for tram wheels <i>Timo Schmitz, i4M technologies GmbH</i>
09.50–10.15	Tram Technology	Acoustic optimisations for low-loise rail vehicle wheels in urban areas with a focus on the effect against rail squealing <i>Torben Felix Lehnert, Gutehoffnungshütte Radsatz GmbH</i>
10.15		Coffee Break
10.45–11.10	Vehicle Technology II	Simulation-based evaluation of innovative vehicle technologies and their control <i>Oliver Garack, Hörmann Vehicle Engineering GmbH</i>
11.10–11.35	Vehicle Technology II	Bogie health monitoring using acoustic data <i>Dr. Yan Niu, Alstom Transportation Germany GmbH</i>
11.35–12.00	Vehicle Technology II	Crashworthiness design of a light commuter rail vehicle operating on secondary lines <i>Nutchanon Prasomsuk, IFS RWTH Aachen</i>
12.00–13.00		Lunch
13.00–13.25	Block pending	N.N.
13.25–13.50	Block pending	N.N.
13.50–14.15	Block pending	N.N.
14.15		End

ROOM K4+5

09.00–09.25	Hydrogen Technology	Comparison of simulative methods for dimensioning of fuel cell-battery hybrid powertrains in FCH2Rail and Virtual-FCS <i>Marcel Scharmach, Deutsches Zentrum für Luft- und Raumfahrt (DLR)</i>
09.25–09.50	Hydrogen Technology	Development of the world's first hydrogen-powered narrow-gauge train <i>Nikolaus Fleischhacker, FEN Sustain Systems GmbH</i>
09.50–10.15	Hydrogen Technology	Waste Energy AC Technologies in H2 Multiple Units <i>Markus Kordel, Deutsches Zentrum für Luft- und Raumfahrt (DLR)</i>
10.15		Coffee Break
10.45–11.10	Decarbonisation	The role of rail for a decarbonised transport in a changing climate: Balancing capital carbon investment with carbon reduction from modal shift <i>Max Hemmerle, Arup Deutschland GmbH</i>
11.10–11.35	Decarbonisation	Decarbonisation Potential of Passenger Rolling Stock <i>Johannes Wilhelmer, Stadler Rail AG</i>
11.35–12.00	Decarbonisation	Potential of Sodium-ion batteries in the context of rail-bound mobility <i>Nicolas Kaiser, RWTH Aachen</i>
12.00–13.00		Lunch
13.00–13.25	Freight Traffic Automation	Decoupled integration of automation functions for non-productive operation <i>Prof. Dr. Raphael Pfaff, FH Aachen</i>
13.25–13.50	Freight Traffic Automation	Virtual Reality and Digital System Twins in the Development and Testing of Trainable Highly Automated Driving Decision Making in Shunting Operations <i>Steffen Schäfer, Technische Hochschule Nürnberg</i>
13.50–14.10	Freight Traffic Automation	Generic description of a shunting yard using the 7-Layer Shunting Model as a basis for the scenario definition of automated shunting functions <i>Lucas Greiner-Fuchs, Technische Hochschule Nürnberg</i>
14.15		End