We have the pleasure to invite you to the

**Final Conference
of the Shift2Rail JU Funded
CCA Projects**

FINE1 and OPEUS

**to be held at UIC in Paris
on 17 October 2019**

For more information about these projects, please contact:

Haike Brick for FINE1 at haike.brick@rail.bombardier.com, or

Christine Hassoun for OPEUS at hassoun@uic.org.

Detailed Programme
FINE1 & OPEUS Final Conference

17 October 2019
UIC Espaces Congrès
16 Rue Jean Rey, 75015 Paris, France

9:30 -10:30: Registration and welcome coffee

10:30-11:30: Joint high-level session
- FINE1 Coordinator – Haike Brick
- OPEUS Coordinator – Roberto Palacin
- DESTINATE Coordinator – Jenny Böhm
- Shift2Rail Joint Undertaking Representative – Judit Sandor
- DG RTD Representative – William Bird

11:30-12:30: Parallel Sessions

1. FINE1 session on 'Noise' Room George Stephenson	2. FINE1 & OPEUS joint session on 'Energy' Room Friedrich List
▪ *11:30-11:45:* **Introduction of the FINE1 Noise & Vibration sub-project** (*Haike Brick, Bombardier Transportation*) ▪ *11:45-12:30:* **Auralisation & Visualisation** (*Rüdiger Garburg, Deutsche Bahn; Jenny Böhm, TU Berlin*)	**Cluster 1: Introduction and case studies (11:30-12:30)** ▪ *11:30-11:40*: Introduction of the FINE1 Energy sub-project (*Henry Völker, Bombardier Transportation*) ▪ *11:40-11:50*: OPEUS Tool – a look inside (*Lukas Pröhl, University of Rostock*) ▪ *11:50-12:05*: Energy case study 1 - Simulation of hybrid electric trains using OPEUS tool (*Tony Letrouvé, SNCF; Dinh An Nguyen, SAFT*) ▪ *12:05-12:20*: Energy case study 2 – Traction energy losses analysis (*Maria Marsilla, Stadler*) ▪ *12:20-12:30*: Facilitated discussion, Q&A

12:30-13:30: Lunch

13:30-16:00: Parallel Sessions

1. FINE1 session on 'Noise' Room George Stephenson	2. FINE1 & OPEUS joint session on 'Energy' Room Friedrich List
▪ *13:30-13:50*: **Technical assessment and integration of N&V tasks on system level** *(Dennis Fast, Bombardier Transportation)* ▪ *13:50-14:10:* **Traffic noise scenarios and baseline for evaluation and monitoring of noise effects in S2R innovations** *(Philipp Geiger, Deutsche Bahn;* *Rüdiger Garburg, Deutsche Bahn)* ▪ *14:10-14:30:* **Interior noise modelling** *(Torsten Kohrs, Bombardier Transportation)* ▪ *14:30-14:50:* **Specification and characterisation of acoustic sources and assemblies** *(Nezam Sanei, Alstom)* ▪ *14:50-15:10:* **Presentation of the DESTINATE project** *(Jenny Böhm, TU Berlin)* ▪ *15:10-15:30*: **FINE2 outlook** *(Rüdiger Garburg, Deutsche Bahn)* ▪ *15:30-16:00:* **Q&A**	**Cluster 2: Key results & recommendations (13:30-15:00)** ▪ *13:30-13:45*: Shift2Rail Energy KPI results *(Holger Dittus, DLR)* ▪ *13:45-14:15*: Energy Label & EN 50591 *(Henry Völker, Bombardier Transportation)* ▪ *14:15-14:30*: EU energy-efficiency politics *(Samuel Hibon, Alstom* *Michel Mermet-Guyennet, Alstom)* ▪ *14:30-14:45*: OPEUS Position Paper *(Laurent Dauby, UITP)* ▪ *14:45-15:00*: Facilitated discussion, Q&A **15:00-15:10: Short break** **Cluster 3: What is next? (15:10-16:00)** ▪ *15:10-15:25*: FINE2 outlook *(Jürgen Ernst, Deutsche Bahn)* ▪ *15:25-15:40*: OPEUS tool enhancement *(Lukas Pröhl, Rostock University;* *Harald Aschemann, Rostock University)* ▪ *15:40-16:00*: Facilitated discussion, Q&A

16:00-17:00: Networking coffee

SPEAKERS

Harald Aschemann, University Rostock

He received the diploma degree in mechanical engineering from Leibniz Universität Hannover, Germany in 1994. After two years of working in research and development with a leading company in machine tools, where he designed automated transfer systems, he joined the Institute of Measurement, Control and Microtechnology, Faculty of Engineering and Computer Science, University of Ulm. He received the Ph.D. degree with a work on optimal trajectory planning and trajectory control of an overhead travelling crane in 2001 and, afterwards, he served as a Research Associate and Lecturer till 2006 at this institute.

Since 2006, he has been a Full Professor and the Head of the Chair of Mechatronics, Faculty of Mechanical Engineering and Marine Technology, University of Rostock, Germany.

William Bird, DG RTD Representative

Graduate of Oxford University, member of the UK Institution of Mechanical Engineers, and the Institution of Logistics and Transport.
He spent the first 20 years of his career at British Rail, working in the Mechanical & Electrical Engineering Department on Rolling Stock, before becoming European Policy Manager at British Rail's International Policy Office.
He then joined the European Rail Research Institute in Utrecht, The Netherlands, as a Project Advisor, focussing on noise projects, and subsequently became the Personal Assistant to the Managing Director.
In 2001 he began working at the European Commission, in the Sustainable Surface Transport Unit of DG Research, was initially responsible for railway research and, more latterly, road infrastructure, road safety, automotive manufacturing and Member State joint funding initiatives.

After working in DG MOVE's Single European Rail Area Unit, he returned to DG Research & Innovation. As a Senior Expert in the 'Future Urban & Mobility Systems' Unit of the 'Clean Planet' Directorate, he is responsible for rail systems and support for the Shift2Rail research programme.

Jenny Böhm, TU Berlin

M.Sc. in environmental engineering with a focus on noise and vibration control.

For the past five years she has been working as research assistant and PhD candidate on projects concerning railway noise and vibration at the Chair of Rail Vehicles at the Technical University of Berlin. Her work is dedicated to reducing railway noise at the source and increasing passenger acoustic comfort in order to raise the attractiveness of rail transport. In Shift2Rail she has been coordinator of DESTINATE. Currently, she is researching railway bridge noise reduction and monitoring in the Shift2Rail project Assets4Rail, while working towards the completion of her PhD.

Haike Brick, Bombardier Transportation

Head of Acoustics and Vibration at Bombardier Transportation, Hennigsdorf, Germany.

Joined Bombardier Transportation in April 2010 as acoustic engineer. Many years of industrial and scientific experience, including a PhD degree in technical Acoustics from Chalmers University in Gothenburg, Sweden.

In April 2013 appointed as Technical expert for Acoustics and Vibration. With the acoustic team she is responsible for acoustic engineering support in railway vehicle projects and bids, standardization at the European Committee for Standardization for Railway acoustics and network with universities and research partners.

In Mai 2018 she took over the project coordination of FINE1.

Laurent Dauby, UITP

A passionate mobility professional with 20+ years of experience at international and European level. In 1996, he joined the UITP Regional Transport, Waterborne and Bus Transport. In 2006, he became Senior manager for all rail-bound activities at UITP.

In 2008, Laurent has been appointed Director of Knowledge Services, responsible for developing strategy and knowledge-related services for devising UITP's "PTx2 strategy".

In September 2013, he wished to re-focus his professional expertise on topics most dear to his heart and took the position of Director Rail Transport.

Laurent has a vast expertise and a very complete "helicopter overview" of policy, technology and operational drivers of the profession.

Holger Dittus, DLR

Degree in Mechanical Engineering (Dipl.-Ing), RWTH Aachen, 1998-2006. Professional Positions: Researcher, Department of Vehicle Energy Concepts, Institute of Vehicle Concepts, German aerospace center (DLR), 2006-2011. Current Position since 2011: Group Leader Energy Management, Institute of Vehicle Concepts, DLR.

Participated in S2R-projects Roll2Rail, FINE1, x2rail-3 and in standardization group for EN 50591 "Specification and verification of energy consumption for railway rolling stock" as well as in numerous projects dealing with hybrid, fuel cell and battery powered traction systems for rolling stock.

Jürgen Ernst, Deutsche Bahn AG

Civil engineer, 4 years of industrial experience in vibration

He is DB's project manager for S2R Cross-cutting activities. Moreover, he is involved in different S2R projects concerning the topics energy, HVAC and KPI-assessment.

He is a doctor in electrical engineering, Technical University of Braunschweig. He has more than 25 years of industrial experience in innovative railway technology. For 15 years he has led interdisciplinary teams responsible for carrying out technical projects concerning the whole railway system.

Dennis Fast, Bombardier Transportation

M.Sc. in Computational Engineering, external consultant at Bombardier Transportation with more than four years of experience in acoustics and simulations. In FINE1, I supported the technical coordinator, acted as the work package leader for WP5 "Technical Assessment of S2R Technical Demonstrators" and task leader in several other work packages.

Rüdiger Garburg, Deutsche Bahn AG

Civil engineer, 4 years of industrial experience in vibration control systems. 20 years at DB responsible for interactions between infrastructure and vehicles with respect of noise and vibration. International experiences as task leader in EU projects (RIVAS), FINE 1 and UIC workgroup Under Sleepr pads. Member of national (DIN) and international. standardisation bodies (CEN, ISO,) or UIC expert group "Noise" as well as deputy speaker within the CER for TSI Nose revision in ERA working groups.

Philipp Geiger, Deutsche Bahn AG

Environmental engineer, master of science with focus on traffic noise and noise effects (Technical University of Berlin). Working for DB environmental, noise-management.

Samuel Hibon, Alstom

Studied Electrical, Control and Sensors Engineering at the National Engineering School of Le Mans, France and has over 12 years of experience in the Rail Industry. Samuel has an Advanced Master in Railway and Guided Transportation Systems. Samuel Hibon is an expert in Energy Efficiency, Energy Management and Hybrid Trains architectures.

Torsten Kohrs, Bombardier Transportation

PhD in Acoustics from Technical University of Berlin, Expert in Acoustics working for Bombardier since 2002. Daily work is the support of railway vehicle design and project execution with simulations, measurements and acoustic design support. Focus topics are high speed trains, structure-borne noise and the development of Bombardiers in-house acoustic prediction tool called BRAINS. In FINE1 he was work package leader for WP7 (Interior noise modelling).

Tony Letrouvé, SNCF

He is an energy project manager at the French railway company SNCF.

He obtained in 2013 his PhD degree in electrical engineering on hybrid electric vehicle energy management and control. Since 2013, he has been working as an energy project manager on railway smart grids including innovative railway infrastructures. His research interests include modelling, control and energy management of hybrid electric vehicles and hybrid railway infrastructures, Hardware-In-the-Loop simulation and prototype development.

Maria Marsilla, Stadler

She graduated in Chemical Engineer in the Polytechnic University of Valencia and concluded an MSc in Sustainability and Design at Cranfield University. In 2005 she joined the company within the R&D department, working in several R&D projects and coordinating different EU projects as well as internal R&D projects.

She has been Technical Leader of DYNAFREIGHT EU project and company representative of UNIFE Energy Topical Group, until 2016.

She is responsible for R&D projects within Stadler Rail Valencia. She is also manager of Cátedra Stadler (special collaboration with Polytechnic University of Valencia) and engineering coating specification responsible.

Michel Mermet-Guyennet, Alstom

He graduated from Ecole Centrale Paris (1981) and holds a PhD in Physics (1984). He joined the energy management department at Alstom Transport as Expert Innovation and Energy beginning Oct 19. He was program director from 2013 to 2019 at Supergrid-Institute (Institute for Energy Transition). He has developed technologies (Medium Frequency Transformer, high voltage SiC) for high efficiency MVDC and HVDC converters. He was power electronics and converters expert from 1996 to 2013 at Alstom Transport Tarbes.

Dinh An Nguyen, SAFT Batteries

Dinh An NGUYEN, PhD in Fuel cell modeling and electrical engineering. He has been working for 8 years in SAFT R&D as Multiphysics modeling engineer of Li-ion batteries. Since 2019, he joined SAFT ESS & Mobility division as Railway & Mobility application manager. He worked for DEL 7.4.3 CleanER-D project in 2011. In OPEUS, he is in charge of WP 6 on advanced ESSs study.

Roberto Palacin, Newcastle University

Senior academic leading the Railway Systems Research Group at Centre for Railway Research (NewRail), part of the university's Future Mobility Group. He has a background in Mechanical Engineering, Design and Railway Systems Engineering. Roberto has been involved in research projects on subjects such as strategic development of transport systems, energy efficiency of urban and mainline rail systems, urban mobility and sustainability, development of innovative railway concepts, energy optimisation of rail systems, intermodality of the European rail network and development of modular concepts for high-speed.
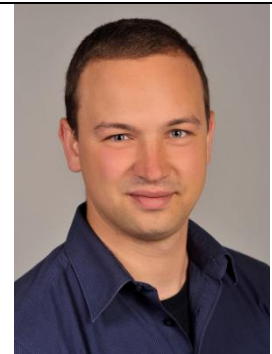
Roberto is the overall coordinator for OPEUS.

Lukas Proehl, University Rostock

He holds a M.Sc. in Mechanical Engineering and is a research scientist at the chair of mechatronics at the University of Rostock. In the scope of research and teaching he is dealing with the modelling and control of mechatronicssystems as well as the investigation and application of innovative optimization techniques.
Within OPEUS his focus in on the Matlab implementation of the OPEUS-tool as well as the application of optimization approaches for energy optimized driving & ESS strategies.

Judit Sandor, Shift2Rail JU

Judit studied management engineering at the Budapest University of Technology and Economics. In 2006, she started to work at the Association of the European Rail Manufacturers in Brussels where she held various positions, including Project Coordinator of FP6 and FP7 projects. In 2008, she became Sustainability Manager, responsible for transverse aspects such as energy management. In 2013, she became the ERTMS project manager of UNISIG.
In 2014, she joined to the European Commission (DG MOVE) as Policy Officer. She was responsible for ERTMS (European Rail Traffic Management System) and Shift2Rail. She started working at the Shift2Rail Joint Undertaking in June 2017 and she is now the Programme Manager for the Cross Cutting Activities, with noise and vibration as part of her portfolio.

Nezam Sanei, Alstom

MSc in Mechanical Engineering, Acoustics & Vibrations, Noise Senior Expert at Alstom for the last seven years, dealing with rolling stocks. Daily sork is: 1) Lead and manage R&D actions in the context of new methodologies for vibroacoustic simulations from a theoretical and practical point of view. 2) Develop innovative methodologies to be applied as a standard in the design process.

Henry Voelker, Bombardier Transportation

He is a B.Eng. in Applied Industrial Electrical Engineering and has been an Energy Performance Engineer at Bombardier Transportation for the last six years, dealing with all systems in railway rolling stock. His daily work is to optimize the competitiveness of trains through energy calculations, challenging the status quo and measurement evaluation. In Shift2Rail he leads the Cross Cutting Activity Energy and he is the work stream leader for energy in FINE1.