

6th SmartRaCon

Scientific Seminar

SmartRaCon Introduction

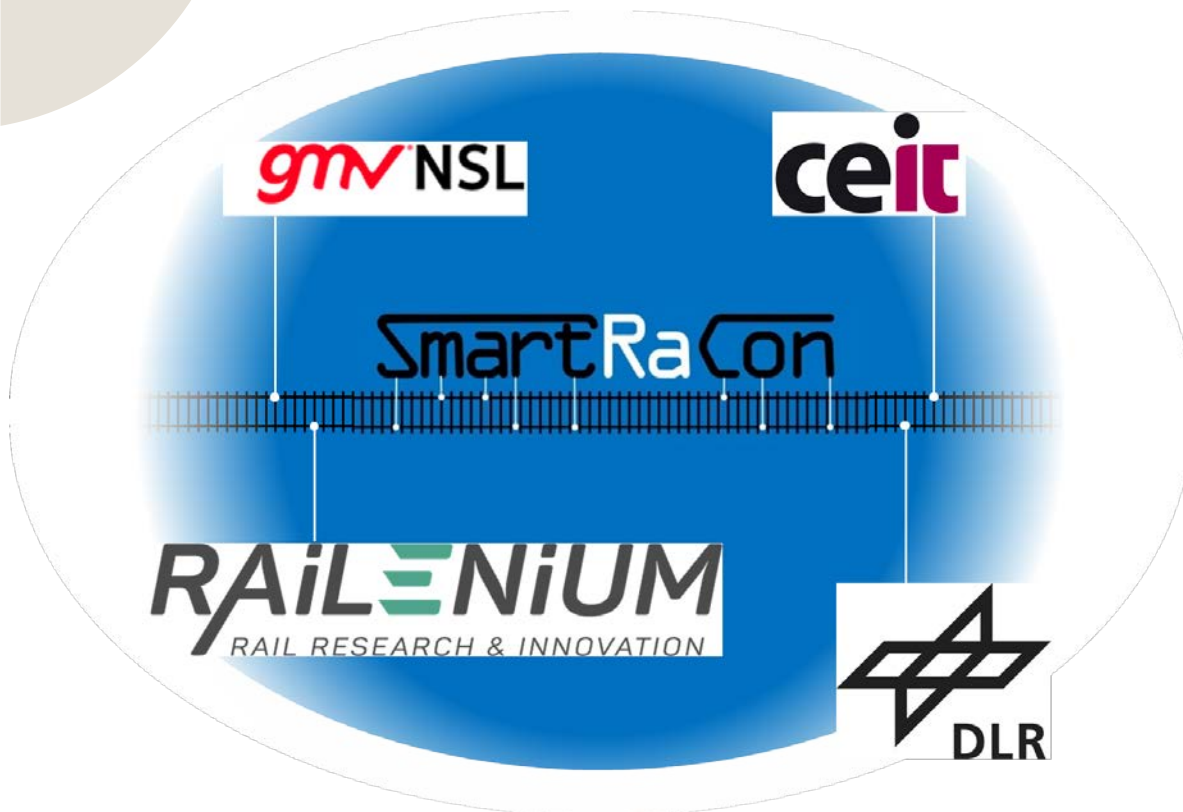


Dr. Jaizki Mendizabal
CEIT



6th SmartRaCon

Scientific Seminar



SRC1SS

25. June 2019, in presence in Villeneuve d'Ascq, France
1 Day event: 9 contributions, posters, round table

X2RAIL 1

SRC2SS

24. November 2020, online from Donostia-San Sebastian, Spain
1 Day event: 13 contributions, round table

X2RAIL 2

SRC3SS

2. September 2021, online from Braunschweig, Germany
1 Day event: 10 contributions, round table

X2RAIL 3

SRC4SS

20. October 2022, hybrid from Donostia-San Sebastian, Spain
1 Day event: 10 contributions, round table

X2RAIL 4

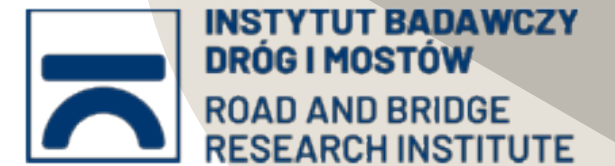
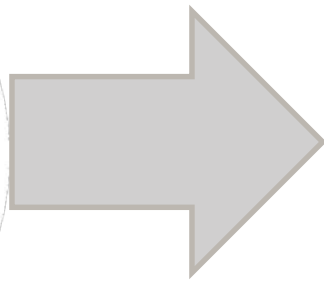
SRC5SS

25. May 2023, hybrid from Berlin, Germany
1 Day event: 16 contributions, round table

X2RAIL 5

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X2RAIL 1 X2RAIL 2 X2RAIL 3 X2RAIL 4 X2RAIL 5

SRC1SS SRC2SS SRC3SS SRC4SS SRC5SS

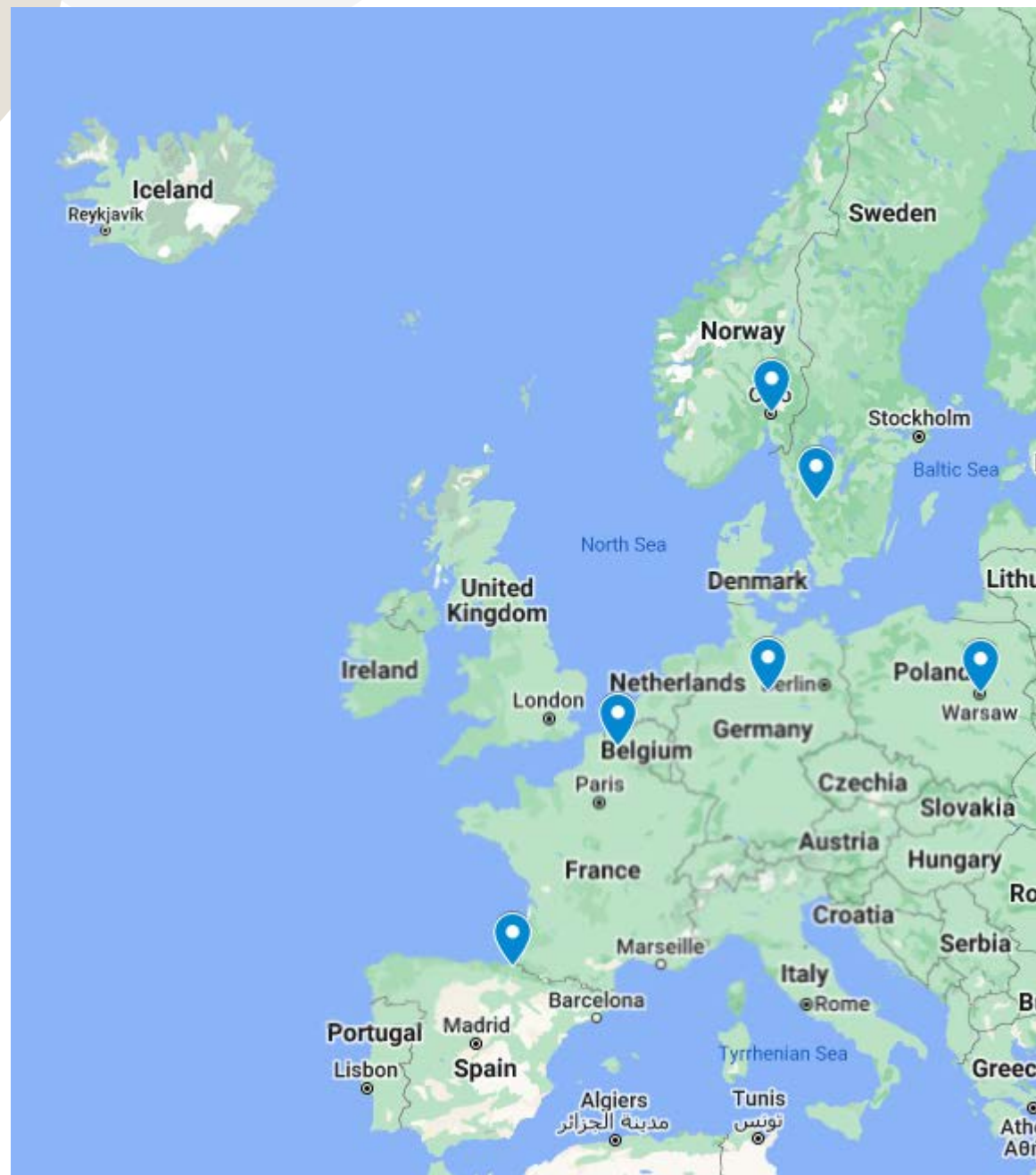
SRC5SS

23-24. October 2024, hybrid from Donostia-San Sebastian, Spain



6th SmartRaCon

Scientific Seminar



FA1, FA2, FA3, FA4, FA5, FA6, TT



FA1, FA2, FA3, FA4, FA5, FA6, FA7, ER, TT



FA1, FA2, FA4, FA5, FA6



FA2, FA3, FA4, FA7, ER



FA1, FA3, FA5



FA6



2 Days hybrid event

3 Keynote presentations

7 PhD presentations

13 Project Presentations

10 Posters

28 Presenters

16 Presenting entities

10 Projects

6th SmartRaCon

Scientific Seminar

PhD Session 1 Paul Unterhuber	Communications
PhD Session 2 Marion Berbienau	Monitoring and Automation
Project Session 1 Marvin Damschen	Rail management and planning
Project Session 2 Gorka de Miguel	Digitalisation
Project Session 3 Marie Lindland	Automation

Round table Jaizki Mendizabal	Marco Ferreria (Siemens) Marvin Damschen (RISE) Jan Bergstrand (Trafikverket) Lea Paties (ERJU) Carles Miralpeix (FGC)
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Aria Mirzai	FP2-R2DATO	Cybersecurity Risk Assessment of Virtually Coupled Train Sets
Melissa Tijink	FP5-TRANS4M-R	What is the code of this wagon?
Regueig Seddik	FP7 Pods4Rail	Enhancing Pedestrian Safety in Multimodal Transport through Pod-Based Transfers: An Ontological Approach
Francisca Rosell	ER ESEP4Freight	ESEP4Freight: Initial Approach to Smart Contract Generalization in Freight Logistics
Alfredo Serafini	ER Academics4Rail	Remaining useful life of an optimal topographical ground rail surface via Classical & Quantum Neural Network
Itziar Ruiz	FP3-IAM4RAIL	Repair of wheel and rails by additive manufacturing

Proceedings

Proceedings of the 6th SmartRaCon Scientific Seminar
SRC6SS

Proceedings of the 6th SmartRaCon Scientific Seminar (SRC6SS)

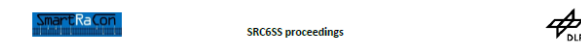
Marion Berbineau, Markus Brachner, Marvin Damschen, Agnieszka Lukaszewicz, Jaizki Mendizabal, Michael Meyer zu Hörste

Deutsches Zentrum für Luft- und Raumfahrt
Institut of Transportation Systems



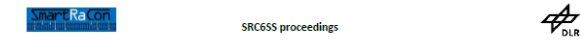
6th SmartRaCon

Scientific Seminar



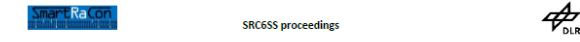
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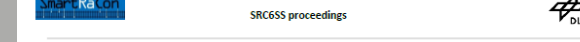
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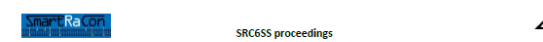
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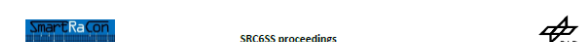


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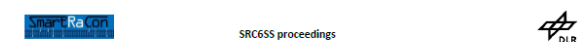
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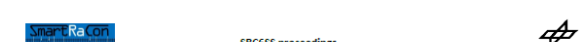
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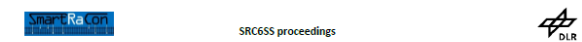
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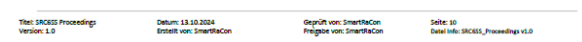
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DAY 1					
Session	Topic	Presenter/ 1st Author	Related Project	Contribution title	
9:00	Registration				
9:10					
9:20					
9:30	PhD sessions opening	Jaizki Mendizabal			
9:40	PhD Session 1 <i>Paul Unterhuber</i>	Communications	Marion Berbineau	FP3-IAM4RAIL	New Generation Train Communication Network
9:50					
10:00					
10:10					
10:20	David Kule Mukuhi	FP3-IAM4RAIL	NG-TCN: Towards Network Slicing in on-board Wireless Train communication networks		
10:30	Andy Rodriguez	FP2-R2DATO	Overview of Train-Trackside Communication Systems and CEIT's Multi-connectivity Platform Development		
10:40					
10:50					
11:00	Coffee Break				
11:10					
11:20					
11:30	PhD Session 2 <i>Marion Berbienau</i>	Monitoring and Automation	Adrian Sansiñena	FP1-MOTIONAL / FP3-IAM4RAIL	Health of railway infrastructure based on AI
11:40					
11:50					
12:00					
12:10					
12:20	Imanol Bravo	FP3-IAM4RAIL	Rail Fasteners Looseness Detection by Analysing Real and Synthetic Axle-Box Acceleration Data: A Dual Approach		
12:30	Roger Idrovo	FP2-R2DATO	Driving the Future of Automatic Train Operation: A Focus on Intelligent Driving Algorithms		
12:40	Iker Millan	FP2-R2DATO	Map-matching for train localisation: from the digital map to the map-matching techniques		
12:50					
13:00					
13:10					
13:20					

Programme

6th SmartRaCon

Scientific Seminar

15:00	Opening	Dr. Juan Melendez CEIT General Manager, Giorgio Travaini Europe's Rail Executive Director, Authority			
15:10					
15:20	Keynote SmartRaCon	Jaizki Mendizabal			
15:30	Keynote MOTIONAL	Marco Ferreira			
15:40					
15:50	Project Session 1 <i>Marvin Damschen</i>	Rail management and planning	Nihad Bahri	FP1-MOTIONAL	EU-RAIL FP1 / Multimodal Integration - B2B Financial Services as a Key Asset for Rail Integration with Other Mobility Modes
16:00					
16:10			Marie Lindland	FP5-TRANS4M-R	Planning Problems in a Combined Yard and Intermodal Rail Freight Terminal
16:20			Fabrizio Burro	FA6-FutuRe	EURAIL – FA6 FutuRe Project Innovative solutions for G2 regional lines
16:30					
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18:00					
18:10					
18:20					

Welcome coffee/drink at Poster zone

Aria Mirzai	FP2-R2DATO	Cybersecurity Risk Assessment of Virtually Coupled Train Sets
Melissa Tijink	FP5-TRANS4M-R	What is the code of this wagon?
Reguieg Seddik	FP7 Pods4Rail	Enhancing Pedestrian Safety in Multimodal Transport through Pod-Based Transfers: An Ontological Approach
Francisca Rosell	ER ESEP4Freigh	ESEP4Freight: Initial Approach to Smart Contract Generalization in Freight Logistics
Alfredo Serafini	ER Academics4Rail	Remaining useful life of an optimal topographical ground rail surface via Classical & Quantum Neural Network
Itziar Ruiz	FP3-IAM4RAIL	Repair of wheel and rails by additive manufacturing

Scientific Seminar

DAY 2					
Session		Presenter/ 1st Author	Related Project	Contribution title	
9:00	Day 2 opening				
9:10	MADE4RAIL KeyNote				
9:20		Michael Meyer zu Hörste			
9:30	Project Session 2 <i>Gorka de Miguel</i>	Digitalisation	Juliette Marais, Quentin Mayolle	FP2-R2DATO	A framework for GNSS-based solutions performance analysis in an ERTMS context
9:40			Albert Lau	FA6-FutuRe	Digital Twin Development for Test Site: Foundation for Innovative Cost-Effective Train Positioning Alignment
9:50			Aria Mirzai	FP2-R2DATO	Cybersecurity Risk Assessment of Virtually Coupled Train Sets
10:00			Sergio Arana	FP2-R2DATO	Development of the Preliminary Stages for ATO lab prototype in sight of a future inspection vehicle
10:10			Arne Lamm	FP2-R2DATO	Increase Safety in Regional Networks with Decentralization – The Autonomous Route Setting Approach
10:20					
10:30					
10:40					
10:50					
11:00					
11:10	Coffe Break at poster zone				
11:20					
11:30					
11:40	Round table <i>Jaizki Mendizabal</i>	Marco Ferreria (Siemens) Marvin Damschen (RISE) Jan Bergstrand (Trafikverket) Lea Paties (ERJU) Carles Miralpeix (FGC)			
11:50					
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13:10	Lunch				
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13:40					
13:50					
14:00					
14:10					
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14:40					
14:50	Project Session 3 <i>Marie Lindland</i>	Automation	Jonan Morales	FP5-TRANS4M-R	Preliminary concepts and specifications for a self-propelled wagon
15:00			David Krüger	FP5-TRANS4M-R	Use cases and conceptual system specification for Self-Propelled Wagon
15:10			Niloofer Minbashi	FP5-TRANS4M-R	An Integrated ETD Prediction System for Yards and Terminals
15:20			Vladimir Israel Garcia Santos	FP3-IAM4RAIL	An Innovative Non-Destructive Method using Ka Band Microwaves for Railway Inspection
15:30					
15:40					
15:50					
16:00					
16:10	Award ceremony				
16:20	Closure SRC6SS				
16:30					

6th SmartRaCon

Scientific Seminar

SmartRaCon Introduction



Dr. Jaizki Mendizabal
Spain

Dr. Michael Meyer zu Hörste
Germany

Dr. Marvin Damshen
Sweden

Dr. Marion Berbineau
France

Dr. Markus Brachner
Norway

Dr. Agnieszka Łukasiewicz
Poland