



EUROPEAN  
UNION  
AGENCY  
FOR RAILWAYS

# Integration of Human and Organisational Factors in Railway Automation

**2-3 December 2020**

REMOTE CONFERENCE

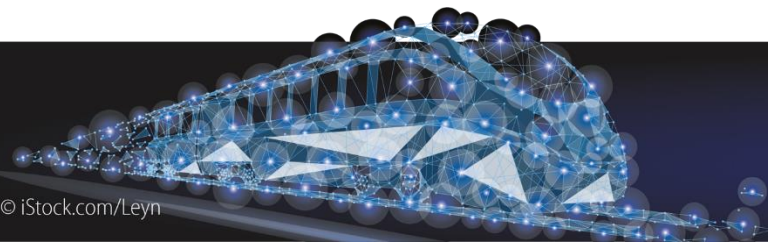
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Updated agenda and information

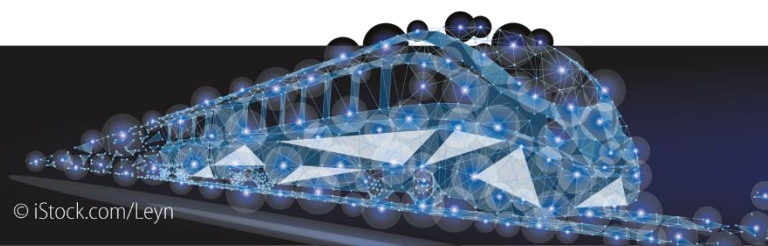
November 2020

For more information, contact the conference team at [HOF2020@era.europa.eu](mailto:HOF2020@era.europa.eu)

09:30 - 09:40	Introduction to the seminar	Dr Josef Doppelbauer, Executive Director, ERA
	<b>Session 1 – Why are HOF Important in Automation?</b>	
09:40 - 10:40	Keynote presentation - The Impact of Automation on Human Biases and Intelligence	Dr Itiel Dror, University College London
	<b>Session 2 – How is HOF Integrated in Another High Risk Sector?</b>	
10:40 - 11:30	How are HOF Integrated in Automation in Aviation?	Jean Pariès, Scientific Director, ICSI
11:30 - 11:40	Break	Agency
	<b>Session 3 – Examples of Integrating HOF in Railway Automation Projects</b>	
11:40 - 12:30	The Interplay between Human and System as a Critical Success Factor in the Experiments of ATO over a Class B System	Vera Verstappen Project Manager Human Factors/Mark van Dooren, NS Senior operational ERTMS expert
12:30 - 13:20	HOF in Train Protection Systems: A Case Study from Irish Rail	Dr Nora Balfe, Human Factors Specialist, Iarnród Éireann Irish Rail
13:20 - 13:30	Close of the day	Agency



09:45 - 10:35	Case Study «Human and Organisational Factors within Swiss Rail Sector Programme Smartrail 4.0»	Franco Ehrat, User Experience Architect, Swiss Federal Railways SBB
10:35 - 11:25	How Human and Organizational factors are Addressed in Railway Safety Standards	Roberto Semprini Safety Assessment Director ALSTOM
11:25 - 11:40	Break	Agency
<b>Session 4 – How can the Integration of HOF in Automation be Regulated?</b>		
11:40 - 12:30	Railway Automation: Learning from Incidents	Dr Mark Young, Investigator, Rail Accident Investigation Branch, UK
12:30 - 13:20	Digital Transformation of the Rail Sector: what Impact on HOF?	Dr Laurent CEBULSKI, CEO, EPSF, France
13:20 - 13:30	Close of Seminar	Bart Accou, Head of Safety and Operations Unit, ERA



# Why are HOF Important in Automation?



**Speaker: Dr. Itiel Dror, Senior Cognitive Neuroscience Researcher, University College London, UK**

Dr Itiel Dror holds a PhD in psychology from Harvard University and currently works at University College London (UCL) and Cognitive Consultants International (CCI-HQ). He has published over 120 articles on human performance, decision-making and learning. His expertise is in taking the most theoretical scientific understanding of the human mind, brain and cognition and translating this into practical and tangible ways that actually impact human behaviour in the real world.

## How is HOF integrated in Another High Risk Sector?



**Speaker: Jean Pariès, Scientific Director with the Institut pour une Culture de la Sécurité Industrielle (ICSI), France**

Jean PARIÈS graduated from the French National School of Civil Aviation, then joined the French Civil Aviation Authority (DGAC), dealing with air safety regulations. In 1990, he joined the French Air Accidents Investigation Bureau (BEA) as Deputy Head where he led the investigation into the Mont Saint-Odile Accident, 1992. In 1994, he left the BEA to be a founding member – and then the President - of Dédale SAS, a company set in Paris and Melbourne (Australia), addressing the HF of safety in high risk activities (aviation, nuclear, energy networks, railways, hospitals...). From 2000 to 2004, he was also an Associate Research Director with the CNRS. On the 1st of January 2020, he joined the Institut pour une Culture de la Sécurité Industrielle (ICSI) and the Fondation pour une Culture de la Sécurité Industrielle (FONCSI) as the Scientific Director.

## Examples of Integrating HOF in Railway Automation – Dutch Railways



**Speaker: Vera Verstappen, Senior Human Factors Specialist at NS, The Netherlands**

Vera holds a master degree in Industrial, Organizational and Health psychology from the Radboud University in Nijmegen (The Netherlands). Her mission is to enable people to flourish in their work. At Netherlands Railways Vera is responsible for the development of the Human Factors Program, which focuses on several human factors themes, including driver performance, managing workload and attention, situation assessment and fit to drive. Currently she heads research projects regarding the impact of innovations in the train cab (DAS) and automatic train operation (ATO) on train driver performance.



**Speaker: Mark van Dooren, Senior Operational ERTMS expert at NS, The Netherlands**

Mark is since 2016 involved in the Dutch national ERTMS programme as operational expert, joined ERA OH User Group in 2018, since 2018 also member of the Shift2Rail ATO GoA 1/2 WP, followed by ERA HOF Task Force in 2019. At the moment occupied by all aspects that affects the driver by implementing ETCS (driver's handbooks, training, Human Factors, specifications for retrofitting rolling stock, etc) and writing test scenario's for the current ATO tests in The Netherlands. Mark is still a licensed train driver.

## Examples of Integrating HOF in Railway Automation – Irish Rail



**Speaker: Dr. Nora Balfe, Human Factors Specialist working with Irish Rail, Ireland**

Dr. Nora Balfe is a Human Factors Specialist working in the Irish Rail Directorate of Health and Safety. Nora holds an MSc in Human Factors and Safety Assessment from Cranfield University and a PhD in Railway Human Factors from the University of Nottingham. She is a Registered Member of the Irish Human Factors and Ergonomics Society and a Chartered Member of the UK Institute of Ergonomics and Human Factors. She has previously worked for Network Rail, NATS, Trinity College Dublin and the Commission for Railway Regulation.

# Examples of Integrating HOF in Railway Automation – Swiss federal Railways SBB



## Speaker: Franco Ehrat, User Experience Architect at SBB, Switzerland

After his apprenticeship, Franco completed his studies in «Electrical Engineering and Information- & Communication Technologies». Afterwards he worked as a software developer for several years. Since his studies of «Human Computer Interaction Design» and his move to the SBB, Franco has been working as a User Experience (UX) Architect for more than seven years. For the last three years he was Lead UX Architect and HOF responsible for «smartrail 4.0», the modernisation programme for the Swiss rail sector.



## Examples of Integrating HOF in Railway Automation – ALSTOM



### Speaker: Roberto Semprini, Safety Assessment Director at ALSTOM

Robert holds a Master Degree in Electronic Engineering and Professional Engineering. He has been working in ALSTOM since 25 years in the railway safety domain, covering product development and manufacturing, signalling subsystems, overall system integration, vehicles authorization. He is a contributor to the dissemination of safety culture inside the company and in the railway sector. Currently Roberto is Safety Assessment Director of the in-house assessment body accredited ISO/IEC 17020. He participated in developing of the CENELEC safety standards since 2000, and is currently Convenor of CENELEC EN 50126 and IEC 62278.

# How can the Integration of HOF in Railway Automation be Regulated – Rail Accident Investigation Branch, UK



**Speaker: Mark Young, Inspector with the Rail Accident Investigation Branch (RAIB), UK**

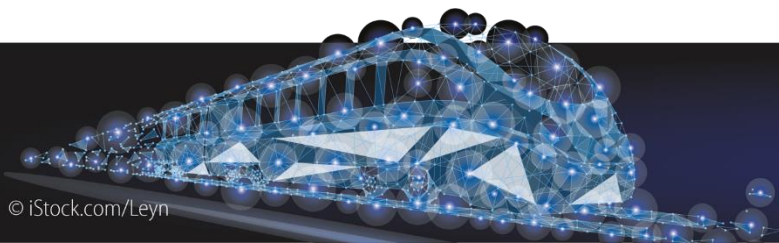
Mark leads the Branch's work on human factors. Before joining RAIB in 2012, he worked in academia, researching and teaching in human factors, with a focus on transport safety and vehicle automation. Mark has around 25 years' experience working in human factors, and holds a degree in Psychology and a PhD in Human Factors, both from the University of Southampton. He is also a Visiting Professor at Loughborough University's Design School.

# How can the Integration of HOF in Railway Automation be Regulated – EPSF, France



**Speaker: Laurent Cebulski, Managing Director of EPSF, France**

Doctor in mechanical engineering, Laurent CEBULSKI has been working in the railway sector for nearly 25 years. He was notably an expert, head of research and development, then director of authorizations within the French railway safety authority EPSF. He was appointed CEO in September 2020.



For more information, contact the conference team at [HOF2020@era.europa.eu](mailto:HOF2020@era.europa.eu)

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