First of the Rail Automation Seminars on Thursday (September 17th)

September 16, 2020

Four major professional engineering institutions (IRSE, The PWI, IMechE and IET) have joined forces to deliver perhaps the most comprehensive in-depth seminar on rail automation to be held to date, with the first event taking place on Thursday (September 17th) morning from 9am.

It comes as automation, artificial intelligence and robotics technologies continue to develop, opening up many opportunities to increase railway capacity, performance and reliability, while reducing costs and improving customer experience and safety.

Delegates can watch 17 pre-recorded presentations from international industry experts in advance of two live 90-minute seminar sessions, which will each include an interactive Q & A.

As well as the event on Thursday, a second event will also be held on October 8th.

The cost of the seminar, including on-demand access to all of the pre-recorded content, is £80 for members of the institutions and £120 for other delegates. For booking and full programme details see https://www.automatedrailwayseminar.online/

The speakers involved in this seminar will explore the opportunities and issues involved when introducing automation on existing railways. They will also address the less constrained possibilities in new build railway systems. The contributors will evaluate currently available technologies and their implications for railway capacity, operations and asset management, and discuss options for the future. They will consider the human factors, ethical and stakeholder management issues surrounding automation, and will draw out lessons learnt from projects that have introduced increased automation.

As well as gaining a full systems understanding of railway automation, delegates with an interest in railway infrastructure engineering will learn how automated train operation can affect the physical condition and management of the infrastructure, and how automation of inspection, maintenance and track access can contribute to safer and more effective infrastructure management.

Overview -PART 1: Online Seminar 17 September 2020 09.00-10.30 (UK time)

Pre-recorded advance content available online from 28 August ready for the live seminar:

1. Setting the scene and ambitions for the future of railway operations; AndrewHaines, CEO, Network Rail.
2. Background: a system of systems perspective on the automated operation of railways; Professor Felix Schmid, University of Birmingham, and Alexandra McGrath, Program Director Rail Systems, VicTrack, Australia.
3. Operational concepts for automated railways: do we need changes in planning and operating practices? Piers Connor, Pasquire Associates.
4. Definitions, functional requirements and architectures for automating the operation of railways; Tom Godfrey, Director, Arup.
5. Global experience of automation: Case studies and current examples:
    ◦ Sydney metro's move from human driving to unattended operation; Steve Allday, Executive Director ARCS International, Australia
    ◦ Unattended metro operation design, the Singapore perspective; RobertCooke, Deputy Chief Specialist, LTA, Singapore
    ◦ Driver supervised automatic operation on Thameslink; Paul Booth, Principal Programme Engineer, Network Rail
6. Communications challenges of fully automatic railway operations; Tyson Moore, University of Birmingham
7. Maintenance challenges of fully automatic railway operations; Kenneth Yuen, Manager, SMRT Trains Ltd, Singapore
8. Fears and prejudices: the psychological impact of automation on staff and public; Dr Eylem Thron, Human Factors Consultant Ricardo Rail, Lecturer and PhD supervisor

PART 2: Live Seminar 8 October 2020 09.00-10.30 (UK time)

Pre-recorded advance content available online from 18 September ready for the live seminar:

1. Setting the scene and introduction; Dr Daniel Woodland, President IRSE and Principle Consultant, Ricardo Rail.
2. Automation – Beyond Command and Control; Stephen Barber, CEO, PWI.
3. Rolling stock challenges of attended and unattended automatic operation; Graham Neil, Professional Head of Vehicles, Transport for London.
4. Impacts of automatic train operation on track and infrastructure; Andy Vickerstaff, Senior Wheel Rail Interface Engineer, Transport for London.
5. Track access and automation of infrastructure inspection and maintenance; Gareth Evans, Professional Head of Track, Network Rail.
6. Obstacle detection and avoidance of intrusions; Iain Flynn IMechE and Interim Railway manager and Consultant Rational Rail Ltd David Milburn, WSP Director ofControl, Command and Signalling.
7. The right to differential speeds: ETCS, track cant and route availability; Prof. Bridget Eickhoff, RSSB / University of Birmingham.
8. Ethics in designing software and algorithms for the automatic operation of railways; Professor Rod Muttram and Professor Felix Schmid.

Click here for more details.

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