

# RAIL RELIABILITY, CAPACITY AND PERFORMANCE 2014

Institution of  
**MECHANICAL  
ENGINEERS**

15 October 2014  
The Hatton, London  
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Railway Division  
**Seminar**



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# RAIL RELIABILITY, CAPACITY AND PERFORMANCE 2014

15 October 2014, The Hatton, London



## RAIL RELIABILITY, CAPACITY AND PERFORMANCE 2014 WILL PROVIDE AN OPPORTUNITY TO UNDERSTAND PRACTICAL, TECHNOLOGICAL AND HUMAN FACING SOLUTIONS TO THE CHALLENGES POSED BY INCREASED DEMANDS ON THE UK'S RAIL INFRASTRUCTURE.

Delays of up to a million minutes were caused on the rail network in 2013, according to the Office of Rail Regulation. The cost of these delays to network and operators is not only measured in financial terms, but also in customer and passenger perception.

With technological improvements and advances such as Remote Condition Monitoring (RCM) and Traffic Management Systems (TMS) seeking to provide cost-effective solutions to reliability challenges, the importance of ensuring that individuals understand how to interpret the results and put these into practical applications has never been stronger.

How can closer management and operational relationships between Network Rail, TOCs and wider systems engineering provide a solution to the reliability challenge?

With demands placed on capacity becoming greater, this seminar will examine solutions put in place by the entire rail supply chain to reduce this cost and increase the reliability, capacity and performance of Britain's rail fleet.

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Railway Industry Association



### BENEFITS OF ATTENDANCE:

- **Learn** how Irish Rail have used lean methodology to reduce fleet delay to under 1000 minutes
- **Hear** how Traffic Management Systems have been implemented by Thales Group across the EU, and how this can benefit UK railways
- **Analyse** the positives and negatives of the CP4 programme, as well as the development and rollout of CP5
- **Improve** dependability across your whole system and delivery with London Underground, who have reduced tube delays by 30%
- **Explore** how closer management between Network Rail, TOCs and wider systems engineering provide a solution to reliability

### ATTEND TO HEAR ABOUT:

- **CP4 to CP5:** Explore the challenges, solutions and the lessons learnt to avoid potential risks
- **Implementing Traffic Management Systems** to ensure smooth application of ARAMIS
- **Reliability, quality and collaboration** through investing in people and technology
- **Deploying automatic vehicle inspection systems** with early identification of defective or life-expired components
- **Cross-sector innovations** which have been applied successfully in Rail

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## PROGRAMME

### WEDNESDAY 15 OCTOBER 2014

- |   |  |
|---|--|
| 08:30                                     | <b>REGISTRATION AND REFRESHMENTS</b>   |
| 09:00                                     | <b>CHAIR'S OPENING REMARKS</b><br>Ian Papworth, Committee Member, IMechE Rail Division   |
| 09:05                                     | <b>KEYNOTE SPEAKER</b><br>Dyan Crowther, Chief Operating Officer, Thameslink, Southern and Great Northern (TSGN)   |
| 09:30                                     | <b>KEYNOTE SPEAKER</b><br>Chris Fenton, Chief Executive, The Rail Safety and Standards Board (RSSB)  |
| <b>RESPONDING TO THE CHALLENGES</b>       |  |
| 09:55                                     | <b>CP4 TO CP5: THE CHALLENGES, SOLUTIONS AND LESSONS LEARNT</b><br>Christian Roth, Chief Engineer, South West Trains and Chairman of Fleet Challenge, ATOC <ul style="list-style-type: none"><li>• Lessons learnt from the achievements and challenges in CP4</li><li>• Meeting the NTF CP5 targets: what it means and the risks involved</li><li>• How technology can help fleet managers overcome the key challenges</li></ul>   |
| 10:20                                     | <b>REFOCUS FOR CP5 CHALLENGES AND INITIATIVES</b><br>Stuart Draper, Director of Engineering, Northern Rail <ul style="list-style-type: none"><li>• Continue development and usage through the 20 Point Plan</li><li>• Discover TOC reliability and performance initiatives already in practice</li><li>• Evaluate practical collaboration and best practice sharing for the railway community</li></ul>  |
| 10:45                                     | <b>PANEL DISCUSSION</b><br>Chris Fenton, Chief Executive, The Rail Safety and Standards Board (RSSB)<br>Christian Roth, Chief Engineer, South West Trains and Chairman of Fleet Challenge, ATOC<br>Stuart Draper, Director of Engineering, Northern Rail   |
| 11:00                                     | <b>NETWORKING BREAK</b>  |
| <b>DEVELOPING A WHOLE SYSTEM APPROACH</b> |  |
| 11:30                                     | <b>IMPLEMENTING TRAFFIC MANAGEMENT SYSTEMS: AN UPDATE ON THE UK PROGRAMME</b><br>Dave Fidal, Technical Design Manager, and David Taylor, Business Development Director, Thales Ground Transportation Systems <ul style="list-style-type: none"><li>• Explore approaches to traffic management and typical implementations</li><li>• Understand the lessons learnt from international implementation to ensure smooth application of ARAMIS on the UK rail network</li><li>• Discover the benefits for TMS implementation in the UK</li></ul> |
| 11:55                                     | <b>COUNTRYWIDE FLEET DELAY UNDER 1000 MINUTES: AN ACHIEVABLE UK TARGET?</b><br>Peter Smyth, Chief Mechanical Engineer, Irish Railways <ul style="list-style-type: none"><li>• Using lean methodology to impact positively on reliability</li><li>• Understand the approaches required for technical solutions</li><li>• Manage the supply chain and recognising contribution from external processes</li></ul>   |
| 12:20                                     | <b>PANEL DISCUSSION</b><br>Dave Fidal, Technical Design Manager, Thales Ground Transportation Systems<br>David Taylor, Business Development Director, Thales Ground Transportation Systems<br>Peter Smyth, Chief Mechanical Engineer, Irish Railways   |
| 12:30                                     | <b>NETWORKING LUNCH</b>  |



## EXPLORING PRACTICAL CONSIDERATIONS

- 13:30 SOUTH WEST TRAINS PRACTICAL EXPERIENCE**  
**James Herriott, Engineering Change Manager, Stagecoach South Western Trains**
- Explore onboard system contribution to service delivery and capacity analysis
  - Effective monitoring of infrastructure using passenger trains
  - Evaluate wheel management system development
- 13:55 WHOLE RAILWAY SYSTEM DEPENDABILITY**  
**Rakesh Gaur, Head of Innovation and Graham Neil, Professional Head of Rolling Stock, TfL, London Underground**
- Meet the London Mayor's target to reduce tube delays by 30%
  - Understand fleet, related assets and human aspects, how delays are caused and establishing links with LU's World Class Capacity project
  - Use technology to improve dependability across the system
- 14:20 RELIABILITY, QUALITY AND COLLABORATION: INVESTING IN PEOPLE AND TECHNOLOGY**  
**Jon Vietch, Production Director, Hitachi Rail Europe**
- Move towards electrification by replacing diesel-powered HST rolling stock
  - Deliver a more reliable and higher quality commuter service through AT200
  - Invest in staff to achieve better results and ensure internal knowledge transfer
- 14:45 PANEL DISCUSSION**  
**James Herriott, Engineering Change Manager, Stagecoach South Western Trains**  
**Rakesh Gaur, Head of Innovation, TfL, London Underground**  
**Graham Neil, Professional Head of Rolling Stock, TfL, London Underground**  
**Jon Vietch, Production Director, Hitachi Rail Europe**
- 15:00 NETWORKING BREAK**

## INDUSTRY INNOVATIONS AND APPLICATIONS

- 15:30 RELIABILITY, CAPACITY AND PERFORMANCE, SYNERGY AND APPLICATION ACROSS SECTORS**  
**Richard Graham, Business Manager, Newton Europe**
- Explore how rail operations performance improvements have been made when working with an intensive metro operator in the UK
  - Gain insight into opportunities for performance improvements on metro train maintenance operation by applying techniques from other industries
  - Use relevant comparisons with useful techniques which can apply to rail infrastructure
- 15:55 NETWORK RAIL, TOC: WORKING TOGETHER MAKES SENSE**  
**Steve Quinby, Head of Data Collection Services, Network Rail**
- An introduction to the use of in-service trains to monitor infrastructure condition and the Data Collection Service Enhancement (DCSE) project
  - Providing an update of early lessons learnt from the new technology
  - Application and the potential benefits arising for the operational railway
- 16:20 UNDERSTANDING AND DEPLOYING AUTOMATIC VEHICLE INSPECTION SYSTEMS/SERVICES (AVIS)**  
**Oliver El-Falaki, Project Engineer, Bombardier**
- Explore AVIS enabled transition to a true Condition Based Maintenance (CBM) regime through the automated analysis of vehicle condition data
  - Optimise the use of consumable materials through increased inspection frequencies and trending capabilities
  - Improve reliability with early identification of defective or life-expired components
- 16:45 PANEL DISCUSSION**  
**Richard Graham, Business Manager, Newton Europe**  
**Oliver El-Falaki, Project Engineer, Bombardier**  
**Steve Quinby, Head of Data Collection Services, Network Rail**
- 16:55 CHAIR'S CLOSING REMARKS**  
**Ian Papworth, Committee Member, IMechE Rail Division**
- 17:00 CLOSE OF SEMINAR**

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- This programme is subject to change.
- The Institution is not responsible for the views or opinions expressed by individual speakers.

### Organising committee:

- Ian Papworth, Independent Consultant and Chair of the event
- Mike Corbett, Independent Consultant
- Ben Ackroyd, Engineering Director, c2c

# **SPEAKERS AND CONTRIBUTORS**

## **DYAN CROWTHER KEYNOTE**

### **CHIEF OPERATING OFFICER, THAMESLINK, SOUTHERN AND GREAT NORTHERN (TSGN)**

Dyan Crowther is a career railway woman. She has operated at a senior level for over 15 years, including the roles of Managing Director of a TOC and Route Managing Director of the world's busiest railway, the West Coast Mainline. She has recently taken up the post of Chief Operating Officer for TSGN (Thameslink, Southern and Great Northern,) the UK's biggest train operator. Dyan is a trustee of the Railway Children Charity and a Non Executive Director of East and North Herts Acute Trust.

## **CHRIS FENTON KEYNOTE**

### **CHIEF EXECUTIVE, THE RAIL SAFETY AND STANDARDS BOARD (RSSB)**

Chris Fenton brings to his role experience in leadership positions in the infrastructure and business services sector. Joining BSI in 2003, Chris applied these experiences in switching to the services sector to manage the testing and inspection division, re-establishing profitability and leading the management team in a successful sale of the business. Moving to Amey in 2006, Chris re-established the profitability of business services, as a platform for further investment and growth making this a core activity for the company. Most recently Chris led Amey's marketing and strategy aims, building the case for growth and the acquisition of Enterprise. Chris is currently a Non-Executive Director with the Nuclear Decommissioning Authority.

## **CHRISTIAN ROTH**

### **CHIEF ENGINEER, SOUTH WEST TRAINS AND CHAIRMAN OF FLEET CHALLENGE, ATOC**

Christian Roth is a Mechanical Engineer who started his career as a trainee with Siemens in mechanical and electrical engineering, followed by a period in sales of Light Rail Vehicles, eventually becoming General Manager Sales of Large Drives. From 1997-2000 he was General Manager for Product Management and R&D for Metro and Suburban trains, then Managing Director of Siemens Electrification for Rail from 2000-2005 and Managing Director of Siemens Transportation Systems in the UK until moving to his current position.

## **STUART DRAPER**

### **DIRECTOR OF ENGINEERING, NORTHERN RAIL**

Stuart Draper started working at British Railway Engineering Ltd (BREL) in 1978 at the carriage works in Derby as a technician trainee. Stuart moved to the Railway Technical Centre in 1981 as a Senior Technical Officer (STO) working on maintenance for EMUs/DMUs. In 2009 Stuart became Interim Engineering Director and in 2010 became the Engineering Director of Northern, looking after 980 staff and 313 units (DMU/EMU). Since then Stuart has become Chair of the ReFocus group in 2009 and shaped it from NFRIP into a best practice forum for sharing engineering solutions, processes and improvements.

## **DAVE FIDAL**

### **TECHNICAL DESIGN MANAGER, THALES GROUND TRANSPORTATION SYSTEMS**

Dave Fidal is employed by global technology and services company Thales within the Ground Transportation Systems Business in the UK. Dave is a Senior Technical Manager responsible for leading the specification and development of solutions for the mainline rail market. Dave has over 25 years in the rail sector, including senior positions working with British Rail, Railtrack, English Welsh and Scottish Railways and DB Schenker. Dave is the Design Authority for Thales Traffic Management offer in the UK.

## **DAVID TAYLOR**

### **BUSINESS DEVELOPMENT DIRECTOR, THALES GROUND TRANSPORTATION SYSTEMS**

David Taylor is responsible for developing the relationship with between Thales Group including the security, training and transportation systems business with Network Rail. Within this capacity David was the Thales lead for the Network Rail Traffic Management programme. David is a Fellow of the Institute of Railway Signal Engineers and has been involved in the rail sector for the past 25 years in both a technical and commercial capacity, and started his career as a signal and telecoms apprentice within British Rail.

## **SPEAKERS AND CONTRIBUTORS**

### **RAKESH GAUR**

#### **HEAD OF INNOVATION, TFL, LONDON UNDERGROUND**

Rakesh Gaur is the Head of Innovation at London Underground, championing better understanding of LU's technical and business challenges within the UK innovation landscape, with a purpose of focusing solutions to realise efficiencies and accelerate delivery of LU's technical strategy route-maps. Since 2011, Rakesh has been part of the LU systems engineering team as professional head of RAM, providing thought leadership and business maturity growth to one of LU and Transport for London's key Mayoral challenge areas. During this time he has also led the development of futuristic 'visions' in order to provoke creative thought and discussion on the future of transport.

### **RICHARD GRAHAM**

#### **BUSINESS MANAGER, NEWTON EUROPE**

Richard Graham, as Head of the Transport & Infrastructure sector at Newton Europe, delivers operational improvement programmes across a variety of industries including rail. Experience with rail organisations has been with rolling stock manufacture and maintenance, train operations and civil and track maintenance. Richard is a Mechanical Engineering Scholar from New College, Oxford University.

### **STEVE QUIMBY**

#### **HEAD OF DATA COLLECTION SERVICE, NETWORK RAIL**

Steve Quimby is currently Head of Data Collection Services (DCS) at Network Rail where he leads specialist teams in the acquisition and validation of asset condition data. Using technologies sourced from around the world, which are deployed on a fleet of dedicated measurement trains and in-service passenger vehicles, DCS provides a 24/7 operation giving accurate, timely and cost-efficient asset condition data that allows engineers and others to gain insight into the performance of key assets on the railway.

### **OLIVER EL-FALAKI**

#### **PROJECT ENGINEER, BOMBARDIER**

Oliver El Falaki holds a Master Degree in Manufacturing Engineering from Loughborough University and is an Associate Member of the Institution of Mechanical Engineers. He joined the Bombardier Transportation (BT) UK Graduate scheme in September 2012 as a graduate engineer working predominantly within the services function on design for maintenance, maintenance optimisation and lifecycle engineering projects. He is now a Project Engineer working on delivering AVIS for various in-service fleets around the country, as well as developing the AVIS solution for Crossrail and other Bombardier projects around the world.

BOOKING FORM

EVENT CODE: S6168AB

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RAIL RELIABILITY, CAPACITY AND PERFORMANCE 2014

15 October 2014

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