Society of Operations Engineers

SOE SYMPOSIUM 2019
THE CONNECTED WORLD

7 November 2019 | thestudio Birmingham

SOE SYMPOSIUM 2019

7 November | thestudio Birmingham

Connectivity is part of the digital transformation sweeping across industry. It's a topic that engineers should be talking about.

Data from sensors, when properly collected and processed, can already reveal a wealth of operational intelligence on plant and machinery. But the question is how do today's engineering managers fully harness this and use it to improve outcomes for preventative maintenance, condition monitoring and safety?

And the potential does not stop there. The next stage of developments in data management for engineering may pave the way to artificial intelligence and autonomous vehicles. We need to ask how will the growth of connected systems, all sharing data, change how industry works? Is data a threat, or an opportunity? What are the benefits, what are the consequences, and how do we balance it all?

Although engineers may be proficient in operational technology, they now need to learn a new set of skills to manage and control these increasingly-prevalent systems that originate from information technology. The SOE Symposium assembles experts from industry, research institutes and academia to introduce, explain, and encourage debate on the technology of connectivity, and how it impacts operations engineering.

We hope you will join us on the day to add your expertise to the conversation.

Mick Sweetmore
President 2019 – 2021
Society of Operations Engineers

WHO SHOULD ATTEND?

The SOE Symposium is the destination event for senior engineers responsible for inspection, maintenance and management of:

- fixed and mobile process and power plant
- light and heavy vehicles
- utilities
- building services
- lifting gear
- environmental engineering

The day is a best-practice forum, with a range of session styles designed to give you maximum engagement and effective learning outcomes.

WHY ATTEND?

- Hear real life examples of how connectivity is enabling major improvements across maintenance and repair
- Learn the latest thinking and standards relating to safe, sustainable engineering
- Take part in one of the specialist technical streams – adding specific knowledge relevant to your role
- Join in the panel sessions – discussing a range of connectivity issues, plus the benefits of professional registration for engineers
- Network and engage with 200 of your peers, exchanging views and making valuable contacts

This event through its high quality, engineering content offers attendees a valuable CPD opportunity that helps them fulfil their annual needs.

soe
CPD APPROVED EVENT

SELECTED SPEAKER PROFILES

Keynote Speaker

Dr Carolyn Griffiths FREng FIMechE

Carolyn Griffiths is a senior rail industry professional. She has worked in heavy rail, metro and light rail systems. Her roles have been in operations, manufacturing, and consultancy, establishing new rail systems, regulation and managing major projects both in the UK and overseas.

She has worked in the private and public sectors. Most recently she founded UK's Rail Accident Investigation Branch (RAIB) and was Chief Inspector during its first 10 years of operations. She is a Non-Executive Director for both Irish Rail and Aesseal Engineering Ltd.

She was the President of the Institution of Mechanical Engineers from 2017-18 and continues as a Council member; she is a Fellow of the Royal Academy of Engineering and Board member of the Engineering Council. She chairs the Rail Group within the Parliamentary Advisory for Transport Safety and is an MSc External Examiner for Birmingham University.

Carolyn has been awarded an Honorary Doctorate by Cranfield University in recognition of her contribution to the rail industry.

Keynote Speaker

Dr Shaun Fitzgerald PhD FREng FCIBSE

An academic and business leader, Shaun Fitzgerald is the Director of the Royal Institution. He leads the Ri in its mission to create opportunities for everyone to discover, discuss and critically examine science and the way in which it shapes the world around us.

Shaun has enjoyed a long association with Cambridge University and as well as leading the Ri, he is also a Royal Academy of Engineering Visiting Professor at the University's Department of Engineering, and a Teaching Fellow in Engineering at Girton College. Prior to joining the Ri, Shaun was the CEO of Breathing Buildings Ltd, a leading technology company pioneering hybrid ventilation systems. And prior to founding Breathing Buildings in 2006, he was a Research Associate at The University of Cambridge's BP Institute, and undertook a number of business development roles in the private sector. From 1995 to 1997 he was Geothermal Programme Manager at Stanford University.

Shaun is a Fellow of the Royal Academy of Engineering and a Fellow of the Chartered Institution of Building Services Engineers. He has published widely in academic journals.

Stuart Cottrell BSc

Stuart has been Head of Advanced Engineering at Alexander Dennis Limited since 2013, delivering proof-of-concept evaluations of new technologies and optimisation projects targeting a range of vehicle attributes with a keen focus on fuel efficiency.

Stuart is responsible for the technology development strategy for Alexander Dennis; this is centred around three core strands: Energy Efficiency/Emissions, Passenger Experience, and Connected & Autonomous Vehicles.

Stuart joined Alexander Dennis from Cummins, where he specialised in engine controls and integration across a range of on and off-highway engine and vehicle platforms. Stuart joined Cummins on completion of a degree in engineering from Coventry University.

Charles Salter MSc CEng MIMechE

Charles is Managing Director at ACE Lifts Ltd, a provider of bespoke lift design and lift maintenance services.

He started his career as an apprentice lift engineer before moving on to service and test engineer roles in the early stages of his career. Charles has been Managing Director at ACE Lifts for over 30 years and has extensive knowledge of safety and best practice principles in the sector. He developed the i-COM remote lift monitoring product and service.

Charles has a master's degree in Lift Engineering from the University of Northampton.

Ian Pledger BSc

Ian has 33 years' experience in varying roles within the bearing industry including application engineering, sales, product training and condition monitoring. Over his career Ian has worked in a wide variety of industrial sectors.

For the last 10 years he has specialised in the services associated with bearings including maintenance products, grease lubrication, laser alignment and condition monitoring.

Ian holds a BSc. in Mechanical Engineering and is a certified Vibration Analyst, holding an ISO 18436-2 Cat III qualification.

Dr Emma Wilcox CMgr FCMI

Emma has been CEO of SocEnv since July 2015 and since joining the organisation has led the development of a new five-year strategy increasing registrations and profile of Chartered Environmentalists and Registered Environmental Technicians.

Her career has spanned a number of disciplines including scientific research, knowledge and technology transfer, skills and education, programme and business management and stakeholder and relationship management. Emma's strong academic background is supported by an in-depth knowledge of both public and private sector landscapes.

PROGRAMME

09:00 – 09:30 **Registration – tea/coffee with exhibition**

09:30 – 09:50 **Introduction**
Sir John Parker, SOE Patron, Society of Operations Engineers

09:50 – 10:25 **Keynote: Engineering expertise, safety and risk**
Dr Carolyn Griffiths, Trustee, Engineering Council

Endeavours that seem hugely dangerous at first sight can turn out to be perfectly manageable in light of systems and procedures developed from engineering expertise: consider civil aviation. On the flipside, accidents reveal crucial weaknesses in operational systems. Engineering expertise and risk analysis play complementary roles.

- Optimising people and systems engineering: avoiding the trap of blame
- Tailoring maintenance systems to meet operational and safety requirements

10:25 – 11:00 **Keynote: Cybersecurity issues for a digitally connected industrial world**
Nigel Stanley, CTO, TÜV Rheinland

Connectivity is a modern technological megatrend. No longer bound by 20th century electromechanical I/O, more and more types of plant are finding their voice, and speaking the language of data. And more and more intelligent devices are listening. With greater connectivity comes cybersecurity risks, and the need to manage them.

- Examples of dangerous connections/risk, and potential mitigative strategies
- When software isn't enough: applications suited to hardware-based security

11:00 – 11:25 **Coffee break**

11:25 – 12:10 **Morning panel session 1: The strange new world of data**

How can sharing data improve industrial safety regulation?
Matt Clay, Health & Safety Laboratory

What if the HSE could collect industrial accident reports, worldwide? Doing so might help them find emerging patterns, trends and the causes of safety failures. This is the purpose of a big data project, 'Discovering Safety' currently in progress at its R&D contractor, the Health and Safety Laboratory.

How artificial intelligence works, and how it is applied in industrial applications
Deepinder Chhabra, Verizon Professional Services

Much of the data processing – the 'heavy sifting' – used in innovative computer services ranging from Amazon Alexa to chatbots is being carried out semi-autonomously by computer systems. Understanding their capabilities and limitations can reveal the constraints on managing the information ('big data') produced by connected industrial devices.

12:10 – 13:00 **Morning panel session 2: Comparing remote connectivity systems across industry**

Charles Salter, Managing Director, Ace Lifts: I-Com system for lift maintenance monitoring
Heikki Rekola, Service Product Management, Konecranes: Truconnect Remote Monitoring
Ian Pledger, Service Engineer, Schaeffler UK: FAG SmartQB
Damion Lewis, Senior Sales Engineer, Tom Tom Telematics

As equipment control systems become more sophisticated, they can provide greater amounts of information about equipment status and health. That diagnostic information can offer early warnings before breakdown, for example. We bring together several suppliers of different types of plant, to compare and contrast their workings, benefits and consequences.

13:00 – 13:45 **Lunch and networking with exhibition**

13:45 – 15:50 **Pick a technical stream from the following:**

Commercial vehicle technology

Fixed plant operation and maintenance

Risk, safety and engineering competence

14:55 – 15:15 **Coffee break**

STREAM NAME/TIME	COMMERCIAL VEHICLE TECHNOLOGY	FIXED PLANT OPERATION AND MAINTENANCE	RISK, SAFETY AND ENGINEERING COMPETENCE
13:45 – 14:20	**Stuart Cottrell,** Head of Advanced Engineering, ADL **Forth Road Bridge bus automation** This Stagecoach/ADL project modifies standard series-produced Enviro200 buses by adding enabling technology to provide automated driving on the Forth Road Bridge in Scotland.	**John Brewington,** Innovation Manager, Smart Cities and Model Sites Team, SevernTrent Water **SevernTrent intelligent sewage pumping plant project** SevernTrent has begun a trial of three connected pumping stations. Linking them provides a broader view of an entire water catchment area to optimise flows in all weather conditions, helping to minimise flooding and pollution incidents.	**Mostyn Bullock,** Director, Tenos, and Member, IFE **Defining competence in fire engineering post-Grenfell** The Hackitt review of the Grenfell Tower disaster recommended a review of the competence framework of engineers working with some types of residential high-rise buildings. In fact, a number of fire engineering-related competence schemes already exist.
14:20 – 14:55	**John Birtwistle,** Head of Policy – UK bus, First Group **MultiCAV project: extending opportunities for public transport** First Group is leading the MultiCAV project which is bringing new types of vehicle to provide public transport on public roads in Didcot. The project will test innovative autonomous vehicles whilst ensuring the safety of other road users, "drivers" and passengers, in all possible conditions of operation, while providing an efficient and reliable service.	**Tony Fong,** Engineering Manager, ORE Catapult **Remote maintenance of wind turbines** Last year, offshore wind turbine manufacturer GE began a four-year, multimillion pound project with the government-funded R&D organisation Offshore Renewable Energy (ORE) Catapult, to develop new digital and service offerings to operate and maintain offshore wind turbines remotely, including robotic maintenance, extra digital troubleshooting tools, and improved componentry.	**BRE** **Revisions to BS 7974: Fire Safety Engineering** The first-ever update of BS 7974, Application of Fire Safety Engineering Principles To The Design of Buildings, Code of Practice, was released earlier this year. The revision offers a greater emphasis on competence, among other changes. Technical consultancy BRE was involved in the revision work, and explains its philosophy and mechanisms.
14:55 – 15:15	**Coffee break**	**Coffee break**	**Coffee break**
15:15 – 15:50	**Mohammad Mesgarpour,** Head of Data Science and Research, Microlise **Microlise Driver Competition** The fifth annual Microlise Driver's Competition drew from a pool of 210,000 drivers operating trucks with the company's telematics system fitted. Crunching the numbers involves statistical methods developed with the University of Nottingham.	**Antoine Despujols,** professor, Université Paris-Est Créteil, and delegate to EFNMS, European Federation of National Maintenance Societies **What should a maintenance technician know?** Last year EFNMS laid out a structure of the competencies of engineers, technicians and managers involved in maintenance, as well as guidelines on how to specify equipment to ensure a required level of reliability. The speaker participated in this project and maintenance standard EN17007.	**Gary Wilde,** Technical Services Officer, BPMA **Developing a collaboration between an industry association and academia** The British Pump Manufacturers' Association has begun a collaboration project with Lancaster University. The project focuses on two goals: helping raise training standards for pump engineers, as well as providing technical support for pump manufacturers.

15:50 – 16:15

Panel discussion: Professional registration

Moderator: Paul Bailey, Deputy Chief Executive, Engineering Council

Dr Emma Wilcox CMgr FCMI: CEO, Society for the Environment

Alistair Baldwin EngTech, irtec Master Technician: TruckEast Norwich

Steve Catte CEnv IEng HonFSOE, Engineering Council Board Member

Tony Robinson CEng MSOE

Engineers learn every day, as they carry out duties maintaining and inspecting industrial plant and vehicles. While those challenges alone may keep them fit and competent for the work immediately at hand, they do not necessarily provide the bigger picture. Our panellists discuss how professional registration can help.

16:15 – 16:50

Closing keynote: Interfaces between engineering, academia, industry and science

Shaun Fitzgerald, Director of the Royal Institution

Science may be the study of the physical world, but the lens that scientists peer through was ground by an engineer. Scientists study at university; engineers are apprenticed to industrial workshops. Can these barriers broken down? Supposing they can be, what might be the consequences?

- What can engineers learn from scientists, and vice versa?
- First steps toward greater integration

16:50 – 17:00

Closing remarks

Mick Sweetmore, President, Society of Operations Engineers

17:00 – 17:45

Drinks and networking

HOW TO BOOK YOUR PLACE

Fees and charges

Registration fee includes entry to the sessions, all day refreshments, buffet lunch, networking reception and a delegate pack with the copy of conference proceedings.

DELEGATE TYPE	EARLY BIRD (ends 30 August)	STANDARD RATE
SOE Member	£45	£60
Non-member	£90	£120
SOE supporting organisation	£60	£75

All prices exclude VAT

TWO WAYS TO BOOK

1. Online: **soe.org.uk/symposium**
2. Phone: +44 (0)20 7630 2174

Conditions of booking

Booking should be made online wherever possible, or over the phone. Any events with a paid element must be paid in full before the event to guarantee attendance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry. We offer card payments for individuals, or card and invoice options for organisations.

Special requirements

Please inform us of any special requirements, i.e. dietary or access, on the relevant section of the booking form or email **events@soe.org.uk**

Cancellation period and refunds

For a full refund, cancellation must be received at least 30 days prior to the event. With notification period of 29 days – 15 days the Society will refund 80% of payment, with period of 14 days – 8 days 50% respectively and with 7 days or less, refund is no longer available. Replacement delegates are welcome at any time. All cancellations or reductions in numbers must be confirmed in writing.

The society reserves the right to cancel any event. In this case, the full fee will be refunded unless a mutually convenient transfer can be arranged. In the event that the society postpones an event for any reason and the delegate is unable or unwilling to attend on the rescheduled date, they will receive a full refund of the fee paid.

Please note that while speakers and topics were confirmed at the time of publishing, circumstances beyond the control of the organisers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. The society reserves the right to alter or modify the advertised speakers and/or topics if necessary, without any liability to you whatsoever. Any substitutions or alterations will be updated on the event's webpage as soon as possible.

For full T&Cs please visit event website address **soe.org.uk/symposium**

Liability

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and/or personal belongings.

Conference Venue

thestudio Birmingham
7 Cannon Street, Birmingham, B2 5EP

SPONSORSHIP AND EXHIBITION OPPORTUNITIES

The SOE Symposium offers many sponsorship opportunities for your organisation to increase your exposure/brand awareness and raise your profile both in the build up to, and during the event. These opportunities could be taken up in association with the main sponsorship packages or exhibition stand booking.

The symposium is expected to attract around 200 attendees, making it the ideal opportunity to get your messaging over to a diverse engineering audience including senior decision makers from across many industries.

Opportunities will be based on a first come first served basis.

Main benefits include:

- Engage face to face with your target market of senior engineers
- Extensive networking opportunities to help you forge strong long-term business relationships with leading industry players
- Deliver high-profile and relevant brand exposure offline and online in the build up to the event and during the event
- Promote your products and services as market leaders in front of our influential audiences
- Generate new business leads

CONTACT THE SPONSORSHIP TEAM MANAGER:

Francis Mercer
Business Development Manager
Society of Operations Engineers
e: Francis.Mercer@soe.org.uk
t: +44 (0)20 7630 2177
m: +44 (0)7539 331 543

Society of Operations Engineers

t: +44 (0)20 7630 2174
e: events@soe.org.uk
w: soe.org.uk/symposium

Keep up-to-date with SOE

#SOEsymposium