

IRSE NEWS is published monthly by the Institution of Railway Signal Engineers (IRSE).

© Copyright 2017, IRSE. All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without the permission in writing of the publisher.

Chief Executive, IRSE

Francis How e-mail: francis.how@irse.org

Managing Editor, IRSE NEWS

Ian J Allison

11 Sycamore Road, Matlock, Derbyshire, DE4 3HZ, UK Tel +44 (0) 7794 879286, e-mail: irsenews@irse.org

Contributing Editors

David Fenner e-mail: d.c.fenner@talk21.com

lan Mitchell e-mail: ihmitchell@cantab.net

David Stratton e-mail: dhstratton@btinternet.com

Assistant Editors

Harry Ostrofsky (Africa)

e-mail: thehzos@icon.co.za

John Aitken (Australasia

e-mail: john.aitken@irse.org.au

David Thurston (N America)

e-mail: thurston@temple.edu

Mukul Verma (Asia)

e-mail: mrverma@gmail.com

David Fenner

e-mail: dc.fenner@talk21.com

Priyank Patel

e-mail: priyankpatel@tfl.gov.uk

Helen Kellaway (Social Media)

e-mail: helen.kellaway@siemens.com

Contributions

Articles of a newsworthy or technical nature are always welcome for IRSE NEWS. Members should forward their contributions to one of the Editors listed above

(Younger Members)

Production, Typeset & Layout

Mark Glover

e-mail: mark@polunnio.co.uk

Advertising

For advertising rates and deadlines call **Andrew Walker** at DVV Media Tel: +44 (0)208 652 5214

e-mail: andrew.walker@dvvmedia.com

Advertisements are accepted on the basis that the advertiser and agency (if any) warrant that the contents are true and correct in all respects.

Web Site

For latest information about IRSE events, news and how to become a member, visit **www.irse.org**. We welcome all those who are interested or involved in the fields of railway control systems, communications, data management or systems engineering.

London Office

IRSE, 4th Floor, 1 Birdcage Walk, Westminster, London, SW1H 9JJ, United Kingdom

Enquiries

MEMBERSHIP OR OF A GENERAL NATURE

Tel: +44 (0)20 7808 1180

Fax: +44 (0)20 7808 1196 e-mail: hq@irse.org

LICENSING

Tel: +44 (0)20 7808 1190 e-mail: licensing@irse.org

NEWS VIEW 230

IRSE Convention 2017



This month we open for bookings for the IRSE's annual Convention, taking place this year in the Dallas/Fort Worth area of the USA. Information about the event featured in the November 2016 edition of IRSE NEWS, and you can find out more on the Convention page of the IRSE website (under the **Events** tab).

Regular delegates to our Conventions will need no persuading of the incredible value that they offer but if you have not attended one before (or have not done so for several years), may I encourage you to seriously consider participating this year. Conventions offer an unrivalled combination of technical papers and visits to see other countries' systems, access to world-leading experts and companies, and above all, the opportunity to network with professionals from around the world.

Each year we offer a number of bursaries to younger members of the IRSE, to enable them to attend when otherwise they might not be able to. Twelve of them participated in last year's Convention, and each came back enthused about what they had seen and experienced. We received many powerful testimonies from them as to the value they derived.

One of them, Emylia from Malaysia, wrote "My attendance at this Convention has improved my technical skills and knowledge of railway signalling. I have learned many new things and made many new friends. I have been able to exchange experiences, ideas and information with IRSE members from other countries. I was inspired by their experiences in railway engineering, and I am looking forward to meeting them again at next year's Convention. This has been a great opportunity for me to learn and spread knowledge with other colleagues in Malaysia."

I encourage you to make 2017 the year that you attend the IRSE Convention. And if your employer needs convincing of the benefits of sending you, get him or her to take a look at the articles in the December 2016 edition of IRSE NEWS and why not put the case for attending in writing as well (see http://bit.ly/2j3b7X9).

Francis How, Chief Executive



Front Cover: International freight train entering the north portal of the Lötschberg Base Tunnel. The renewal of control systems in the tunnel is the subject of our article on p8. *Photo BLS Railway.*

	Less und Signaling Less change and Less change	
	IN THIS ISSUE	Page
	Low cost signalling Andy Stringer and Graeme Christmas	2
	Renewal of the tunnel control systems technology in the Lötschberg Base Tunnel, Hans Stadelmann and Oskar Stalder	8
	The development of the tasks of train drivers in the future Niels Brandenburger, Dr Anja Naumann and Dr Meike Jipp	12
	Secure by design: countering cyber threats Francis How and Robert Stroud	15
	SATLOC – An innovative train control system for low traffic-density lines, Teodor Gradinariu and Burkhard Stadlmann	17
	Industry News	23, 34
	The changing face of IRSE NEWS	24
	IRSE Matters	26
	News from the IRSE	26
	North American Section: An overview of the IRSE CBTC seminar, Toronto, December 2017	27
	Midland & North Western Section: An Inspector Calls	31
	Minor Railways Section: Technical seminar 2017 call for papers	32
	York Section: October and November technical papers	32
	Scottish Section: Annual Dinner and November technical paper	33
	Feedback	34
ı		