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MAGAZINE

The latest news & reviews from the industry

What's in Store at RAIL LIVE 2018

Revolutionising Rail: UKRRIN Centres of Excellence

& What does the EU-Japan Economic Partnership Agreement Mean for the Rail Industry?

Rail Live – Issue Two 2018

Letter from the Editor

Dear Readers, timed perfectly for the start of summer in the Northern Hemisphere where it's held Rail Live 2018 will take place at the Quinton Rail Technology Centre in Warwickshire on 20–21 June.

As always there will be plenty to see and do. **Vivarail**, who are based at the technology centre and whose aim is to produce low-cost, low-maintenance rolling stock, will exhibit their D-train, at Rail Live. Founded in just 2012, Vivarail purchased London Underground D78 stock in 2014 with the purpose of converting it into Class 230s. Last year's Rail Live was the first time such a converted Class 230 carried passengers. At this year's Rail Live Vivarail will exhibit a battery version of its D-train, which will once again give passenger rides.

Rail Live will also feature a bi-mode traction display on which will run a **Direct Rail Services** Class 88 locomotive (see cover) and a **Porterbrook** Class 769 (formerly Class 319 Flex). The ROSCO has taken its 319 electric multiple units and is converting them into tri- and bi-mode electro-diesel multiple units. Testing of the Class 769 is set to take place at the GCR heritage railway. The Class 319 was made redundant due to the arrival of the Siemens class 700 trains on the Thameslink network.

One of Rail Live's supporting partners, **UKRRIN**, is working with Rail Live to present cutting-edge research and innovation in rail engineering and technology. UKRRIN has four Centres of Excellence (Digital Systems, Rolling Stock, Infrastructure and Testing) in the UK and they will all be represented at the Central Display Area of the Rail Live's Innovation Zone. The Innovation Theatre will feature a programme of presentations on UKRRIN's plans and activities. To learn more about UKRRIN's Centres of Excellence, please see Nailah Fraser Haynes's editorial on page XX in this publication.

I also want to draw your attention to the feature What Does the **EU-Japan Economic Partnership Agreement** Mean for the Rail Industry? The (revised) WTO Government Procurement Agreement that came into force in 2014 addresses government procurement for goods and services based on openness, transparency and non-discrimination. Up until now Japan has managed to keep its rail market closed despite the GPA. However the new agreement with the EU will change this, giving rail industry suppliers on both sides greater market access.

Our next issue, due to be published in September 2018, will focus on **InnoTrans**, held in Berlin at the trade fair grounds Messe Berlin from 18–21 September. It is by far the biggest rail show in the world and is a must-attend event. If you are going and would like to be represented in our magazine, please contact Andrew Lush at **al@railway-news.com**.

Please enjoy our 2nd issue of 2018!

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If you would like to submit editorial content, or you are interested in giving an interview for the magazine, please contact **Josephine Cordero Sapién**. If you would like your company to join Railway-News's online platform, please contact **Andrew Lush**.

To subscribe to our newsletter, visit **www.railway-news.com**.

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What's in Store at RAIL LIVE 2018

RAIL LIVE 2018 will once again take place at the Quinton Rail Technology Centre, Long Marston, near Stratford-upon-Avon, on Wednesday/Thursday June 20/21.

Vivarail D-train Class 230: licence CC0

Once again the show will retain all the ingredients that has made it so successful over the past five years.

This year however the event will be similar to a major international air show in nature, just applied to the rail market. Exhibitors can do everything at RAIL LIVE 2018 that they could do at Birmingham's NEC or London's Excel – with the unique added advantage of plenty of open-air space and adjacent tracks to both demonstrate rail plant/equipment (the traditional heart of RAIL LIVE) and exhibit passenger trains and other rail vehicles.

A major feature at RAIL LIVE 2018 is the exhibition hall/convention centre – a 2,500 square metre high-quality climate-controlled temporary building in which exhibitors include: Hitachi, Eversholt, Talgo, Porterbrook, Office of Rail Regulation, National Skills Academy for Rail, Rail Delivery Group, High Speed 1, High Speed 2 and the Rail Safety & Standards Board (RSSB). This building will also house a 300-seat conference hall where the National Rail Convention will be staged. The opening keynote speech is due to be given at 10:30am

Interior of Class 345 (Crossrail): © Sunil060902 under licence CC BY-SA 4.0

by Secretary of State for Transport Chris Grayling. Other scheduled speakers include BEIS Minister Richard Harrington, RDG Chief Executive Paul Plummer, NR CEO Mark Carne, TfL Commissioner Mike Brown, Urban Transport Group Chairman Tobyn Hughes and many more. Full details can be found at raillive.org

Including outside stands, there will be over 300 exhibitors.

Railway magazines have partnered with The Rail Alliance to develop and enhance the established and successful RAIL LIVE plant show, which occupies 120 acres of the ex-Ministry of Defence installation at Long Marston. QRTC has five miles of sidings capable of storing more than 1,000 vehicles, encircled by a 3km continuous test track with its own small station and even a short section of OLE. Several rail engineering and maintenance companies are based here, including Vivarail, whose workshops produce its Class 230 diesel-electric and prototype battery D trains, using refurbished former London Underground sub-surface trains. QRTC is the perfect location for RAIL LIVE 2018.

There's plenty of business interest and opportunity – but running alongside this will be many demonstrations/special features, including tactical displays by 35 British Transport Police officers; a unique opportunity to examine Network Rail's survey helicopter; a bi-mode traction display for both passenger and freight (Porterbrook Flex Class 319 conversion and a DRS Class 88 locomotive) plus Vivarail's D train battery prototype, which will be giving passenger rides. You can even take a short ride behind Britain's only operational hydrogen-powered fuel cell locomotive and try your hand at flying a drone.

But the heart and soul of RAIL LIVE continue to be its world-class plant exhibition/demonstrations, pioneered successfully at Long Marston over the last five years. Network Rail and its senior managers have always played a key role in RAIL LIVE and continue to do so. RAIL LIVE 2018 and the associated NATIONAL RAIL CONVENTION are open to all UK rail industry professionals; there are no admission fees. It's best to pre-register to ensure rapid entry

into the show.
To register, go to **www.raillive.org.uk**. Please note that this form registers you for admission into both the RAIL LIVE 2018 main gate and the NATIONAL RAIL CONVENTION in the exhibition building.

MAJOR FEATURES OF RAIL LIVE INCLUDE:

- **NATIONAL RAIL CONVENTION:**
- **0ver 300 exhibitors booked in the exhibition building and outside**
- **Major rail industry companies exhibiting including: Network Rail, Siemens, Porterbrook, Balfour Beatty, Talgo, Eversholt, Hitachi, SPl & CPL Powerlines**
- **Plant demonstrations by Railcare Sweden, Balfour Beatty, AP Webb, GOS Engineering, Sandhurst Rail, Ground Control, Engcon to name but a few**
- **Battery, bi-mode & hydrogen motive power on display.**
- **Prototype Vivarail battery D train on display/being demonstrated**
- **Working hydrogen locomotive from the Institution of Mechanical Engineers' RAILWAY CHALLENGE held each year on the 10.25in gauge Stapleford Miniature Railway, Melton Mowbray**
- **DRS Class 88 and Class 769 EMU bi-mode 'Flex' (formerly Class 319) conversion from Porterbrook/Wabtec.**
- **NETWORK RAIL survey helicopter on display plus drone survey unit demonstrations.**
- **NETWORK RAIL Plain Line Pattern Recognition (PLPR) high-definition video track survey train**
- **Bombardier Class 345 'Aventra' Elizabeth Line (Crossrail) train, courtesy Transport for London.**
- **GBRF Class 66 Freight locomotive**
- **BRITISH TRANSPORT POLICE: counter-terror, trespasser on train roof removal and dog unit displays, including explosives detection by 'sniffer' dog Mojo and Constable Phil Healy, from Manchester. Also, mobile command unit/level crossing video camera vehicles open/on display.**
- **Rail accident investigation branch: incident response unit on display**

Class 319: © Peter Skuce under licence CC BY-SA 4.0

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Products and services for more safety, reliability and availability of your railway tracks from Thermit Welding (GB) Ltd

Thermit Welding (GB) Ltd, part of the Goldschmidt Thermit Group, offers a wide range of new and innovative solutions to provide significant improvements all across the railways. From enhanced rail cooling devices to improvements in digital monitoring of the weld process, Thermit Welding and the whole Goldschmidt Thermit Group are pioneering advancements to the railways worldwide.

GOLDSCHMIDT GOES DIGITAL

A big priority in 2018 for Thermit Welding is to increase the use of digital solutions. The SMARTWELD RECORD is one such device that highlights our answer to this requirement for digitisation. The SMARTWELD RECORD allows for digital recording of the entire weld process, including preheating pressures. This is facilitated by the SMARTWELD Application, part of the GOLDSCHMIDT DIGITAL APP, with the data being stored to an android device with further options to export the data to the cloud. With devices such as the SMARTWELD RECORD digital weld inspection and automated weld data gathering are no longer ideas of the future.

EFFICIENT TOOLS AND MACHINES FOR TRACK WORKS

Following along with our focus on both safety and efficiency Thermit Welding offers new enhancements to our range of rail tools. One example of these tools is the RD 300 P, the latest rail drill from the Goldschmidt Thermit Group. The RD 300 P enables quick and precise drilling of the rail web, allowing drilling times of 20 to 60 seconds dependent on the hole diameter and rail hardness, and comes equipped with an enhanced quick clamp device. The device also brings ergonomic benefits due to its light weight and perfect centre of gravity. Through safer and higher performance our tools enrich the day-to-day working of a rail engineer.

One of the latest devices, pioneered by Thermit Welding (GB), is the SMARTWELD ACE (Accelerated Cooling Equipment) that has been designed to decrease the overall cooling time of a weld. The SMARTWELD ACE is a purpose-built battery-powered water misting system, engineered to be placed on top of an aluminothermic weld following the shearing of the weld. By removing a greater proportion of the weld waste material (via the Gull wing shear blade) and then applying a fine water mist to the

Rail Drill RD 330 P

Road-rail vehicle LRD 18 TCC

cooling weld approximately 15 minutes can be saved per weld. Thanks to careful development and testing Thermit Welding can guarantee that this time-saving method will have no effect on the high quality that a THERMIT® weld is known for. Further to this, cost savings are also possible with this device as it allows for more welds to take place in given possession times.

ROAD-RAIL VEHICLES: UNBEATABLE MOBILITY ON THE TRACKS

The road-rail vehicles from the Swedish group company SRS Sjölanders AB can be used both on rail and on the road and are custom-made to meet your needs and requirements thanks to different attachments and superstructures. Road-rail vehicles are available for the installation, inspection and maintenance of overhead lines, bridges & tunnels and welding as well as cranes & rescue applications. We can also offer special road-rail vehicles in modular construction, with heavy cranes and trolleys and road vehicles for different applications.

RAIL MEASURING SYSTEMS FROM GRAW

GRAW, the latest member of the Goldschmidt Thermit Group specialises in the development and production of computer-controlled geometry measurement devices and systems for tracks and switches and for the rolling stock wheels. They manufacture portable devices and also develop real-time systems for track geometry vehicles as well as stationary wheel geometry systems. Furthermore, GRAW has extensive experience in developing software for the collection, processing, analysis and storage of measurement data.

Track geometry measurement system with laser-based rail profile measurement

Please visit us at our booth **E21** at **Rail Live** to get more information on our product range and see our products demonstrated live.

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What Does the EU-Japan Economic Partnership Agreement Mean for the Rail Industry?

After four years of negotiations, the EU-Japan Free Trade Agreement is now in the final stages of ratification, with both sides aiming to bring the trade deal into force by early 2019.

By Keri Allan

The overall object of this agreement is to increase trade flows between the EU and Japan, and once concluded, it will open up huge market opportunities for both sides.

One of the big winners will be the European rail industry, thanks to changes pushed through around public procurement – in particular the Operational Safety Clause (OSC). This OSC in the WTO Government Procurement Agreement (GPA) has allowed certain entities in Japan not to abide by GPA procurement rules. The EU-Japan deal is set to change this.

Currently, only 3.5% of public procurement in Japan comes from foreign firms, in part down to difficulties foreign suppliers face in the Japanese procurement market. This includes extensive use of the OSC to exclude foreign suppliers from being able to bid for public contracts, and also complex customer-supplier relationship requirements, which favour domestic bidders.

In addition, new bidders are often put off by the requirement that suppliers must be able to demonstrate past experience working in the Japanese market.

"Japan is one of the major world rail markets and can therefore offer major business opportunities

JR East train: © Yuichi Kosio under licence CC BY 2.0

for the European rail supply industry. Nevertheless, foreign penetration on the Japanese rail market remains low, especially with respect to rolling stock," **says Jonathan Nguyen, Public Affairs Manager at the Association of the European Rail Industry UNIFE.**

"Although some European manufacturers have managed to enter the Japanese rail market on niches, mostly at the component level, the wide majority of European suppliers encounter major hurdles hampering their access to the market. There are several reasons for that, the most important being the OSC, which has effectively enabled Japanese public entities not to procure in a transparent, non-discriminatory manner."

The EU-Japan talks have led to an agreement in principle that provides EU rail suppliers with better access to contracts put out for tender in by Japan's central, regional and local governments by removing the OSC.

"The effect of this agreement is to exempt European firms from the application of the OSC," says Nguyen. *"This will apply within one year of when the agreement comes into force. In exchange the EU has granted Japanese suppliers partial access to the European railways procurement market."*

Japan has also agreed to accept an exchange of letters on railways – covering the **Railway Industrial Dialogue** and the **Technical Expert Group on Railways** – cementing the current co-operation between the two sides to the free trade agreement.

"Both initiatives, which were already launched while the negotiations were still ongoing, will continue in the future," says an EU official. *"The success of the Railway Industry Dialogue will depend on the willingness of European companies to engage with the process.*

"Japanese railways operators have a genuine interest in EU products, but that interest is very much focused on innovative cutting-edge products. The Technical Expert Group will continue working on technical standards, which will help bring the EU and Japanese industries closer together and remove regulatory trade barriers," they explain.

So what does this all really mean for the European rail industry? Well, essentially it comes down to EU companies being able to participate in procurement bids in Japan on an equal footing with domestic businesses.

"Progress was already achieved in 2014 with the 'one-year package' of measures on railways, which were helpful to begin increasing transparency in procurement and facilitating market penetration by European suppliers. Nevertheless, more needed to be done to level the playing field. This is why we welcomed the long-awaited announcement of the removal of the OSC," says Nguyen.

"[But] to ensure a level-playing field on respective markets, it is now key to ensure that commitments made by Japan are actually enforced and result in changes in business practices," he adds. *"A strong and dedicated method to monitor rail procurement should be set up. It is also crucial that private or non-covered entities abide by codes of conduct to guarantee transparent and non-discriminatory treatment of European rail suppliers."*

Concerns have been raised regarding the recent privatisation of some Japan's most important rail operators – Japan Rail (JR) East, JR Central and JR West, with further privatisations expected to follow. This is because they bring the operators concerned formally outside of the scope of both the GPA and upcoming free trade agreement because their purchases no longer fall under the definition of 'public procurement'. But, as one EU official explains, these new companies have committed to honour open and fair procurement policies.

"To alleviate this [issue], the JR companies have – on their own initiative –made public statements emphasising their commitment to open and competitive procurement procedures as part of their business philosophy," they explain. *"The Government of Japan has formally informed the European Commission of those commitments."*

Trade relationships look set to greatly improve between Europe and Japan with the arrival of this new free trade agreement and businesses in the EU and Japan are keen to take advantage of this agreement.

One current EU Member State, however, faces uncertainty. With Brexit still looming, where does this leave the UK?

The UK won't automatically get access to the EU's existing deals after it exits in March 2019, but in this particular case Japan has said it wishes the EU deal to apply to the UK during the transition period, which is set to run until December 2020. It does mean that the EU-Japan deal must be in place before the UK formally exits the EU in March 2019. As a result the lead negotiators from both sides have said that it is a high priority to get it in force before then.

"We have been cutting all administrative blockages and using all resources," Mauro Petriccione, the EU's chief negotiator with Japan, said at a recent press conference.

However, with the UK keen to strike its own trade deals it is set to leave the EU's Single Market and Customs Union. The UK has said it would like to copy and paste the deal with Japan after that, but the Financial Times reports that Japan wants a better deal. The newspaper writes that *"while the UK is hoping to duplicate the wide-ranging access embodied in the Japan-EU trade pact, Japanese officials are hardening against offering an identical deal to a much smaller economy"*. Railway industry suppliers in the EU27 can look forward to greater access to the Japanese market in the near future. Those in the UK might be able to enjoy the benefits of the EPA for a while, but for them the future is uncertain.

French Eurostar: © Matthew Black under licence CC BY-SA 2.0

ZONEGREEN reduces third rail risk

All railways are dangerous, but some railways are more dangerous than others.

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The quantity of third rails in the southeast of the UK is greater than in any other area of the country and according to the Network Rail Electrical Power Asset Policy (December 2012) "it contributes almost eight times more (than the AC network) to overall risks on the railway".

In this day and age, the idea that bare, live conductors of 750 volts run through our places of work at ground level is hard to comprehend, yet these are exactly the dangers facing depot operatives.

Zonegreen, the Sheffield-based rail safety specialists, are using their considerable industry experience and expertise to tackle the issue.

Christian Fletcher, Zonegreen's technical director, said: "The safest way to protect personnel is to keep them away from areas of risk. It is estimated by the BBC that the costs involved in converting the third rail system to overhead lines would be in excess of £17 billion, so clearly, more viable measures are necessary."

The railway in the southeast was one of the first to be electrified in the 1930s using the third rail system and much of this infrastructure remains today. Indeed, some older depots still do not have safe external walkways or adequate lighting, making for challenging working conditions in yards alongside the third rail. Consequently, accidents are far more likely to occur.

What can and is being done to improve safety?

The Office of Rail and Road's (ORR) policy states: "Where existing third rail needs to

continue being operated, maintained and renewed, the rail industry must ensure continuous improvements in the design, operation and maintenance of such electrical systems."

Traditional safety measures, for example the use of protection boards and written procedures, are still commonplace in depots today. However, both of these manual systems are open to human error and do still lead to fatalities among depot workers, resulting in untold grief for family members and colleagues and huge fines for their employers. Evidently, there is a need for better employee safeguards.

Zonegreen is leading a two-pronged attack on the risks associated with third rails to improve protection for workers at rail depots via its Interlocking and Points Converter systems.

The basic role of interlocking is to protect personnel and equipment from the dangers posed by live traction power supplies. Zonegreen's system works by inhibiting the use of third-party equipment until the third rail has been isolated, through a combination of mechanical keys and electronic contacts. Areas of risk are fenced off and access is controlled using interlocked gates, a method that is routinely seen in depots where staff are protected from live overhead lines.

This type of system is particularly beneficial on stabling roads, where operations such as cleaning and sanding are completed. Workers are often required to walk in and around the six-foot space alongside the third rail, putting them at considerable risk.

The Zonegreen Points Converter, an innovative method of automating manual points, has also been designed to increase safety in rail depots and can be used to reduce the dangers associated with the third rail.

Points Converters are fitted retrospectively to existing manual hand points and can be controlled either by key switches located in a position of safety, remote handsets or a central computer system. This allows the point to be operated remotely, without putting people in harm's way.

The innovative system removes the need for shunters to traverse potentially long distances to reach manual points, at all times of the day and night. In areas where there is potentially poor lighting, ballast and uneven surfaces, the dangers of contact with the third rail are heightened and ever present.

Points Converter is a low-cost, easy to use system that maintains the integrity of the underlying hand point and requires only minimal civil works and changes to operating procedures. Routes can be pre-set through multiple points, which can be reconfigured or upgraded at any time and an event logging facility is incorporated, to enable the depot manager to keep a record of all points operation.

Christian Fletcher added: "To help reduce the risks inherent in third rail areas, it is vital to have properly engineered systems that can play a major role in protecting depot staff. By applying our ability and technology to the issue, we can help to prevent personal injury and the associated costly damages."

For the foreseeable future, the third rail is here to stay. Its removal would mean converting 2,500 miles of track, a new fleet of trains and the reconstruction of depots, bridges, tunnels and stations.

The ORR Strategy for Regulation of Health and Safety Risks in May 2017 called for "safety improvements in yards, depots and sidings, in particular in relation to electrical risks". Overall, the best way to protect people from the harm the third rail can cause is to keep them away from it. Thanks to Zonegreen, life-saving solutions that embody these requirements are readily available.

For more information about Zonegreen's interlocking and Points Converter systems, telephone **(0114) 230 0822**, email **info@zonegreen.co.uk** or visit **www.zonegreen.co.uk**

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REVOLUTIONISING RAIL: UKRRIN CENTRES OF EXCELLENCE

Railway research is a major area of research in engineering, management and policy around the world. There are dedicated centres in universities in the USA, UK and Europe.

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These institutions develop their own research programmes, but collaboration between centres and with industry is also vital for the successful testing and, if appropriate, implementation of their ideas and recommendations. The UK Rail Research and Innovation Network (UKRRIN) is one of several organisations around the world which facilitates these exchanges thanks to four Centres of Excellence around the country involving eight universities. The network officially opened in April 2018 and welcomes approaches from interested parties. In this article Nailah Fraser Haynes tells Railway-News what her organisation does and why it will 'revolutionise' innovation in the rail industry.

Railway-News (RN): What is the UKRRIN, and why do we need it?

Nailah Fraser Haynes (NFH): In 2017 the Rail Supply Group (RSG) launched a strategy setting out its desire to strengthen and develop the UK rail supply sector. 'Fast Track to the Future' detailed a plan to create a network of world-class Centres of Excellence at different universities around the UK to overcome the dreaded valley of death, and accelerate the uptake of innovation research and development, allowing projects to be brought to market more quickly and effectively.

These Centres of Excellence were selected following a request for proposals to support a bid for Higher Education Funding Council for England (HEFCE) Research Partnership Investment Fund (RPIF) funding. A process which was facilitated by the Rail Research UK Association (RRUKA)

on behalf of RSG. The fund is designed to support investment in higher education research facilities and aims to:

- **Enhance the research facilities of higher education institutions (HEIs) undertaking world-leading research**
- **Encourage strategic partnerships between HEIs and other organisations active in research**
- **Stimulate additional investment in HE research**
- **Strengthen the contribution of the research base to economic growth.**

This is where UKRRIN comes in. Launched with a parliamentary reception in February, UKRRIN is a ground-breaking partnership between the rail industry and eight universities to bring the rail industry four new world-class Centres of Excellence covering: rolling stock, infrastructure, digital systems and testing. Seventeen industrial partners have come together and are part of the UKRRIN network including Siemens, Unipart Rail, Railway Industry Association, British Steel and many more. The network builds on the achievements of its predecessors RRUK and RRUKA and brings the UK rail sector the means to provide a step-change in research, development and innovation with a focus on bringing new technologies and products developed through collaborative academic research into market applications globally.

CENTRES OF EXCELLENCE

Centre of Excellence in Digital Systems (CEDS)

This centre is led by Professor Clive Roberts at the University of Birmingham. It aims to deliver a step-change in rail transport through digital technology and has four key themes: Future Railway Operations and Control; Data Integration and Cybersecurity; Smart Monitoring and Autonomous Systems; and Introducing Innovation. The CEDS is becoming the 'go to' facility for the integration and verification of digital technologies across all of these themes and with the Introducing Innovation theme, will be able to work from Technology Readiness Level 1 right through to market introduction.

Centre of Excellence in Infrastructure (CEI)

CEI is led by Professor William Powrie at the University of Southampton. It aims to create high-performance, low-maintenance railway infrastructure through research and innovation and will integrate the specialist centres for railway infrastructure research in the UK with the industrial base and network operators. It will provide straightforward access to leading researchers and facilities, to generate practical improvements in the performance and whole-life cost of railway infrastructure and accelerate innovation from research into practice.

The vision is for the centre as a resource to provide the rail industry with access to some of the most up-to-date test facilities anywhere in the world, cutting-edge methods for field tests and measurements, and a broad base of internationally recognised scientists and engineers with significant experience in the rail industry.

Centre of Excellence in Rolling Stock (CERS)

Led by Professor Simon Iwnicki at the University of Huddersfield, the Centre of Excellence in Rolling Stock (CERS) is a group of three universities bringing together expertise and facilities from the University of Huddersfield, Loughborough University and Newcastle University.

The CERS will meet the current and future demands of the GB rail industry for research and innovation to support the next generation of railway vehicles. It will link with other centres in the UKRRIN network to provide a 'one stop shop' for all rolling stock development providing the following high-quality research and world-class testing facilities:

- **The Traction Drivetrain and Braking Facility**
- **The Pantograph Interaction Dynamics Facility**
- **The Virtual Train Design Lab**
- **The Maintenance Reliability and Passenger Interaction Facility**

The vision for the CERS is to provide the facilities and expertise required to allow the railway industry to develop innovative products and processes to ensure that the rolling stock of the future meet the needs of passengers and freight customers.

Centre of Excellence in Testing (CET)

Led by Network Rail's Rail Innovation Development Centre (RIDC) Programme Manager Amanda Mackie, the Centre of Excellence in Testing (CET) aims to help accelerate the adoption and transformational change in rail systems technology, and new railway products and services.

It incorporates access to existing at-scale test facilities, including those provided by Network Rail RIDCs (in Melton and Tuxford), Transport for London (Acton & Stratford), and Quinton Rail Technology Centre (Long Marston).

Capabilities across the CET testing and trialling facilities include high and low-speed facilities for vehicle and infrastructure testing including 25Kv OLE and 3rd/4th DC, crossings, embankments, tunnels, bridges, jointed and continuously-welded track, a loop, telecom innovation lab, systems performance simulation testing, instrumentation services, and mechanical fabrication for prototyping.

The vision for the CET is to accelerate adoption and transformational change in rail systems technology, and new railway products and services. This centre will link with others in the UK Rail Research and Innovation Network to provide a 'one stop shop' for testing and trialling, and we will support the 'Four C's' of the Rail Technical Strategy, and in particular Key Capability 12 in the Rail Technical Strategy Capability Delivery Plan.

The development of UKRRIN provides a clear map of UK rail expertise and facilities, with a model which focuses on the selected centres of excellence and includes partners and affiliates able to support delivery in key areas.

Rail Challenge #1: Legacy system upgrades

Challenge Charcroft to help you to overcome obstacles to designing upgrades for electronic systems in rolling stock or signalling. The flexibility to customise standard products can enable new components to become drop-in replacements for legacy parts, or provide additional environmental protection against harsh environments.

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- Tantalum

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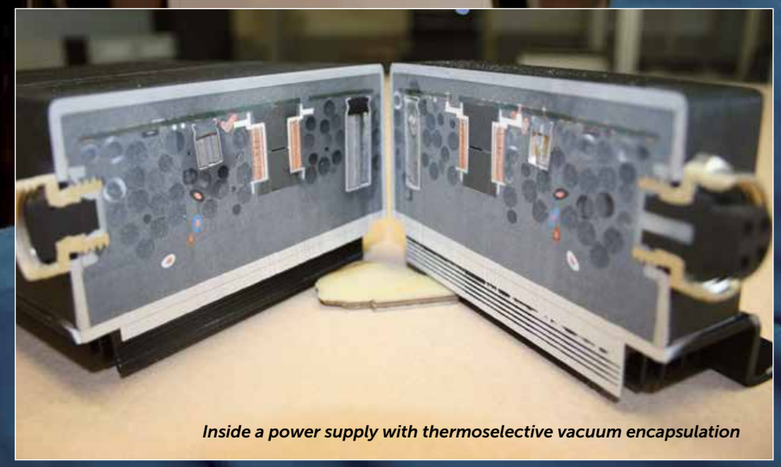
MTM Power's patented thermoselective vacuum encapsulation process

Meeting the Power Supply Challenge for Rail Electronics

Supplying power to electronic systems in the rail industry means overcoming extreme environmental and operational challenges. It is no surprise, therefore, that power supplies can often be the cause of system failures, as Charcroft's Chris Leek, explains.

Specifying a power supply for use in the rail industry goes beyond meeting the standard form, fit and function of conventional electronic systems. The chosen unit must withstand environmental factors such as shock and vibration as well as dirt and other contaminants. It must also operate reliably in the presence of high transient voltages. If the supply is not rugged enough, any one of these factors could result in a system failure.



Inside a power supply with thermoselective vacuum encapsulation

Withstanding Transients

For one OEM, the cause of an intermittent failure of the door control system on passenger rolling stock had been identified as high transient voltages. The power supply unit's (PSU) reaction to the transient voltages was so extreme that some of the units had ignited on the PCB. Finding a replacement unit, however, proved to be a challenge.

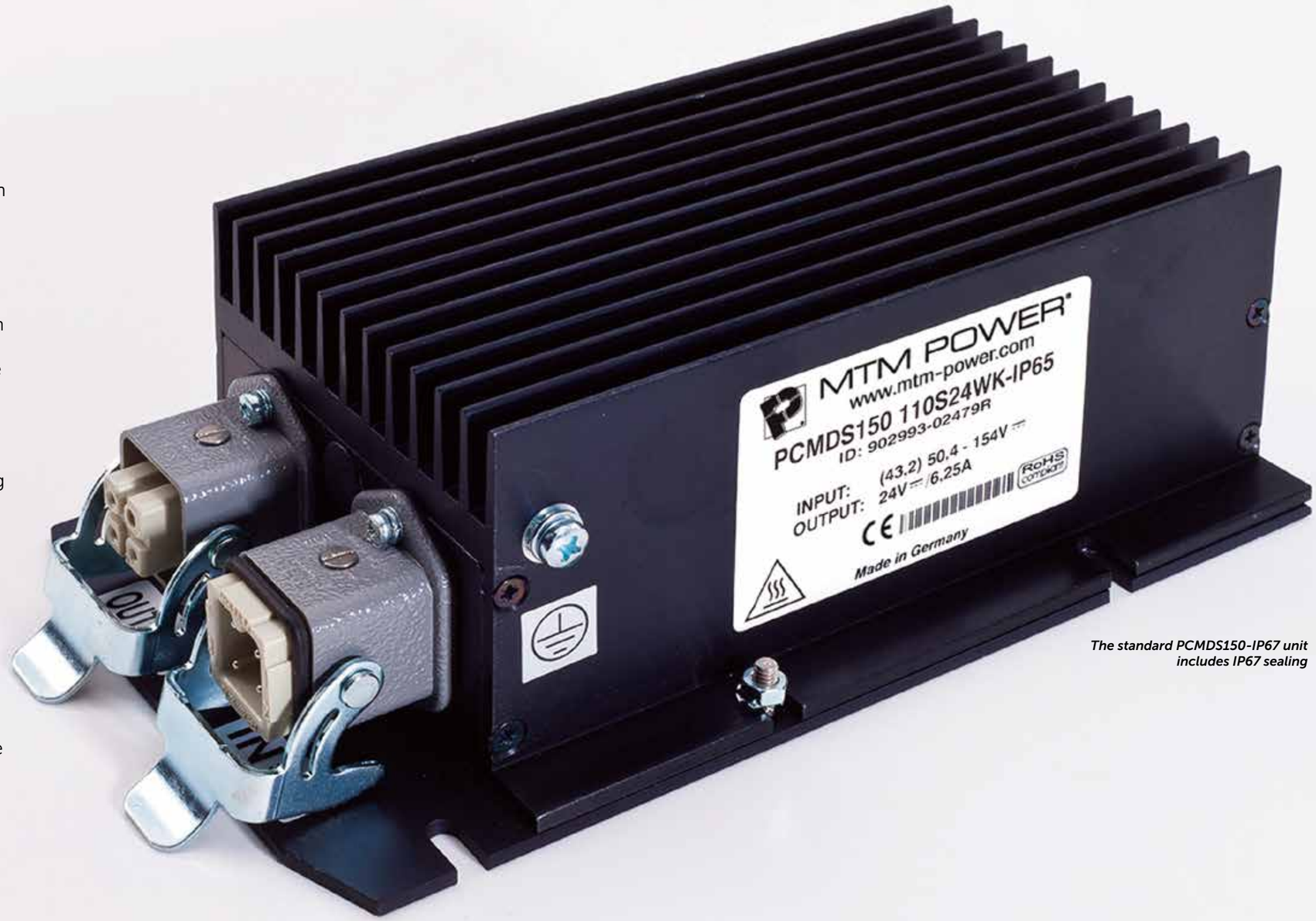
After discussions with the OEM's engineers, Charcroft suggested replacing the original units with a PMDS30 110S24U-VT, DC-DC converter, from MTM Power. The new unit's ultra-wide, 33–154V DC input range would protect the electronics from transients and ensure a fully isolated and regulated supply to the equipment. To match the mounting arrangements of the original unit, Charcroft arranged for MTM to supply a modified pin-mounted converter, fitted to the PCB with input and output connectors in the existing arrangement. This modification to the mounting configuration allowed the failing PSUs to be swapped out for the new units during the normal maintenance programme.

Solving Reliability Issues

A failing power supply was the cause of another OEM's reliability issues with an on-board train protection and warning system (TPWS). The original units met the system's electrical and mechanical specifications, but reliability problems began to appear soon after the unit went into operation. The specified open-frame power supply had been enclosed in a metal case, for protection against dirt and contamination, with wires to provide the external connections to the PCB. Three variants of the supply were being used to cover the required input voltages of 24V, 72V and 100V.
To address the issues with reliability, Charcroft recommended replacing the enclosed, open-frame unit with an MTM Power PCMDS150WK-IP65 supply, which combines thermoselective vacuum encapsulation with IP65 sealing. The thermoselective vacuum encapsulation process provides an alternative to filling PSUs with resin. In this patented process, the components within the PSU are thoroughly cleaned to remove debris such as grease or soldering fluxes. The components are then dried and pre-heated before being encapsulated under vacuum conditions. The result is a solid encapsulation which provides extreme resistance to both shock and vibration. The inseparable cemented joint between the potting material and the components also means that the unit can withstand humidity, condensation and high isolation voltages. It also eliminates the need to allow for air and creepage distances during the design process.

Reliability is enhanced because factors such as ageing, rapid temperature changes, heat, cold and other environmental influences do not result in delamination, cracking or air pockets, which can potentially lead to failure. The elimination of electrolyte loss from electrolytic capacitors also helps to support a longer system lifetime.

To enhance reliability even further, the standard off-the-shelf unit was fitted with a secondary circuit with fully independent isolation and regulation. This modification provided a 40V rail for use as a reset, operating independently of the 12V board net. The built-in heat-sink also eliminated the need for external cooling fans, which can often be a risk factor in the failure of power supplies. MTM Power carried out full testing of on the customised supply for compliance to EN50155 and EN50121-3-2 before delivery to the OEM.



The standard PCMDS150-IP67 unit includes IP67 sealing

Improved Reliability at Reduced Cost

In addition to solving the reliability issues, the PCMDS150WK-IP65 supply was also able to provide a 20% reduction in the overall cost of each unit. This cost reduction was achieved through the combination of eliminating the hand-assembly required to enclose the original open-frame unit, and a reduction in the number of inventory lines. Whereas three different units were needed to meet the 24V, 72V and 100V input voltages, the PCMDS150WK-IP65's nominal voltage options of 24V (16.8V–33.6V) and 110V (50.4V–154V) covered all three input voltages with just two variants.

Finding a power supply to withstand the dirt, contamination, vibration, shock and high transient voltages in the rail environment can be challenge. But it is a challenge which can often be addressed by the combination of a rugged power supply, supported by the skills of a specialist distributor. **www.charcroft.com**

Loram Around The World

Located in Hamel, Minnesota, USA, Loram Maintenance of the Way, Inc. (Loram) is a leading supplier of track maintenance machinery.

Founded in 1954, we built our business on helping railway companies preserve their lines by manufacturing machines that bring maintenance to the rail. With over 60 years in the rail industry, Loram is recognised as the industry leader in rail grinding, offering a wide range of products to serve all facets of the railroad market. Beyond our expansive offerings, Loram's unmatched industry expertise can fulfil any specialisation to satisfy the most difficult requirements. Our product depth and ability to respond to customer needs continue to drive strong product demand both domestically and globally.

With 125 machines in 16 countries, Loram has developed the expertise to grind on heavy haul, freight, transit, commuter, and short line railroads. Incorporating high-power, flexible grinding modules with patented control systems, Loram rail grinders offer the industry's leading technologies and the most choices rather than a catalogue machine that does not fully meet the customer's needs.

Loram's rail grinders feature state-of-the-art quality assurance tools and software programs that allow proof of performance compliance with the most stringent rail grinding standards in countries such as Great Britain and Germany. These features afford customers detailed records of the grinding and rail performance in order to follow the life-cycle of their rail, and assist in managing the overall rail maintenance planning.

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Loram offers a complete line of grinders to tackle both the large and the small jobs, from heavy haul and short line railroads to transit lines and subway systems, from mountains to tunnels. Loram's product offerings include: RG 400 Series – Heavy Haul, C 21/44 Series – International, RGI – International, RGS – Specialty, and the L Series – Mobile/Specialty/Transit. One of Loram's most successful products has been the 400 Series Grinder, which offers value beyond compare and has led to strong demand on many Heavy Haul Railways in North and South America and Australia. For Specialty Grinding needs, the RGS Series is the most productive machine on the market that allows customers to optimise productivity, reduce cost, and increase asset life of switches and crossing rail. In markets with restrictive clearance and axle weight, the Loram RGI Series and C44 Series are designed with the latest technology to satisfy the most restrictive precision grinding needs. The L Series Grinder is the most productive "truckable" option on the market coupled with a robustness that makes this product an attractive option for all customers.

Ensuring accuracy of the grinding process starts with a good pre-inspection. This practice also optimises the deployment and remediation activities on track. Rail profiles are measured in a rail inspection vehicle, comparing results to a pre-determined optimal template. The profiling needs are combined with a depth of cut as a result of an assessment of surface condition to develop a grind plan, including speeds, grind motor locations and number of passes required. Specific customer requirements such as obstacle avoidance, surface finish or noise impact the selection of the optimal grind stone from Loram's grind stone offerings. This program is then downloaded into the rail grinder. The grinding itself is computer-controlled and regularly calibrated to ensure accuracy. The horsepower of the grind motors adjusts to any variations in the machine speed to maintain a consistent metal removal rate. The grinders all feature an on-board profile measurement system to check compliance to the optimal profile along with a dual encoder location system. Features exist for a GPS system, in addition to the dual encoders, that automatically selects the proper template based on the machine's track location. The grind and profile data is stored and available for future reference.

This process is refined by continuing to study the deterioration of rail and causes for variation, incorporating those findings into the decision-making process. Numerous test sites are evaluated along with vast amounts of data collected from every Class I railway in North America. Refinements in the grind plan development process continue to improve the ability to achieve the profiling and metal removal objectives at the maximum efficiency.

Continuous Evolution

As traffic density continues to increase, it is critical to get the work done as efficiently as possible. Loram foresees continued movement toward precision in achieving the desired profile and removing the fatigued metal, all while removing as little metal as is required at the fastest speeds possible. Less metal removed artificially through grinding leaves more of the rail head and extends the life of the rail, provided adequate metal is removed to accomplish the objective. Precision is required to ensure this is the case. Less metal removal required allows even faster speeds, fewer passes, less time spent in a block and a lower cost per track kilometer. Speeds will continue to be limited by the need to provide precise profiling of the rail as well as line of sight braking requirements for machine operation.

As customer focus is one of Loram's five core values, Loram provides the resources necessary for listening to our customers' needs and then delivers the ideal solution. Loram has partnered with our customers to develop

new rail grinding product offerings and strategies.

Railroads have historically worked production and specialty rail grinders separately, but Loram collaborated with its customer to challenge the status quo, which resulted in a joint rail grinding strategy. This new strategy allows the production and specialty rail grinders to work simultaneously in the same track window, blend grind zones for a continuous rail profile and retain preventive gradual grind cycles for mainline rail and specialty track assets. Loram's RG400 Series production rail grinders and 24-stone RGS specialty rail grinders are the key to joint rail grinding success. As these machines provide industry-leading productivity and efficiency, the RG400 is typically able to grind a single high-speed pass while the RGS is able to follow and complete any additional mainline grinding and grind the specialty track assets. Multiple railroads have incorporated joint rail grinding, and they are seeing decreased pass kilometer to track kilometer ratio and double the amount of specialty track assets ground annually. This model can be directly applied to Loram C44 and RGI rail grinders for international customers with reduced clearance and axle weight requirements.

It takes a blend of high performance equipment, the right maintenance practices, knowledgeable personnel, and progressive training and safety practices to produce reliable services. Loram strives for 98% reliability (shift uptime) in all our services, and we closely monitor reliability statistics to assess and aggressively address any downtime issues.

The Future of Rail Grinding

Loram allocates a significant amount of resources to research and develop new processes and technologies to advance the effectiveness and efficiency of our equipment. Loram's continuous improvement efforts help us offer the most innovative and productive equipment, ensuring safe, effective, and efficient operation for our customers. In addition to our rail grinding products, Loram maintains concentrated efforts in rail grinding services. All equipment and services needed to plan, perform, maintain, and measure your entire rail grinding business are handled directly by Loram. Loram's extensive engineering team of over 90 engineers ensures that our equipment is designed to exceed your expectations. Loram's asset management team, which is made up of recognised technical experts in the rail grinding industry, produce customised grind plans using Rail Inspection Vehicles and then measure the result to ensure a quality grind. Loram's operations team consists of trained and experienced technicians, operators, maintainers and managers to keep your grinding program on schedule.

Loram fully understands that while carloads, tonnage and passenger density continue to increase, track time is shrinking, and Loram's line of rail grinders includes multiple options that take into consideration these circumstances by offering the most innovative and most productive machines in the world accompanied by Loram's world-class rail grinding technologies, processes and people. These options allow railway customers to continue to extend rail life, improve the wheel and rail interaction, reduce defect rates, and reduce rail failure incidents.

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Big Change Is Coming Down the Line – The General Data Protection Regulation

The General Data Protection Regulation (GDPR) represents a seismic shift in the way businesses are allowed to process data.


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Any railway business that deals with data relating to EU citizens is affected. From marketing to how you hold data on your employees, the regulations have far-reaching implications. In this article **Ben Travers, Head of Intellectual Property and IT Legal Services at Stephens Scown** explains some of the key changes.

Although most businesses will have heard about GDPR, there is a significant amount of confusion about what businesses need to change to comply. And there is a lot at stake. Fines for breaches will be up to 20 million euros or 4 per cent of the business's annual worldwide revenue. The legislation came into force on 25 May 2018, so many businesses have been working hard to get their house in order in time.

The right mind-set

The starting point must always be to ensure you have the right mind-set when dealing with data. Although personal data (i.e. data which identifies a living individual) might sit on your organisation's server that does not mean it is your data. Instead, you use it with the consent of the data subjects, within the scope of that consent only.

In order to be successful in complying with GDPR, you will have had to undertake a data mapping exercise by auditing your data. You need to know where data originates from, where the consent for its processing is, where data is shared with third parties, how it is used, etc. Knowing this will have allowed you to identify where work needs to be done to clear up any consents, change IT practices and liaise with third party suppliers. While many businesses mistakenly believe that GDPR only relates to marketing information, the actual remit is much broader. For example, it dictates how you use employee data. If your business uses a third-party payroll company, you must first make sure employees are aware and secondly that the contracts with the payroll company are GDPR-compliant.

This compliance of contracts needs to be replicated across all third parties who receive data. For railway businesses this may include marketing companies, website hosting companies and group companies for example. This contract review tends to be one of the biggest pieces of a GDPR compliance programme. Any idea that GDPR is simply an IT problem or an HR problem alone is missing the bigger picture. IT does have an important part to play and it is essential that all systems are compliant. It is also essential that the legal agreements with IT providers have been reviewed and re-negotiated if necessary to ensure they are now GDPR-compliant.

The HR element is also significant. Over 90% of data breaches are due to human error. You can have the best IT systems in the world but still be breaching GDPR regulations if employees do not have secure passwords. For this reason, training is very important. GDPR requires that staff are trained on how data is used in a compliant fashion. The GDPR also requires that policies are updated and that staff are trained on them.

Roadmap to GDPR compliance

For most organisations GDPR compliance will have taken some time to achieve, there is no quick fix. As a general roadmap businesses will hopefully have taken the following steps:

1. *Conducted a data mapping exercise – identified what you own, where it sits, how it is used, etc.*
2. *Obtained consents where they were needed and lacking.*
3. *Reviewed agreements with third parties who have access to data (such as marketing companies, email hosting companies, etc.), re-negotiated these or find another supplier if appropriate.*
4. *Ensured your customer-facing agreements, employment contracts, policies etc. have been updated and are compliant.*
5. *Considered deleting data that cannot be cleansed to make it compliant.*
6. *Ensured staff have been trained.*
7. *Ensured that you have a breach policy (breaches need to be reported to the ICO within 72 hours). It is essential that HR engenders a culture where people feel comfortable disclosing the breaches.*
8. *Implemented a central point of contact within the organisation who understands data protection and can deal with queries as they arrive.*
9. *Ensured that all new projects (including software, builds, use of third party suppliers, etc.) are built with "privacy in design". This needs to be documented in the same way that you would conduct a health and safety assessment.*

The legal changes for GDPR are relatively straightforward; the ramifications for how businesses deal with data are not.

Ben Travers is a partner and head of intellectual property and IT at Stephens Scown LLP. If you have any questions about your business's GDPR obligations,

please call Ben Travers on 01392 210700 or email solicitors@stephens-scown.co.uk. For more information visit **www.stephens-scown.co.uk**

ICE Plant Cologne-Nippes – WINDHOFF to Supply Key Technology

The recently completed ICE maintenance depot in Cologne-Nippes was opened with an official ceremony.

This plant is the first climate-neutral maintenance plant in Europe. According to Deutsche Bahn it will reduce carbon emissions by 1,000 tons and is operated without using any fossil fuels.

WINDHOFF Bahn- und Anlagentechnik GmbH was able to demonstrate its various product solutions for DB's requirements at this new plant. Thus, the new ICE depot has been fitted with four 430-metre elevated rail tracks for the maintenance of the ICE fleet with 68 rail bridges, wheelset drops, a turntable bogie drop pit for the exchange of the bogies, a turntable and a traction cable installation

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for the external cleaning system (train wash facility), all supplied by WINDHOFF.

In addition WINDHOFF supplied the emission-free, battery-electric shunter TeleTrac RW60AEM-QF complete with transverse gear. It is used as a shunting vehicle for a subfloor turntable to ensure that the wheelsets are positioned with high precision. At the front of the 34t shunter are hydraulically powered, lowerable running gears for road mode with heavy-duty wheels so that the vehicle can be lifted and positioned next to the tracks on a concrete slab when necessary.

WINDHOFF is proud of having made a major contribution towards implementing this groundbreaking project.

WINDHOFF Bahn- und Anlagentechnik GmbH, Rheine, Germany, is a worldwide supplier of a wide range of high-tech products with a focus on rail vehicles and railway equipment as well as shunting technology.

GKD TECHNOLOGIES
Working around the world

Continuously Improving Reliability

GKD Technologies continuously research how to make their products more reliable to help reduce downtime on the rail. They have worked closely with their supplier to manufacture a new external slip ring for use on their systems. The new slip ring provides increased durability through improved water resistance and improved electrical pathways. The new slip ring is a direct mechanical-fit replacement for all existing machines and is perfect for retro-fitting to older machines with reliability issues

For more information contact our team on 01202 971972, email sales@gkdtec.com or visit our website www.gkdtec.com/rail-machine-safety-systems.

GKD TECHNOLOGIES
Working around the world

GKD Technologies show SensorSafe Rail Range at Rail Live exhibition, including brand new safety features

GKD Technologies design, develop and produce height, slew and load safety control systems for Road Rail vehicles (RRV's) and general construction equipment such as excavators. The company will be exhibiting at the forthcoming Rail Live exhibition 20–21 June 2018, Quinton Rail Technology Centre, Warwickshire, showing the very latest in related technology.

3RCi+ Road Rail, Rated Capacity Indicator

Visitors to the GKD stand will see the newly upgraded 3RCi+ system, which is the latest version of the world's most popular retrofit rated capacity indicator for road rail applications.

The 3RCi+ has been developed with the newest technology to meet the growing safety requirements of the rail industry - enabling RRV's to work to their maximum capacity whilst operating safely and securely.

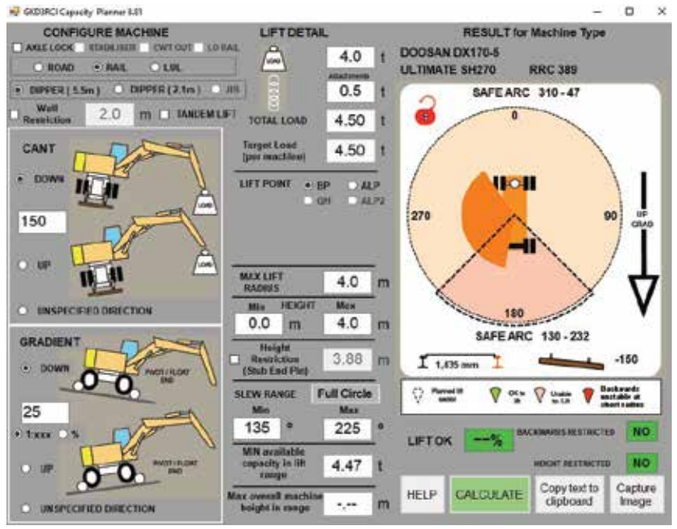
Slew limits, virtual walls and height limits are included, featuring selective intelligent hydraulic motion cut of any boom or slew function at limit to prevent movement further into danger, but allows recovery into the "safe" zone. Selective intelligent hydraulic motion cut also provides graduated, smooth control of hydraulic functions as they approach the set limits. Full data logging of all functions and operational state is included.

The 3RCi+ also features a touchscreen graphical display inside the cab where the operator can see all of the details about the machine and its capabilities in its current position. The display is water resistant with IP64 rating. An ambient light sensor has been included to control the screens brightness automatically.

GKD Technologies 17 Cobham Road, Ferndown Industrial Estate, Wimborne, Dorset, BH21 7PE, UK

GKD Technologies' new Slip Ring with integrated encoder.

GKD has developed in conjunction with Kraus in Germany a high reliability and durability slip ring with an integrated GKD encoder. This unique design provides the opportunity for converters and maintainers to further improve the integrity and performance of the wheeled or tracked RRV's. Gold pathways within the slip ring provide for improved data transmission integrity, the integrated encoder provides for a compact and reliable design.



GKD Technologies' unique 'Capacity Planner' software

The purpose of the Capacity Planner software is to enable fast and accurate lift planning to be carried out for machines equipped with GKD 3RCi Rated Capacity Indicators. The planners are machine specific and are available to be downloaded on the GKD website.

The GKD Planner consists of a folder, which contains the Capacity Planner program, and a number of files containing data relevant to the dimensions and lift capacity of the RRV. This RRV data is identical to the data files existing within the GKD 3RCI system fitted to the machine being planned for, the data is derived from extensive tip testing within a range of track conditions under controlled conditions when the First of Class machine is calibrated. The capacity planner so ware will therefore reflect the true lift capacity of the machine under all track conditions.

GKD Technologies are actively seeking distribution partners in the UK and overseas. Please visit the GKD stand at Rail Live for further information and to enquire about becoming a distribution partner.

Tel: +44 (0) 1202 971 972 Email: sales@gkdtec.com www.gkdtec.com

Upcoming Railway Events

June, July, August 2018

SafeRail Congress

When: 11 June 2018 – 12 June 2018
Where: Washington Hilton, 1919 Connecticut Ave NW, Washington, DC 20009, USA

Bringing together North America's leading freight rail and passenger transit networks, SafeRail is the region's only dedicated safety and security show. Taking place at the Washington Hilton in Washington DC on 11–12 June 2018, SafeRail is the perfect place to meet the networks looking to upgrade their systems.

The congress will bring together over 300 senior-level transportation experts from across North America to uncover safety best practice for freight, passenger and metro operators to ensure reliability, competitiveness, federal compliance and a positive public perception. Alongside a C-level keynote session on broader issues around safety and investment, the conference will feature specific sessions dedicated to: preparing for the final stages of PTC installation, bringing infrastructure up to a state of good repair, mitigating against human error and trespassing and suicide prevention.
Event website: **https://hubs.ly/H09k_910**

Transport Security and Safety Expo

When: 11 June 2018 – 12 June 2018
Where: Washington Hilton, 1919 Connecticut Ave NW, Washington, DC 20009, USA

Security and safety for mass transport in the digital age – the only event of its kind to provide a platform for transport operators across all verticals, government officials and suppliers to address current concerns, share best practice and build long-lasting business connections. The show will host presentations & discussion streams with C-level and director-level operator speakers from aviation, road, rail, transit, maritime and border control. Alongside these content streams, Transport Security and Safety Expo is also host to a large-scale exhibition which will display the latest solutions alongside the most innovative security and safety suppliers working today. With a wide variety of ways to get involved such as hosting an on-floor exhibition seminar, on-floor show branding, hosting workshops and much more, Transport Security and Safety Expo is the place to be to position your company as the most trusted and secure solution provider in the business. Click the link below to get your free expo pass!
Event website: **https://hubs.ly/H09l09B0**

Africa Rail 2018

When: 12 June 2018 – 13 June 2018
Where: Sandton Convention Centre, Johannesburg, South Africa

Africa's longest-running and most successful railway event now enters its 21st successful year. From humble beginnings as a small conference with a handful of exhibition stands, it now takes up two massive halls at the Sandton Convention Centre in Johannesburg. It has grown to become Africa's most important and best-supported railway conference and exhibition. Over the past two decades, Africa Rail has become the undisputed leader. It is an unrivalled platform for the continent's railway industry to come together, to learn, to network and to do business.
Event website:
http://www.terrapinn.com/exhibition/africa-rail/index.stm

RSCS 2018: Railway Signalling and Control Systems

When: 18 June 2018 – 21 June 2018
Where: etc.venues Victoria, London, UK

RSCS 2018: IET Railway Signalling and Control Systems is a four-day training course, presented in collaboration with the IRSE and delivered by a host of expert lecturers who have worked on railway systems around the world.

Event website:
https://events.theiet.org/rscs/index.cfm?origin=RailwayNews-banner

Transport-Led Development in Wales 2018

When: 19 June 2018
Where: Jurys Inn, Central Cardiff
Delivering enhanced transport infrastructure and maximising transport investment to drive economic development and growth.

With transport infrastructure development continuing to be a key focus area in Wales, Transport-Led Development in Wales will again provide the latest and most essential information for senior professionals working in the transport and infrastructure sector. With the critical role transport can play in supporting economic growth, infrastructure optimisation, enhanced supply chain efficiency and job creation, this one-day conference is a must-attend event for any transport or property professional operating in Wales.
Event website:
https://www.waterfrontconferencecompany.com/conferences/transport-led-development-in-wales?utm_source=Railway-News&utm_medium=listing&utm_campaign=356RNEWS

RAIL LIVE 2018

When: 20 June 2018 – 21 June 2018
Where: Long Marston Airfield, Campden Road, Stratford-upon-Avon, United Kingdom
Rail Live is the annual event that brings the entire industry together to showcase UK rail expertise. Rail Live 2018 will be the largest, most comprehensive outdoor event for rail in the UK. It is undergoing a transformation for 2018 with many exciting new developments.

Rail Live 2018 builds on the highly successful plant show that has been staged every year at Long Marston since 2012, and this plant display remains at the core of this enhanced event.
Event website: **http://www.raillive.events/**

World Metrorail Congress Americas

When: 26 June 2018 – 27 June 2018
Where: Hilton Philadelphia City Avenue, 4200 City Ave, Philadelphia, PA 19131
World Metrorail Congress Americas focuses on strategic discussions between both rail operators and vendors about upcoming metro projects and improvement plans. Discover what challenges lie ahead for rail operators and demonstrate how you can help them overcome these challenges.
The conference provides vendors with an opportunity to learn about upcoming projects and tenders before anyone else does.
Event website:
http://www.terrapinn.com/conference/metrorail-americas/index.stm

SITCE 2018

When: 09 July 2018 – 11 July 2018
Where: Sands Expo and Convention Centre, Marina Bay Sands 10 Bayfront Avenue, Singapore 018956
The third edition of LTA-UITP Singapore International Transport and Exhibition (SITCE) is jointly organised by the Land Transport Authority of Singapore (LTA), the International Association of Public Transport (UITP) and LTA's subsidiary, MSI Global Pte Ltd. For this edition, UITP's established International Rail Conference will be fully integrated within SITCE 2018. This is your opportunity to be a key part of this dedicated international congress and exhibition on urban rail transport technologies, planning, systems and solutions.
Event website:
http://www.sitce.org/?utm_source=Railway%20News&utm_medium=Website-Banner&utm_campaign=Media%20Partners&utm_content=Website

UK Rail Station Development and Regeneration

When: 11 July 2018
Where: Addleshaw Goddard, Central London
Practical insight on delivering successful station developments that maximise housing opportunities and economic growth.
UK Rail Station Development and Regeneration brings together the rail and property sectors to learn how to deliver successful developments at all scales. Providing the latest insight on planned projects and exploring the best models for planning and delivery, the event will focus on who should lead development, how to align timelines to enable better delivery with less risk, and how to deliver projects that maximise the residential and commercial opportunities that development creates.
Event website:
https://www.waterfrontconferencecompany.com/conferences/uk-rail-station-development-and-regeneration?utm_source=Railway-News&utm_medium=listing&utm_campaign=355RNEWS

How material and components act when exposed to fire is not only dependent on their inherent properties, but also on their application, what shape they are used in and the final arrangement of the materials' exposed surfaces. Not to forget their relative mass and thickness.

Based on this, products listed in EN 45545-2 are further categorised into sub-groups: use in accessible or not openly accessible areas (think the driver's cabin); general area of application (inside or outside of train waggons) and a more specific area of application and material (train furniture, electrical or mechanical equipment).

Looking at EN 45545-1, its operation and design categories are used to determine the hazard levels on which the requirements are based: this part defines the necessary test procedures. These requirements are currently specified in 25 varieties (R1-R25).

How Are the Tests Done?

The testing methods are laid out in a rather detailed manner.

For example, lateral 'spread of flame' tests need to be performed on samples hanging vertically in accordance with EN 5658-2. The "smoke test" is done differently, taking place in a single test chamber complying with EN 5659-2. This test is done to determine the heat release and mass loss rate characteristics of the products involved using a calorimeter method according to EN 5660-1. Testing for evidence of smoke toxicity is performed according 10 NF X70-JOO parts 1 and 2. Finally there is also the EN 11925-2 ignition testing for small parts and burning, dripping material. Sounds complex and a lot? It is. Having someone do this for you is cost-saving – and could be life-saving.

In the case of Parker's products, these tests are performed by the certification company LAPI. With rubber hose products the aim is always to achieve high flame resistance through the use of superior rubber compounds and latest processing technologies. We make sure to be a development partner with its customers to ensure hoses are safe, reliable, durable and flexible. Bonus: our expertise in trouble-free handling.

Parker, as a worldwide system solution provider, is an experienced partner for rail applications and is certified to all required standards. Offering a wide range of hoses from low to high pressure for all relevant rail applications within locomotives, high-speed trains, city trains, regional trains, trams, suburban trains/metros and track maintenance vehicles, Parker is one of the first hose manufacturers to fulfil these new requirements of EN 45545-2.

What's in It for Me?

The demand for EN 45545-2-compliant hoses has never been stronger. Mass transportation is growing in importance; demand in many countries throughout the world is high and still rising. The key success of many projects is the fact that Parker was the first hose manufacturer in Europe to develop a new rubber compound to the required standards of EN45545 in terms of fire redundancy. With smoke behaviour and toxicity under control, Parker has enabled design engineers to construct new designs easily and with peace of mind. Special rail hoses deliver more design advantages such as better bending radiuses making designs easier, manipulation faster and reducing assembly costs.

We offer a range of hoses for whatever application: hydraulics (brake system, hydrostatics), pneumatics (brake system, suspension, auxiliary systems), cooling systems (water cooling, air conditioning), fluid conveying (diesel fuel, water for sanitary facilities) and of course heating (water).

Ideally suitable are the 681 DB 2TE hose and 441 RH compact hose. Both are available with carbon steel and stainless steel fittings. If very tight bend raduses are needed, the 477Rh hose is the ideal product to use. Larger dimensions up to 2" are available with the 421RH hose solution. Plus, when operating in higher pressures, we offer the 372RH three-wire braid compact hose, specially designed for high pressures (4SP-level). Our modern classic, the 797RH Compact Spiral hose is suitable for applications where both high pressures and light bend raduses are required. All feature Parker's well-known Parkrimp No-Skive crimping technology for those that prefer to make their own safe and reliable hose assemblies.

www.parker.com

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RAIL SAFETY WEEK
Building Safety Together

2ND - 8TH JULY

2018

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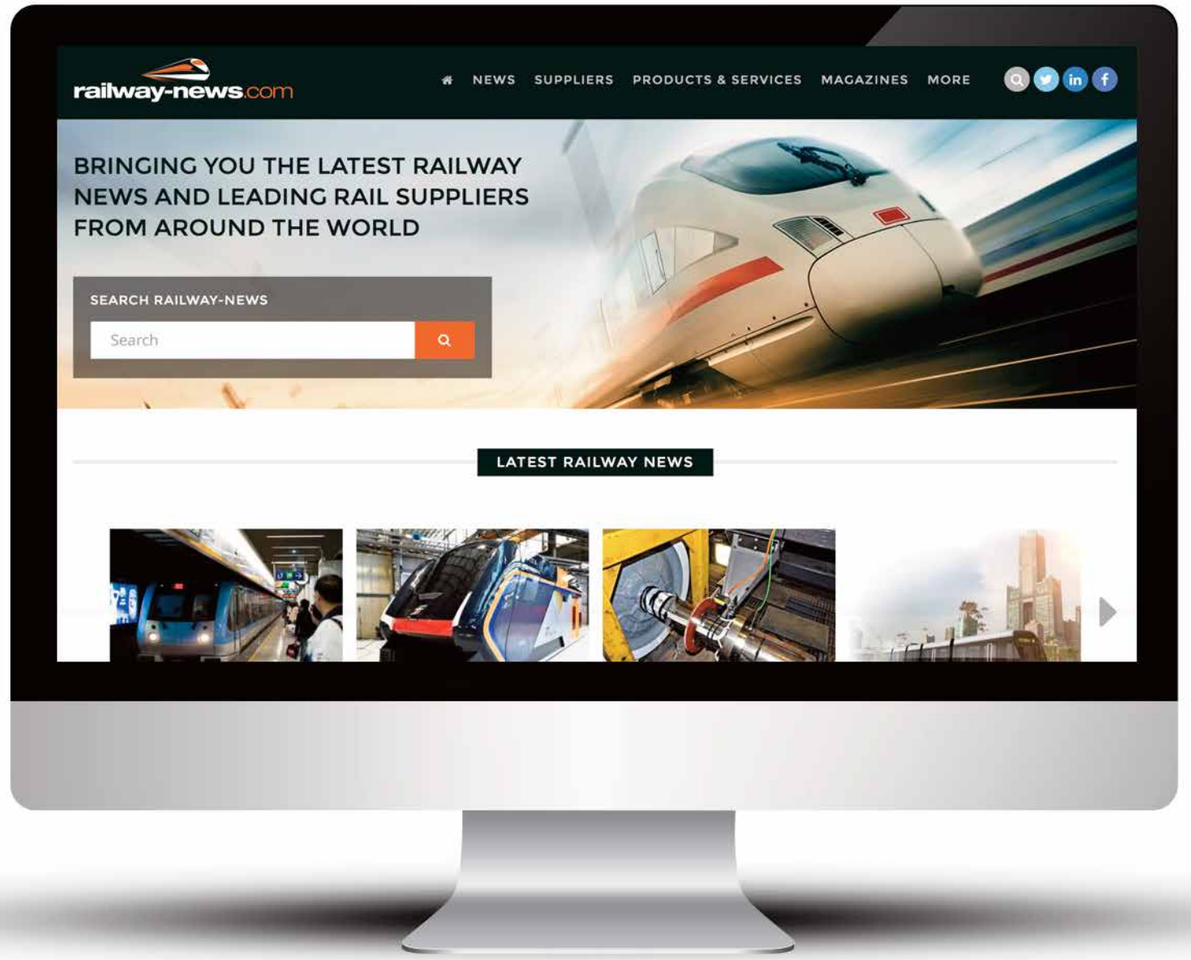

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