

# VELOCITY

ISSUE 8

NEWS FROM L.B. FOSTER EUROPE



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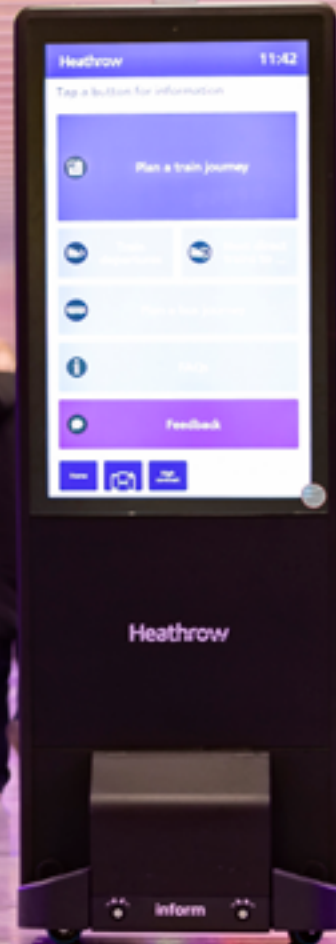
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## ALWAYS MOVING FORWARD

OUR OUTLOOK FOR THE FUTURE IS EXTREMELY POSITIVE. OUR BUSINESS IS STRENGTHENED BY THE OPPORTUNITIES ARISING AS THE WORLD'S TRANSPORT INFRASTRUCTURE REAWAKENS.



Our Contract Services activity is delivered by L.B. Foster TEW Plus, an integrator of specialist technical elements across the transport, utility and construction sectors. Our most notable success to date has been on the Crossrail Project, as the main telecoms provider on all six new stations in central London. This has enabled us to extend our portfolio of services to now include fire and specialist M&E activity.

Looking ahead, we will be taking this experience and expertise and we will leverage it on Transport for London, Network Rail and in the power utilities sector.

In the automation and materials handling space we are collaborating and partnering with a range of thought leadership partners, such as Siemens, to make good on the concept of the digital factory. Our smart remote performance and condition monitoring technologies are enabling customers to achieve ever

greater efficiencies, whilst at the same time delivering powerful data insights that inform forward operational strategies.

As we move ahead in 2022, among the highlights is our return to InnoTrans in Berlin. This will be a huge moment for for the business, reconnecting with customers past and present. We will be showcasing a number of innovations from across our businesses, including Inform Media, our unique customer information software that delivers real-time journey information via our comprehensive range of mobile and wall mounted screens.

There remain continuing challenges - from labour to energy - but 2022 promises to be a year of optimism and innovation as technology plays an ever bigger part in the solutions we bring to market.

### Peter Jones

Managing Director  
L.B. Foster Europe

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### SMART FACTORIES

Our work in the digital factory space



## Lifetime extension of critical control panels

We are a world leader in automated control panel solutions for critical infrastructure. Our control panel builders are highly regarded in the European rail networks and global energy industries. **Nigel Dobney**, Senior Project Manager at L.B. Foster Europe talks about our capability.

A recent project commissioned by Network Rail at its Malton signal box in Yorkshire required our TEW Engineering team to survey an existing panel and manufacture a new like-for-like replacement.

Malton signal box is on the popular York to Scarborough line, with around 35 trains per day travelling the 36 miles between the two stations. It is the last surviving of four signal boxes. Originally known as Malton East, the signal box controlled the busy level crossing and junction towards Driffield and is the only one still in service today.

Using our world leading Subklew SM24 Mosaic Mimic System, we designed, manufactured and delivered the new Malton panel, which is now in operation for Network Rail.



# Our world in motion



## Rolls Royce recognition



L to r: Pete Toseland and Dawn Shaw from L.B Foster with Jill Polisen and Paul Sims from Rolls Royce Submarines

**Congratulations to our team from L.B. Foster TEW Engineering on receipt of the prestigious 'Supplier Recognition and Appreciation Award' from Rolls Royce Submarines.**

Pete Toseland, Operations Manager, L.B. Foster TEW Engineering says: "We have been working in partnership with Brown & Holmes to provide a range of electrical and mechanical services supporting the stringent quality and excellence requirements demanded by Rolls Royce.

"With our history working in the nuclear sector alongside our partners, we continue to provide high quality, mission critical solutions including the production of simulator control panels and displays."

Rolls Royce Submarines provide front line support across the world for Royal Navy submarine reactor plant equipment from its Operations Centre in Derby. The company and its partners are involved with reactor cores, primary systems pipework and valves, major vessels, and electronic control systems, as well as secondary equipment, including turbo-generators and propulsors.

## STRENGTHENING OUR TEAM

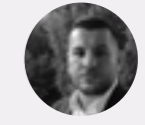
New appointments strengthening the L.B. Foster team include:



**Ian Carling**  
**Strategic Sales Manager**  
L.B. Foster Europe

Ian will be targeting new sales opportunities closely aligned with our strategic growth programmes. His remit extends across the L.B. Foster Europe product portfolio.

e: icarling@lbfoster.com



**Mehmet Kastan**  
**External Sales**

L.B. Foster Gmbh  
Mehmet joins our team in the Herne office to further develop our footprint in the German rail market.

e: mkastan@lbfoster.com



**Martin Kraus**  
**Business Development Manager - Germany**

L.B. Foster Gmbh  
Martin joins our team in the Herne office, Germany as Business Development Manager to extend our reach and build strong collaborative customer partnerships.

e: mkraus@lbfoster.com



## Remote Condition Monitoring

**About the GE Awards**  
The Ground Engineering Awards celebrate the very best in geotechnical engineering and are organised by GE Magazine.

This year's awards received almost 230 submissions across 18 different categories.

# Insight Earthworks Monitoring Wins at GE Awards

L.B. Foster's new Insight Earthworks Monitoring solution has won the **Award for Equipment Innovation** category at the GE Awards in London in November 2021. This prestigious award recognises excellence through new product or technology development for the ground engineering industry.

**Fraser Pickford** is L.B. Foster's Product Development Manager. Here he talks about our success.

Our award winning submission showcased our work using LiDAR technology for Network Rail at Little Hagloe on the coastal rail line adjacent to the River Severn in Gloucestershire. The site has a history of failures of the cutting slope and the LiDAR units provide real-time monitoring of the slope integrity.

Insight's LiDAR units scan the earthwork slope, comparing against previous scans to detect tiny movements of the earthwork. Software ignores non-valid movement, such as wildlife and vegetation

detection, and determines if the slope has moved sufficiently to raise an alarm. The amount of valid movement depends on the slope, soil type, vegetation, and water saturation and threshold limits for alarms can be configured to meet customer requirements.

"As technologies such as L.B. Foster's Insight Earthwork Monitoring are introduced, we will be able to monitor the performance and condition of our infrastructure more closely and accurately, placing us in an even better position to handle the consequences of extreme weather."

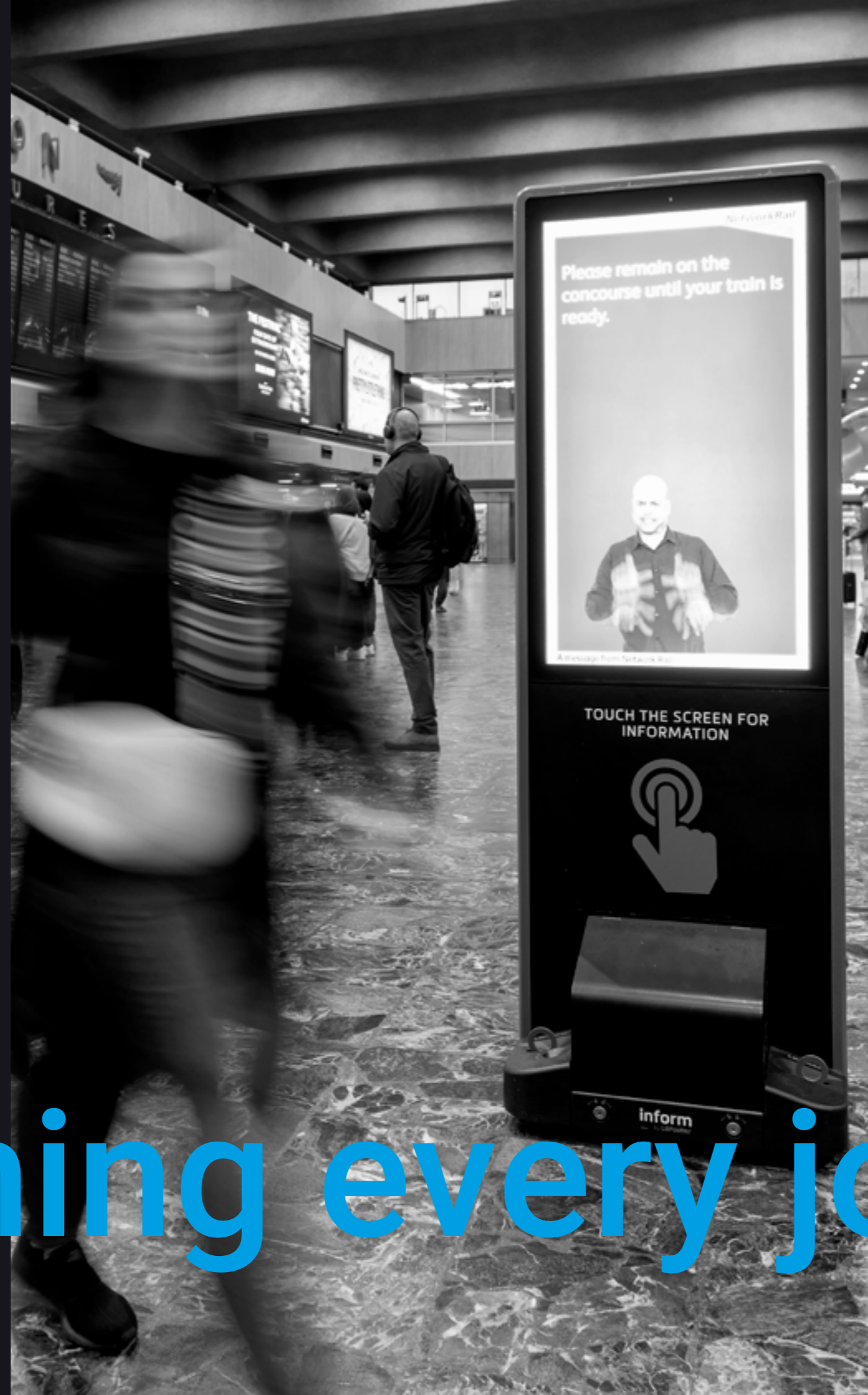
**Network Rail**



## Digital customer information

In a UK first, Network Rail is partnering with L.B. Foster to introduce in-screen British Sign Language (BSL) interpreters on fixed and mobile digital passenger information displays at London Euston station.

**Adam Cousins**, Head of Business Development at L.B. Foster Europe sheds light on our innovations.



London Euston is one of the UK's top 10 busiest stations with over 72 million passengers each year. Twenty fixed and mobile INFORM Media digital displays, equipped with BSL functionality, have been deployed throughout passenger areas on London Euston's station concourse and platforms.

James Dean, Station Director, London Euston station says: "Putting our passengers first is what we do. That means we want to meet the needs of every customer. Many of our Deaf community are unable to read English, so signing may be their only means of communication.

"That's why we have embarked on this project with L.B. Foster to develop new digital displays that feature a wide range of video messages delivered by in-screen British Sign Language interpreters. This is a UK rail first and reflects London Euston and Network Rail's commitment to improving customer accessibility."



# Informing every journey

Optimising lifetime  
return on assets

# Moving forwards

The advent of the Digital Railway is delivering far beyond modernising train command, control and signalling systems designed in a pre-digital age.

**Mike Hull CEng**, Head of Special Projects at L.B. Foster Europe explains more.

In the past, rail track and infrastructure maintenance has relied on timely preventative interventions, such as walking the track and having a historic understanding of the use of consumables. The thousands of miles of track and unpredictable performance of assets can make this approach both arduous and inaccurate.

The move by train operators to run more services closer together continues to gather momentum. The need for a safer and more reliable approach is driving the adoption of new, smart technologies that remove the manual aspect of operating the railways, providing data and analytics on which to base informed decisions and investment.

Breakthrough technologies applied to all aspects of the railways - from remote performance monitoring of trackside and on-board friction management to digital asset monitoring and digital asset maintenance - are releasing real lifetime value through proactive and pre-emptive management.

L.B. Foster's end-to-end track management and performance monitoring solutions integrate conventional rail products with intelligent, always-on, digital technologies that improve performance, deliver cost efficiencies and enhance safety.



"I feel very positive about the year ahead and as optimism improves, I think we will see technology play an ever increasing role in our own, and our customers', strategic plans."



# Focusing on 2022 and beyond

## In 2022 a major focus is on organic growth programmes for Contract Services and Technology Solutions.

**Neil Sheffield** is Commercial Managing Director of L.B. Foster's European businesses. Here he talks about the direction of travel for the business in the coming months and years.



### Contract Services

Our Contract Services activity is delivered by L.B. Foster TEW Plus, an integrator of specialist technical elements across the transport, utility and construction sectors. The business was acquired by L.B. Foster in 2015, which provided the scale and resources for us to bid for major Government infrastructure contracts.

Most notably has been our success on the Crossrail Project, as the main telecoms provider on all six new stations in central London. This has enabled us to extend our portfolio of services to now include fire and specialist M&E activity. Looking ahead, we will be taking this experience and expertise and we will leverage it on Transport for London, Network Rail and in the power utilities sector.

Our focus now moves to extending our geographic reach well beyond the south east of the UK, to areas of the country which will benefit most from future 'levelling up' investment. To this end, we've also received a Telecoms Principal Contractor Licence from Network Rail, which means we can now bid for multi-year national and regional framework contracts.

### Technology Solutions

Our Technology Solutions activities are delivered across a range of our businesses, including L.B. Foster TEW Engineering, and L.B. Foster Automation & Materials Handling.

### Sign language

We are breaking new ground in the visual communications space with our Inform hardware and Inform Media software solutions. Innovations include our unique sign language software application. This now provides on-demand assistance in both British and American sign language formats, helping hearing impaired passengers access journey information.

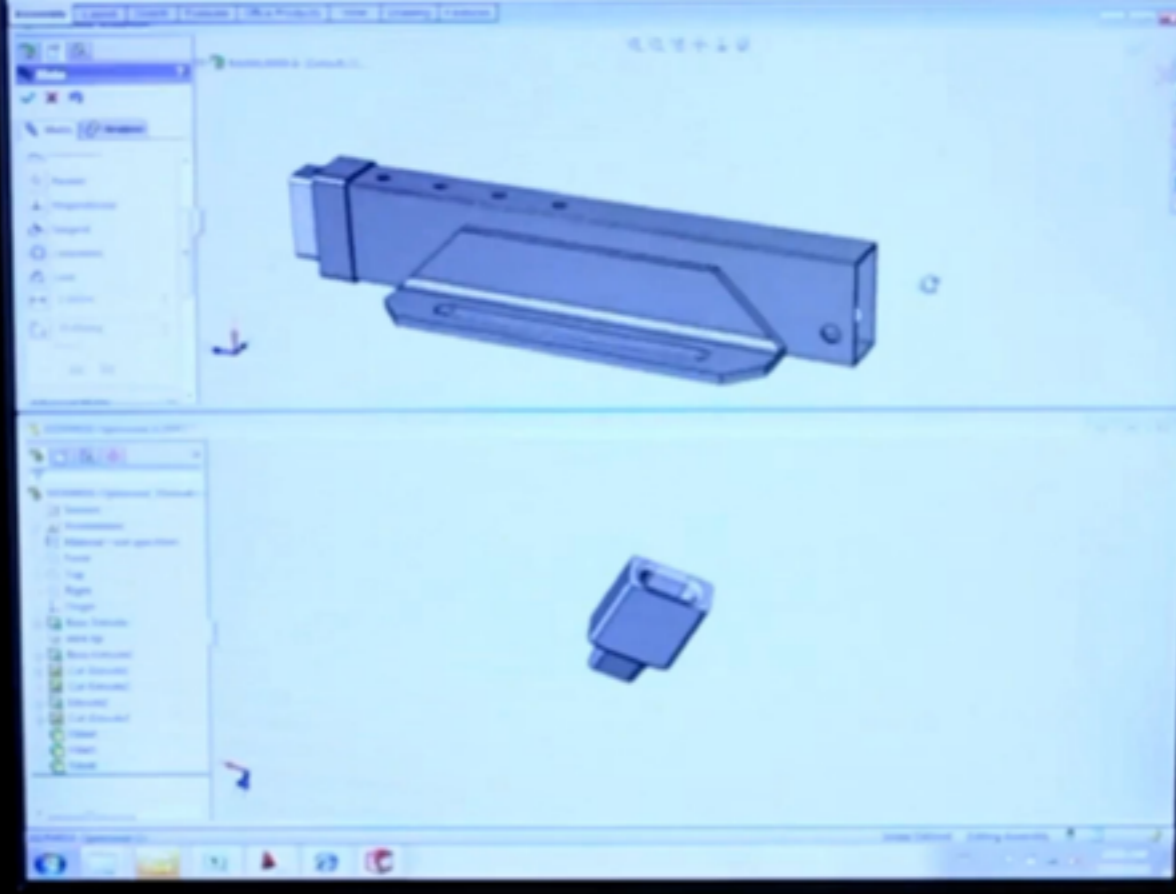
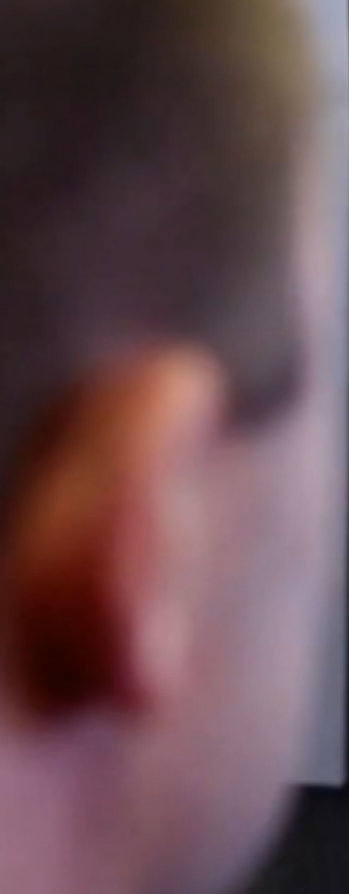
And as people's behaviour has changed over the last 24 months, rail and airport operators now need as much assistance as possible to manage passenger flows through stations and airport terminals. That's where Inform Media also fits in, delivering real-time journey and wayfinding information via our Inform mobile and fixed displays.

### Remote condition monitoring

Our progress around the Internet of Things has seen the launch of Total Track Monitoring (TTM). It's our smart remote condition monitoring solution that provides customers with data to help improve the performance of critical assets.

Network owners and operators are benefiting from the early detection of events on their networks and operating sites. Take our Insight LiDAR obstacle detection system. When deployed in areas prone to rockfall, the system provides early warning of debris on the track. It can also be used to warn of obstacles such as vehicles and people on level crossings.

**Total Track Monitoring**

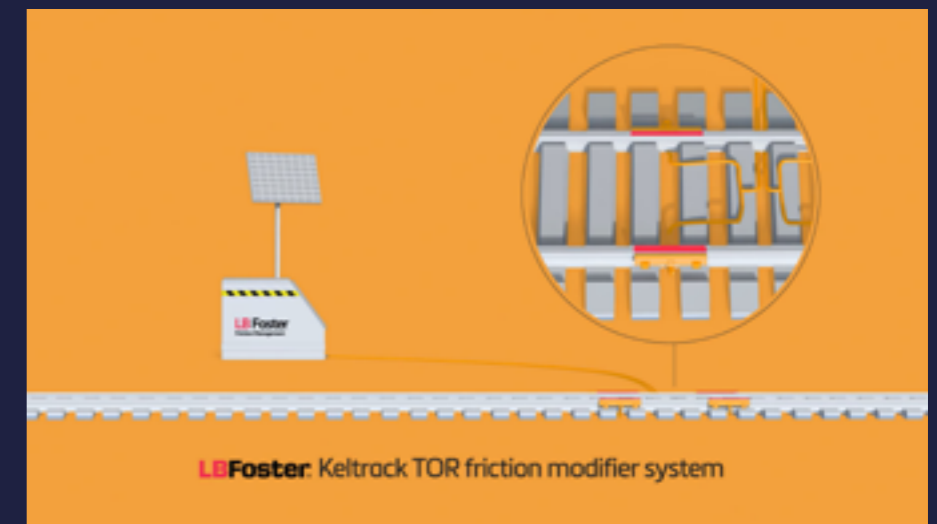


Having received multiple complaints about track noise from residents living in flats alongside the main lines leading into Leeds station, Network Rail got in contact with us to determine if our expertise in friction management could be applied to this issue.

Our research and subsequent deployment of cutting edge friction management solutions will help improve the lives of hundreds of people blighted by rail screech, caused as trains enter and leave the station.

The key challenge for Network Rail was to deploy effective interventions to reduce noise levels caused by wheel screech as inbound and outbound trains pass through curves outside Leeds station.

We undertook a series of noise measurements to establish the size of the issue, involving recordings of over 30 different trains entering and leaving the station - both passenger and freight. This provided a benchmark on which to measure the success of our recommended interventions and future noise reduction strategy.



## Friction management

World Health Organisation (WHO) noise guidelines for Europe strongly recommend reducing noise levels produced by railway traffic below a daytime, evening and night average of 54dB. Noise above this level is associated with adverse health effects including annoyance, sleep disturbance, cardiovascular disease and impairment of cognitive performance in children. The WHO also recommends reducing nocturnal rail noise levels to below 44dB, as night-time railway noise above this level is associated with adverse effects on sleep<sup>1</sup>.

**Jackie Butterfield**, Lead Application Engineer, L.B. Foster Rail Technologies talks about our solution.

<sup>1</sup> Source: International Railway Journal

# Silent running





# Introducing technologies that keep your world moving

## Flood monitoring

L.B. Foster's Flood Monitoring System is designed to accurately track water levels in flood-prone areas.

**Jacob Capra**, Technical Sales Engineer, L.B. Foster Company explains.



“Our flood monitoring technology combines advanced internal know-how and sophisticated external sensing, ensuring system longevity and cost-effective maintenance over time.”



Flood water can pose major problems on the railway, leading to costly delays and cancellations. L.B. Foster's Flood Monitoring is part of our Total Track Monitoring™ solution. It applies technology to accurately identify water levels “down to the millimetre.”

Total Track Monitoring™ by L.B. Foster features sophisticated data management software. Event data resulting from a flood event is captured, stored and analysed, providing detailed intelligence on event regularity and severity. This allows railroad operators to build a detailed event profile and identify actions to prevent or offset future events.

The solution has been used to great effect in a number of locations globally that are susceptible to flood water encroaching on the track. Early alerts from L.B. Foster's Flood Monitoring has ensured the safe onward passage of trains and protected passengers from potential hazards.



# Protecting critical infrastructure

## Fire Safety

**We are one of the UK's leading rail/Transport for London and commercial fire detection, alarm and suppression specialists. We have built our reputation on first class design, supply, installation and maintenance service of critical fire safety infrastructure.**

**Emma Boura**, Head of Commercial, L.B. Foster TEW Plus talks about our services and compliance standards.



Our goal is to prevent injury and death from fire in the built environment and minimise the impact on communities, society and the natural environment.

Central to our continuing success is the priority we place on achieving and applying industry 'best practice' safety standards. That's because our Fire Safety team delivers fire detection, alarm and suppression services, together with heating, ventilation and air conditioning (HVAC) installations for customers throughout both rail and commercial industries.

### LPS 1014 full approval certification

We have been awarded full approval certification for the prestigious Loss Prevention Standard (LPS) 1014 for design, installation, commissioning and servicing of fire safety systems from the Loss Prevention Certification Board (LPCB), part of the Building Research Establishment (BRE) Global.

For a considerable time very high levels of false alarms were a major concern to the Fire and Rescue Service (FRS). Potential loss or reduction of FRS cover, or a lack of trust in the reliability of a fire detection and alarm system, was also a big issue for insurers.

That's where LPS 1014 fits in and it's why L.B. Foster TEW Plus actively sought accreditation.

We are now an official certificated fire detection and alarm system firm, recognised by LPCB and BRE.

The importance of LPS 1014 is that it is supported by insurers and the Chief Fire Officers Association. The standard aims to reduce false alarms and improve reliability of installed fire safety systems.

"Achieving full approval certification for LPS 1014 provides professional peace of mind and reassurance for our project partners. It says we operate to the highest industry standards for design, installation, commissioning and servicing of fire safety systems as set by LPCB, with all of our projects independently audited by BRE."

### ISO 9001

In addition to LPS 1014 certification, we have successfully obtained ISO 9001 (via ACM) Scope Extension - a key requirement for entry in the LPS scheme.



# Smart

## Automated manufacturing

The transition to digital manufacturing has become more popular with the rise in the quantity and quality of computer systems in manufacturing plants. As more automated tools have become used in manufacturing plants it has become necessary to model, simulate, and analyse all of the machines, tooling, and input materials in order to optimise the manufacturing process.

Dr Matt Stephenson, Head of Projects, L.B. Foster Europe, reveals more about our smart automated solutions.



At its purest, our strategy is designed to create smart solutions that take away production painpoints for our customers. Integral to that is value, safety, efficiency, connectivity and security.

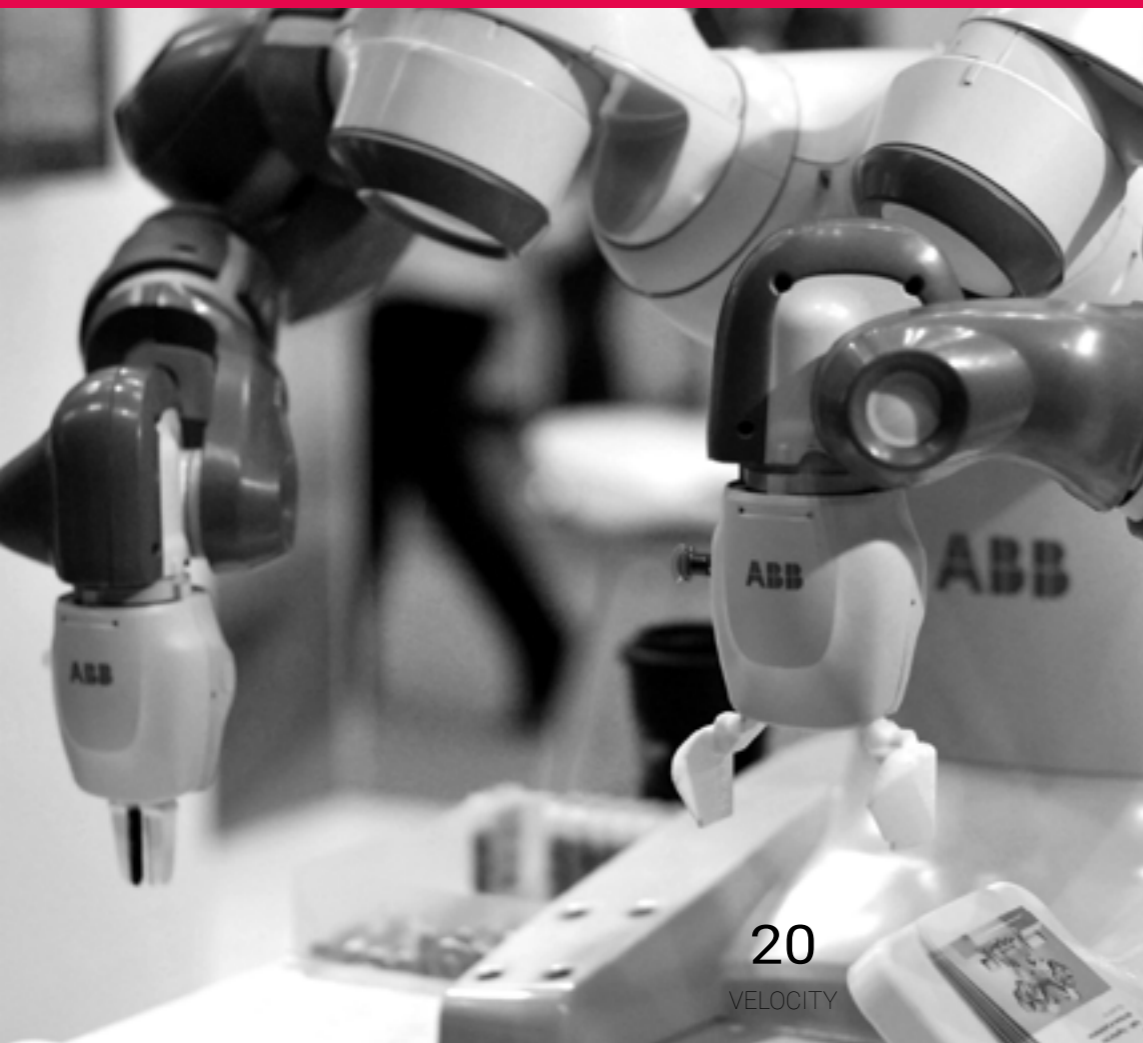
We share a common vision for a digital future for manufacturing digital production enables manufacturers to eliminate bottlenecks, reduce inventory, improve quality, shorten time to market, pivot quickly to meet customer needs, and expand the number of products made.

Digital factories use automated systems, robotics, and augmented technologies to perform repetitive, resource-intensive supply chain tasks with a goal of streamlining operations and making them safer, quicker, and more reliable.

Automation is helping the supply chain industry respond to customer pressures for faster service, more choices and greater customisation. Businesses that best leverage advanced automation and technology will become new market leaders.



Our work with customers such as Britvic PLC demonstrates our advanced automation capability. We have installed three vertical debanders as part of Britvic's £100m investment at its Rugby site. The company has installed three new can lines which are amongst the fastest in Europe, collectively producing up to 6,000 cans per minute. The investment is designed to step-change the speed and flexibility of production lines, whilst delivering environmental benefits through greater efficiencies.



# factories

# How we manage our carbon footprint matters

As a business, we have been looking at how we can better manage our environmental impact for the best part of the last year. We've set up a compliance team, which includes Jackie Butterfield, Simon Tennant and myself. And we've made some small gains already, such as using more energy efficient equipment and the use of hybrid/electric vehicles.

A key benefit of us lowering greenhouse gas emissions and environmental impacts is that our business will also find energy and carbon reductions increasingly valuable as a means to comply with possible carbon reduction initiatives and reduce costs.

The environmental requirements within tenders for business are increasing significantly. As an organisation bidding for Government (or similar) contracts, we are being asked to work to the standard of PAS 2080 : Carbon Management in Infrastructure. Similarly, PAS 2060 for Carbon Neutrality is also gaining traction in all sectors. To this effect L.B. Foster is currently taking part in Network Rail's Science Based Targets Workshops to enable its supply chain to reduce its energy consumption and carbon emissions.

As part of our legislative compliance, L.B. Foster is required to report its energy use via the Energy Savings Opportunity Scheme (ESOS), and record and report our emissions via the UK Government's Streamlined Energy & Carbon Reporting (SECR) programme.

By developing a plan of action to reduce and manage our emissions, we will be well placed to look seriously at these standards. We are developing a sustainable plan of what we will do and when. We will not be doing something once and reporting it; it is important that there is no finish line. Improving how we manage carbon matters and will be fundamental in the way in which the business operates in the future.

At L.B. Foster, we're changing how we manage our energy consumption and finding innovative ways to reduce our carbon emissions. This will help us reduce energy and associated costs, comply with greenhouse gas legislation, and improve our reputation.

Jonathan Wilson explains.



# Our movers & shakers

Your key contacts

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