

News Release

UNDER EMBARGO UNTIL 00:01 TUESDAY 18TH APRIL 2023

Hitachi partnership with Global Centre of Rail Excellence will deliver energy security and UK innovation

- **Welsh and UK Government supports Hitachi and Global Centre of Rail Excellence (GCRE) collaboration to accelerate innovation for rail passengers and deliver value for money**
- **Hitachi Rail signs Memorandum of Understanding to test rolling stock, digital solutions and battery technology at GCRE in Wales**
- **Hitachi Energy wins GCRE contract to improve energy security with their industry leading Static Frequency Converter**

Earlier today, Hitachi Rail and Global Centre of Rail Excellence (GCRE) signed an agreement to test the latest in rail technology. This follows Hitachi Energy winning a competitive tender to provide a Static Frequency Converter to manage the power grid and provide energy security.

This strategic partnership exemplifies Hitachi's collaborative approach, using its wide expertise in [Green Energy and Mobility](#) to deliver innovative solutions from [wind to wheel](#) in the UK.

Hitachi Rail to test cutting-edge rail technology

In a major boost for the UK rail supply chain, Hitachi will test new British-built trains, battery technology and digital solutions at the world-leading testing facility in Wales.

Hitachi will use GCRE's £400m facility to test future rolling stock and its pioneering battery technology, which has been co-developed with Sunderland's Turntide, to the site.

Hitachi and GCRE see the opportunity to make the site a hub for digital rail technology by testing both digital signalling and infrastructure monitoring solutions.

Hitachi has developed digital solutions that can automate track, overhead lines and vegetation monitoring, to pinpoint faults and reduce costs. GCRE can support next stages of development, which include using Artificial Intelligence (AI) to predict areas at risk of a fault and worthy of preventative maintenance.

Hitachi has 187 intercity trains in passenger service with European Train Control System (ETCS), this creates an opportunity to test future upgrades of ETCS to ensure a seamless transition in digital signalling.

News Release

GCRE to accelerate technology adoption

Currently, testing new technology takes place on the existing UK rail network. Understandably, track access and testing time is restricted so passengers are not affected. The GCRE facility increases flexibility and opportunities to conduct testing, shortening the timeline to improve and validate new innovations. GCRE will help modernise the railway by closing the gap between development and adoption.

Furthermore, testing Hitachi's cutting edge rail technology will help create a new digital skills-base at Welsh site, and support jobs in the wider supply chain.

The GCRE is a purpose built rail innovation centre being constructed in south Wales that will provide a site for world class research, testing and certification of rolling stock, infrastructure and innovative new rail technologies.

The site will provide services for a UK and European market. Currently, there is no dedicated, purpose built facility for rail infrastructure testing in Europe, nor is there a railway test loop of this scale anywhere in the UK.

Hitachi Energy's world-leading energy security expertise coming to Wales

Traction supplies for railways can present unique challenges to the electrical network. The use of Hitachi Energy's static frequency converters (SFC) eliminates these challenges and provides a stable supply to the rolling stock. It also enables the use of renewable energy and supports the GCRE project to become the United Kingdom's first net-zero railway.

For more than 40 years, Hitachi Energy's technology has been the reference for railway applications with a proven solution for railway grids. Its pioneering technology and innovative control algorithms have enabled the transition towards a modern railway grid fed by SFC, granting its stability and performance.

The converter hardware and control software of the SFC, which was selected by GCRE, cover the special needs of railway applications. In fact, the mechanical design and containerized housing ensure the reduction of footprint, onsite risks, and installation time, while at the same time making sure components are easily accessed to facilitate maintenance and trouble shooting. In addition, it provides flexibility of layout to optimize the site parameters.

Industry and Economic Security Minister, Nusrat Ghani MP said:

"Hitachi's partnership with the Global Centre of Rail Excellence marks a real vote of confidence in our rail industry and an important step forward in the race to net zero rail in the UK.

"The GCRE will be vital to decarbonising our rail network, helping cut rail costs and creating new jobs and skills through the partnerships it secures like this one with Hitachi."

News Release

Wales' Economy Minister, Vaughan Gething MS said:

"This exciting new partnership between Hitachi and the Global Centre of Rail Excellence is great news for Wales. It highlights the important and high calibre commercial partners that are interested in testing and innovating at what will be a genuinely world class facility.

"This demonstrates why the Welsh Government was right to invest in GCRE and to help develop this exciting concept. Hitachi can see the potential and unique added value this facility will provide. I very much hope to see more creative partnerships being developed with GCRE in the future."

Secretary of State for Wales, Rt Hon. David TC Davies MP said:

"The UK Government welcomes the partnership between Hitachi and the Global Centre of Rail Excellence. It shows what GCRE can do to support our rail industry and the added value of having such a capability based here in the UK – highlighting why the UK Government has invested £20 million in the facility and also provided £7.4m through Innovate UK for Research and Development.

"The Global Centre of Rail Excellence has the potential to create new jobs, encourage growth and spread prosperity in Wales. It's through partnerships like this one with Hitachi which will enable that vision to become a reality."

Jim Brewin, Head of UK & Ireland at Hitachi Rail, said:

"This partnership reinforces Hitachi's commitment to UK innovation and supply chain, which has already has seen us spend over £2.6 billion in the UK since 2015.

Through this initial agreement, we're proud to help GCRE realise its potential and ambition to become a global hub for rail innovation. Being able to test British trains and technology at the test loop in Wales will ultimately benefit both rail passengers and the UK economy."

Laura Fleming, Country Managing Director UK and Ireland at Hitachi Energy, said:

"Hitachi Energy is proud to contribute as part of the One Hitachi Partnership with its well-established rail static frequency converter technology – a robust, pioneering solution that provides reliable long-term service and significant advantages in terms of improved power quality and proven control behaviour to the Global Centre of Rail Excellence (GCRE) in Wales. It is a great example of collaboration and innovation to accelerate the energy transition."

Chief Executive of the Global Centre of Rail Excellence Simon Jones, said:

"It's fantastic to agree this partnership with Hitachi. The Global Centre of Rail Excellence that we are constructing in south Wales will be a site for world class rail and infrastructure innovation, somewhere that will be very well equipped to support both Hitachi Rail and Hitachi Energy in the cutting edge work it does. This partnership is a strong, strategic fit for both parties.

News Release

“Agreeing this deal with Hitachi is a big moment for the Global Centre of Rail Excellence. To secure such an important and globally significant partner to undertake their testing and research on site clearly demonstrates the calibre and the quality of clients that we will be working with at our facility.

“What is particularly pleasing is the message that this sends to the whole industry about the credibility and attractiveness of the GCRE offer.

“As part of this agreement, it's also very pleasing to announce that Hitachi will provide the Static Frequency Convertor needed to condition the energy which we need to electrify what will become the UK's first net the zero operation railway. It's a critical piece of infrastructure for our site, is representative of the type of technology which will be needed to electrify the UK's railway more easily and we are delighted to be working with Hitachi to secure it.”

ENDS

For more information, please contact:

Douglas McIlroy, Head of UK Communications, Hitachi Rail

+44 7548 238 140

douglas.mcilroy@hitachirail.com

Stefania Mascheroni, Head of Communications for Grid Integration Business Unit, Hitachi Energy

stefania.mascheroni@hitachienergy.com

Andrew Johnson, Head of Strategic Communications, GCRE

07949 449727

Andrew.Johnson@gcre.wales

Note to Editors:

- The Memorandum of Understanding between Hitachi Rail and GCRE is a collaboration agreement to test rolling stock testing and maintenance, infrastructure monitoring technologies, battery technology and ETCS approval testing.
- More information about Hitachi Energy's Static Frequency Converter can be viewed [here](#)

News Release

- More information on Hitachi Rail ETCS can be viewed [here](#)
- Video explaining Hitachi's 'Wind to Wheel' offer can be viewed [here](#)

About Hitachi Rail: Hitachi Rail is a fully integrated, global provider of rail solutions across rolling stock, signalling, service & maintenance, digital technology and turnkey solutions. With a presence in 38 countries across six continents and over 12,000 employees, our mission is to contribute to society through the continuous development of superior rail transport solutions. We are proud of our global achievements, from our world famous 'bullet trains', to our signalling solutions and turnkey projects, state-of-the-art traffic management and digital solutions. Drawing on the wider Hitachi Group's market-leading technology and research-and-development capabilities, we strive for industry leading innovations and solutions that can deliver value for customers and sustainable railway systems that benefit wider society. For information about Hitachi Rail, visit www.hitachirail.com

About Hitachi Energy: Hitachi Energy is a global technology leader that is advancing a sustainable energy future for all. We serve customers in the utility, industry and infrastructure sectors with innovative solutions and services across the value chain. Together with customers and partners, we pioneer technologies and enable the digital transformation required to accelerate the energy transition towards a carbon-neutral future. We are advancing the world's energy system to become more sustainable, flexible and secure whilst balancing social, environmental and economic value. Hitachi Energy has a proven track record and unparalleled installed base in more than 140 countries. Headquartered in Switzerland, we employ around 40,000 people in 90 countries and generate business volumes of approximately \$10 billion USD.

<https://www.hitachienergy.com>

<https://www.linkedin.com/company/hitachienergy>

<https://twitter.com/HitachiEnergy>

About GCRE: The Global Centre of Rail Excellence is a major new rail innovation centre being constructed in south Wales.

GCRE was established in 2021 with an initial commitment of £50 million from the Welsh Government. The UK Government is supporting the project with funding for research and development along with capital funding of £20 million. GCRE is currently in the process of a major public procurement to attract private funding to the business.

Spanning the former Nant Helen opencast site and Onllwyn Washery in South Wales, GCRE will be the UK's first net zero railway.

The facility will include two 25KV electrified test loops, one a 6.9km high speed rolling stock track and the other a 4km ~60km/h infrastructure test track.

www.gcre.wales