

World's first rail testing centre in Wales partners with Hitachi Rail

The Welsh Government's flagship Global Centre of Rail Excellence (GCRE) project has signed a memorandum of understanding with Hitachi Rail to test the latest rail technology. The agreement will see transport solutions provider Hitachi Rail test future rolling stock, battery technology, digital signalling and infrastructure monitoring solutions at the rail test centre in south Wales.

It will also develop digital solutions that can automate track, overhead lines and vegetation monitoring to pinpoint faults and reduce costs. GCRE chief executive Simon Jones said securing the partnership with Hitachi shows the calibre of clients the project will be working with at its facility.

He said: "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.

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"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.”

He added: “As part of this agreement, it’s also very pleasing to announce that Hitachi will provide the Static Frequency Converter needed to condition the energy which we need to electrify what will become the UK’s first net 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.”

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.

The new agreement follows the launch of an investment prospect by GCRE at the end of last year to attract private funding to build the world’s first integrated testing facility for trains and rail infrastructure in Wales.

The £400m development is inviting investors from around the world to take an equity stake in the business and support the next phase of the project’s development.

The project has secured over £70m in public funding already committed and partially drawn down, with the Welsh Government committing £50m equity investment when the project launched in 2021. A further £20m grant is being provided by the UK Government’s Department of Business, Energy and Industrial Strategy, while Innovate UK has committed £7.4m for research and development.

Now GCRE has launched a private investment process to raise £330m. The total estimated capital cost to deliver the project is around £400m including estimated capital required for

assuring energy supply to the site.

This includes construction of a £250m railway, plus further phases of potential investment to build a new business technology park and hotel within the 700 hectare site located within the Powys and Neath Port Talbot local authorities.

Though no finalised plans yet, GCRE said it is also actively exploring data centres as part of the commercial potential of the site as it will have some of the core infrastructure needed to support them, including a large site and renewable energy generation potential.

Planning permission has been secured for the project with construction due to start in early 2023. Site clearance has already commenced.

Once completed by 2025, GCRE will have two – inner and outer – circular electrified testing tracks built on the site of the former Nant Helen opencast site and Onllwyn washery in the Dulais Valley.

Currently, there aren't any testing facilities in the world that provide both a rail and rolling stock testing solution. The biggest current rolling stock testing facility in Europe is at Velim in the Czech Republic, but the facility is in huge demand with waiting times of up to three years.

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Currently, testing track and trains has to take place on the UK's existing rail network which is restricted to avoid rail passengers being affected.

However, once operational, the aim is for the GCRE rail test centre to free up some capacity for passenger and freight trains. There is also an opportunity to commercially exploit and develop the renewable energy opportunities available at the site in line with GCRE's energy strategy, which includes development of a solar PV plant.

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."

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 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."

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