

FOR IMMEDIATE RELEASE

Intercity Battery Train Starts Testing in the North of England



- **Intercity battery train starts testing on rail network after successful low speed running completed at Newton Aycliffe.**
- **New livery applied to the train ahead of testing on lines between York to Manchester Airport and Leeds to Liverpool Lime Street.**
- **Industry collaboration between TransPennine Express, Angel Trains and Hitachi Rail to help reduce emissions and fuel costs by as much as 30%.**

London, August 29, 2024 – The UK’s pioneering intercity battery train began testing on the national rail network earlier this week. This key milestone will see the battery technology trialed on routes between York to Manchester Airport and Leeds to Liverpool Lime Street over the next eight weeks.

The train will be easily recognisable with the distinct due to the new livery which celebrates the collaboration between TransPennine Express (TPE), Angel Trains and Hitachi Rail. A variety of important tests will take place, including the battery’s ability to improve performance on hills, regenerative charging via braking, fuel and emission savings, and zero-emission battery mode in train stations.

Rail network testing is taking place after the battery train successfully completed low speed tests on the test track at Hitachi Rail’s Newton Aycliffe manufacturing facility. During these tests the train was propelled entirely by the battery, producing zero tailpipe emissions. This is the first UK trial where a diesel engine is replaced with a battery on an intercity train. The battery has been successfully retrofitted onto one of TPE’s ‘Nova 1’ trains (five-carriage intercity Class 802).

The battery, which generates a peak power of more than 700kw, is predicted to reduce emissions and fuel costs by as much as 30% on a Hitachi intercity train. It will also

demonstrate how battery technology can reduce costs in the railways by reducing the need for overhead wires in tunnel sections and over complex junctions.

The trial also aims to support the UK battery sector and green growth, with Hitachi Rail investing over £15 million to develop this pioneering technology with Turntide Technologies in Sunderland.

Paul Staples, Engineering, Safety and Sustainability Director at TransPennine Express, said:

“This trial is a huge step towards the rail industry in the UK – and around the world reducing CO2 emissions and we are excited to be part of it.

“TPE is dedicated to making our journeys greener by reducing our carbon footprint, creating resilience to climate change and improving local air quality.”

Matthew Prosser, Asset Management Director at Angel Trains, said:

“Following the success of one of our Class 802 trains running entirely in battery-mode at Newton Aycliffe, we're excited to see how this technology performs on the national rail network. This project represents a multimillion-pound joint investment by Angel Trains and Hitachi in one of our newest fleets. It will both support and draw upon the skilled jobs and expertise at Hitachi's Newton Aycliffe facility and enable us to demonstrate how battery retrofit technology can help us decarbonise our railways.”

Paul Newlove, Head of Green Technologies Programme said:

“After seeing the train running entirely in battery-mode at Newton Aycliffe, I can't wait to see how this technology can reduce emissions, reduce fuel costs and improve air quality on the Transpennine route.

“This part of the trial is going to be really exciting because we start to prove the benefits of this green technology for passengers, operators and policy makers.

“It has been such a team effort, with colleagues in Japan, Italy and UK working together for years to finally reach this important stage.”

This important project draws upon Hitachi's global expertise which includes delivering the [world's first passenger battery train](#) in Japan, and rolling out the Masaccio, Europe's first [battery hybrid train in Italy](#) in 2022. The evolution of the technology continues at pace with Hitachi Rail recently unveiling its new [intercity version of the train](#), and with a target to roll out a EuroMasaccio in additional European markets, including Germany from 2026.

The development of this battery is an important step for the rail industry both home and abroad. Hitachi Rail has an ambition to install this battery on trains around the world, potentially creating a UK export and improving energy efficiency.

There are thousands of trains running across the world that are powered by diesel engines, which will need to be decarbonised to meet net zero targets. In Italy, the Masaccio has instantly cut CO2 emissions by 50% compared to the diesel trains it has replaced. The ability to replace diesel engines with a powerful battery, and unlock cheaper partial electrification, can create a low-cost pathway to decarbonise railways around the world.

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Note to Editors:

- Supporting images can be downloaded [here](#).
- Supporting video can be downloaded [here](#).

About Hitachi Rail:

Hitachi Rail is connecting the future of mobility - helping every passenger, customer and community enjoy the benefits of more seamless, sustainable transport.

With innovative technology and world-leading delivery capabilities, Hitachi Rail is a trusted partner to customers and consortia partners globally. The company is an expert in every part of the railway: from train manufacturing and maintenance to digital signalling and smart mobility. Its pioneering products, such as the iconic high speed bullet train, enable billions of passenger journeys and the transport of millions of tonnes of freight, every year.

Drawing on the powerful expertise of the wider Hitachi group companies, Hitachi Rail is uniquely placed to further enhance its offer to customers through pioneering new digital solutions and services.

In FY22, Hitachi Rail had revenues of over €5bn. The company has around 15,000 employees in 38 countries, and it invests in its diverse and talented teams.

Hitachi Rail's business is local, but its reach is global. With deep roots in its communities, the company is committed to delivering sustainable progress for all.

Find out more by visiting hitachirail.com

About TransPennine Express:

TransPennine Express is an intercity rail provider with a vision to Take the North Further.

Following an investment of more than £500m including the introduction of new Nova trains, we are continuing to transform rail services through high levels of performance, investment in stations, enhanced accessibility, measures to improve sustainability and more investment.

We are owned by TransPennine Trains Ltd, a subsidiary of the Department for Transport's public sector owning group, 'DOHL.' DOHL has responsibility for three other rail companies: Northern Trains Ltd (Northern), LNER and SE Trains (Southeastern).

Our network is:

North TransPennine – including Newcastle to Liverpool Lime Street, Redcar/Middlesbrough to Manchester Airport, Scarborough to York, Edinburgh to Newcastle and Hull to Liverpool Lime Street

South TransPennine – including Cleethorpes to Liverpool Lime Street via Doncaster, Sheffield to Liverpool Lime Street, and Manchester Airport to Sheffield

Anglo Scottish – including Liverpool to Glasgow, and Manchester Airport to Edinburgh

Destinations served by TransPennine Express include Liverpool, Manchester, Manchester Airport, Grimsby, Cleethorpes, Sheffield, Warrington, Birchwood, Irlam, Urmston, Stockport, Dore & Topley, Meadowhall, Doncaster, Scunthorpe, Barnetby, Habrough, Hull, York, Lea Green, Scarborough, Durham, Newton-Le-Willows, Gatley, Stalybridge, Mossley, Greenfield, Marsden, Slaithwaite, Huddersfield, Deighton, Mirfield, Ravensthorpe, Dewsbury, Batley, Morley, Cottingley, Leeds, Cross Gates, Garforth, Selby, Howden, Brough, Malton, Seamer, Thirsk, Northallerton, Darlington, Yarm, Thornaby, Middlesbrough, Redcar Central, Saltburn, Chester-Le-Street, Newcastle, Morpeth, Alnmouth For Alnwick, Berwick-Upon-Tweed, Reston, Dunbar, Edinburgh, Glasgow, Carlisle, Bolton, St Helens Central, Wigan, Preston, Lancaster, Oxenholme, Penrith, Lockerbie, Carstairs, Motherwell, Haymarket and East Linton

About Angel Trains:

Angel Trains is the UK's largest rolling stock company. We have invested more than £1.5 billion in rolling stock and innovation projects in the last ten years.

Helping to modernise and improve UK rail and meet the needs of today's passengers. We collaborate with like-minded companies to make our trains more accessible, comfortable and connected. Together, we are creating an environment where people can enjoy the journey as much as the destination.

We invest in small and medium businesses who drive our innovation in new technologies. From battery and hydrogen power systems to 3D printed parts and high-definition cameras. Our long-term outlook means we can support skilled jobs across the sector, from coast to coast, across the whole country.

We will continue to reimagine our investments, to work with the talented people in our industry and to engineer a brighter, greener, more cost-effective future for UK Rail.

www.angeltrains.co.uk

Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.
