

Successful completion of ETCS testing for High Speed Train power car

September 23, 2022



Another milestone has been achieved in the government funded East Coast Digital Programme (ECDP) with the successful completion of testing with digital signalling for High Speed Train (HST) Class 43 power cars forming part of [Network Rail's](#) New Measurement Train (NMT).

European Train Control System (ETCS) in-cab signalling technology enables a more reliable service with reduced delays, improved safety and reduced costs and emissions through the removal of lineside infrastructure. The successful testing programme at Network Rail's recently upgraded Rail Innovation and Development Centre (RIDC) now enables commissioning of the relevant Class 43 power cars into ETCS Level-NTC (National Train Control) level. Using the RIDC facilities, recently upgraded for ETCS testing, enables progression to Level-NTC without the need for any passenger disruption through track possessions.

Porterbrook, the lead rolling stock leasing company for the Class 43 under the National Joint ROSCO Programme (NJR), managed the project on behalf of the rail industry under instruction from Network Rail.

Thales was awarded the contract to carry out the First in Class (FiC) design and fitment project, and the

completion of testing at RIDC marks the first time that the Thales On-Board System has been successfully fitted in the UK.

The train testing process at RIDC for the Class 43s involved several days of running and builds on an initial phase of lab testing to integrate and prove the technology. The physical testing at RIDC then proves that the component parts of the ETCS technology (train, trackside, radio block centre) and the train itself all work together in real life conditions.

With around 700 vehicles needing to be prepared for the East Coast Digital Programme, the FiC testing programme at RIDC over the next two years will involve around 20 to 25 classes of passenger and freight trains.

Toufic Machnouk, Network Rail director, industry partnership for Digital Railway, said: "The ability to test the first in class vehicles at RIDC is a cornerstone for the delivery of ECDP and the further roll out of ETCS across the network. This allows the train to be tested and certified following the fitment of new safety critical control technology without disrupting the operational railway.

"The collaboration created on the Class 43 project is another example of how our partners are rising to the unique challenges with retrofitting vehicles. Over the next two years a variety of vehicle types will undergo ETCS testing as we continue with the upgrades and retrofits that enable ECML south to migrate to ETCS operations."

Ben Ackroyd, chief operating officer at Porterbrook said: "Porterbrook is delighted to see the power cars for the New Measurement Train fitted with ETCS completing final testing and commissioning at RIDC.

"This is a key part of the rollout of the Digital Railway, and we are pleased to play our part in supporting Network Rail on this project that will improve performance, enhance safety and reduce costs for the industry."

Tank Porteous, programme director at Thales said: "The successful testing of the Thales ETCS system with the trackside infrastructure at RIDC represents a major milestone for the Class 43 project and is the culmination of a brilliant collaborative effort from the team. Thales is pleased to be able to contribute towards the success of the East Coast Digital Programme as it transforms the railway to the benefit of its users."

Many other companies across the railway have supported the ETCS project, including Ricardo which carried out the integration design for all the Class 43 build types, Yellow Rail which carried out the installation work on behalf of Thales, and Loram UK which maintains the Class 43 fleet.