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Dublin, Ireland

Egis announces completion of new train protection system for Irish Rail that will enable the use of battery-powered trains for the first time in Ireland

- The new system on the Dundalk-Dublin-Greystones line has reached 'substantial completion', and allows for better 'communication' between track and train, improving rail line safety and the operation of new fleets.
- The project is now in the process of being finalised to go into service by the end of 2025.
- The Train Protection System (TPS) will be rolled out across entire rail network and marks significant step in Ireland's rail modernisation.
- New technology provides for automatic train stopping and automatically ensures trains adhere to line speeds and permanent speed restrictions.

Egis, the engineering and operations firm has announced the completed installation and testing of a new train protection system for Irish Rail that will also allow for the use of newly purchased battery-powered trains for the first time in Ireland.

The system has been installed on the Dundalk-Greystones rail line, enabling improved railway safety through 'communication' between track and train functionality including automatic train stopping and automatic adherence to line speeds or permanent speed restrictions. The project is now in the process of snagging, rolling out additional scope and completing safety approvals in order to be in service by the end of 2025.

The train protection system, which will ultimately be rolled out across the rail network will eventually replace Irish Rail's existing systems, which involve older technology that is becoming obsolete and offers less functionality.

The new system was installed over 30 months with a number of companies providing essential project support, embedded within the Irish Rail Team including the Irish branch of Egis, the global

engineering and operations firm, Deutsche Bahn, the national railway company of Germany, and CPC Project Services, the UK-based infrastructure company.

Egis was responsible for systems integration, Deutsche Bahn provided safety management consultancy services and CPC supported the project delivery in conjunction with Irish Rail.

The technology design and configuration part of this project was delivered by Alstom, which specialises in rolling stock (train) manufacturing and signalling systems.

The new protection system complies with ETCS (European Train Control System) Level 1 standards. ETCS is a train control standard, based on automated trackside monitoring and in-cab equipment that is able to automatically supervise train movements, alert the driver in case of excess speed, and safely stop the train if required. Track and signalling information is sent from 'balises' or beacons between the rails allowing the trackside equipment to communicate directly with the train, so it can automatically control its speed, braking and stopping.

ETCS is a standardised system designed to replace the many incompatible systems used by European railways, and railways outside of Europe. Its implementation allows for the use of the new battery-powered trains which come fitted with ETCS. These newer trains cannot generally be fitted with existing systems, many of which are becoming obsolete.

The Dundalk-Greystones ('D2G') project involved the installation and testing of ETCS Level 1 on 365 signals on the 120km of railway line.

The system has undergone three years of safety approvals with the ERA – the European Railway Agency - a precondition for the system to be fully authorised to put into service. As systems integration manager, Egis facilitated this process liaising between Irish Rail and the ERA, culminating in a positive decision by the agency in December 2024. This approval was followed by a process of operational readiness for Irish Rail, and dynamic system integration testing activities, both led by Egis. The system integration testing activities consist of dynamic tests with a train which are due to conclude this month (May 2025).

In the coming months, Egis will manage the design and implementation of minor changes identified as required during the testing period, and additional scope changes to support the new Fleet. These minor changes are necessary to achieve the final Authorisation to Put Into Service (APIS) from the Irish Commission for Railway Regulation (CRR).

Once operational, the new system will support the introduction of Ireland's next fleet for the Dart+ network. Irish Rail recently purchased battery-powered trains from French company Alstom. The first of these trains has been delivered to Ireland to start its testing regime. They are due to enter service in 2026.

Dart+ aims to ensure train travel is at the heart of Ireland's sustainable transport network. Funded under the National Development Plan, Dart + will see a doubling of capacity and trebling of the electrification of the Greater Dublin network, facilitating more sustainable mobility in the capital and surrounding counties.

Andrew Doyle, Transportation Director at Egis in Ireland said: "We are excited to have been involved in this project and to have delivered it successfully in conjunction with our partners. It is a major development for Irish Rail and one that not only improves safety, but allows for the introduction of newly purchased battery-powered trains for the first time. At Egis, we strive to deliver cutting-edge technology that improves the operation of transport systems, making them safer, smarter and ultimately more sustainable. It is great that Irish Rail has invested in this new technology and we look forward to seeing it fully operational on the Dundalk to Greystones line, before being rolled out to other lines."

Paul Hendrick, Director of Capital Investments at Irish Rail said: "This is a major modernisation milestone for Irish Rail. It future proofs our safety systems and allows for the use of cleaner, more modern and efficient battery-powered trains. It means our passengers will benefit from improved standards and it will assist us greatly as we seek to meet our sustainability goals. We would like to thank Egis, Deutsche Bahn and CPC Project Services for their commitment to this project and their work in delivering it on time and to a high standard."

About Egis

IMAGINE. CREATE. ACHIEVE.

a sustainable future

Egis is a leading global architectural, consulting, construction engineering, operations and maintenance services firm. We create and operate intelligent infrastructure and buildings that both respond to the climate emergency and contribute to balanced, sustainable and resilient development.

Our 20,500 employees operate across over 100 countries, deploying their expertise to develop and deliver cutting-edge innovations and solutions for clients. Through the wide range of our activities, we are central to the collective organisation of society and the living environment of citizens all over the world.

In the field of high-speed rail, Egis has acquired unique experience on numerous high-speed line programmes, first in France and then as a major player in the deployment of high-speed rail technologies in Europe, and now in the Middle East, the United States and Asia.

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About Egis in Ireland

Egis has operated in Ireland since 1994 and is one of the largest multi-disciplinary consultancy, engineering and operations firms in the country. Its current activities in Ireland include operating the Dublin Tunnel and the Jack Lynch Tunnel in Cork, overseeing 470km of Ireland's motorways and working on the design and delivery of major transport projects and mobility services. With over 600 staff in Ireland across 16 offices nationwide, it is committed to enabling sustainable economic development and responding to the requirements of population growth while addressing climate change and reducing carbon emissions. In 2023 Egis acquired JB Barry & Partners, an engineering firm which has worked on major projects such as the Ringsend Wastewater Treatment Plant in Dublin and the N17/N18 Gort to Tuam PPP motorway scheme in Galway.

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