News Release

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Hitachi Rail is innovating and delivering transformative 5G digital signalling

- Hitachi Rail is integrating Communications-Based Train Control (CBTC) with 5G communications in market leading programs, for both New York's Crosstown Line and Hong Kong's International Airport
- Utilizing 5G for train to ground communications, is an industry first and will provide significant performance improvements while reducing investment and lifecycle costs
- Hitachi Rail will be showcasing the innovation found in combining 5G capabilities with the SelTrac™ technology at the global rail conference, InnoTrans 2024, in Berlin.

London, September 19, 2024 – Hitachi Rail's use of 5G digital signalling capabilities for urban rail, will reduce lifecycle costs, enhance actionable insights from data analytics, and future proof train networks. Replacing legacy radio technologies with 5G for critical train to ground communications is being launched on New York's Crosstown Line & Hong Kong's International Airport's Automatic People Mover.

SelTrac™ CBTC is an advanced digital signalling solution, which uses train to ground telecommunications to support traffic management on a line. A technology deployed across new metros, light rail systems and is increasingly used for resignalling on existing networks. CBTC allows for higher capacities, safety and overall reliability when compared to conventional signalling systems.

While CBTC technology is helping to improve performance on rail services around the world, it currently relies on the installation of legacy communication technology (radio, Wi-Fi) to enable train to ground communications. Hitachi Rail's solution with innovative 5G, removes the limitations of prior technologies and instead leverages public or private networks. The 5G solution reduces the trackside infrastructure significantly as the number of 5G Radio Access Points needed are decreased relative to the existing WiFi solution.

The additional benefits of 5G are substantial, including continued high-performance connectivity in the most challenging of environments such as tunnels. Substantially increased 5G bandwidth further enables the use of advanced digital asset management solutions such as those developed by Hitachi Rail. By providing real-time reporting of the train's data, it is possible to optimize operations and maintenance of both the train and the track.

Operators of 5G acquire the ability to use their expanded network capacities to deliver a range of additional services without installing new radio infrastructure, and with confidence of future 5G technology iterations (e.g. 6G) and backward compatibility. An important asset considering the 30-year lifecycle found within a radio access infrastructure.

Hitachi Rail's SelTrac™ CBTC solution with the advanced 5G communication system will be deployed in two of the busiest metro networks in the world. In New York, Hitachi Rail is implementing a private 5G network for the Crosstown Line, which transports 70,000 passengers daily, and in Hong Kong, where the operator is implementing a 5G overlay network onto an existing SelTrac™ solution within the International Airport's Automatic People Mover. These projects will be one of the first to incorporate 5G connectivity for mission-critical signalling applications.

Ziad Rizk, Managing Director, Urban Rail Signalling, Hitachi Rail, said:
"Our first-of-its-kind 5G solution is a game changer for the urban rail market. The new 5G system plays a critical role in delivering reliable and high-capacity CBTC operations to metro operators. We offer different deployment options that best suit the customers' needs, as seen with our two references. We are proud to deliver this transformative technology to our customers and the benefits it will deliver to passengers."
On 31 May, 2024, Hitachi Rail completed the acquisition of Thales' Ground Transportation Systems business (GTS), expanding the business's footprint to 24,000 colleagues across 51 countries. The acquisition has enabled Hitachi Rail to expand its product and technology portfolio, including enhancing its expertise in urban rail signalling. On 24-27 September, Hitachi Rail will exhibit a range of its urban rail products including its 5G solution at the global rail exhibition, InnoTrans in Berlin.

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About Hitachi Rail
Hitachi Rail is committed to driving the sustainable mobility transition and has a clear focus on partnering with customers to rethink mobility. Its mission is to help every passenger, customer and community enjoy the benefits of more connected, seamless and sustainable transport.
With revenues of over €7bn and 24,000 employees across more than 50 countries, Hitachi Rail is a trusted partner to the world's best transport organisations. The company's reach is global, but the business is local - with success built on developing local talent and investing in people and communities.
Its international capabilities and expertise span every part of the urban, mainline and freight rail ecosystems – from high quality manufacturing and maintenance of rolling stock to secure digital signalling, smart operations and payment systems.
Hitachi Rail, famous for Japan's iconic high speed bullet train, draws on the digital and AI expertise of Hitachi Group companies to accelerate innovation and develop new technologies. Hitachi Group is present in 140 countries with over 270,000 employees and global revenues of €54.55bn / ¥8,564 bn.
For more information, visit hitachirail.com

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