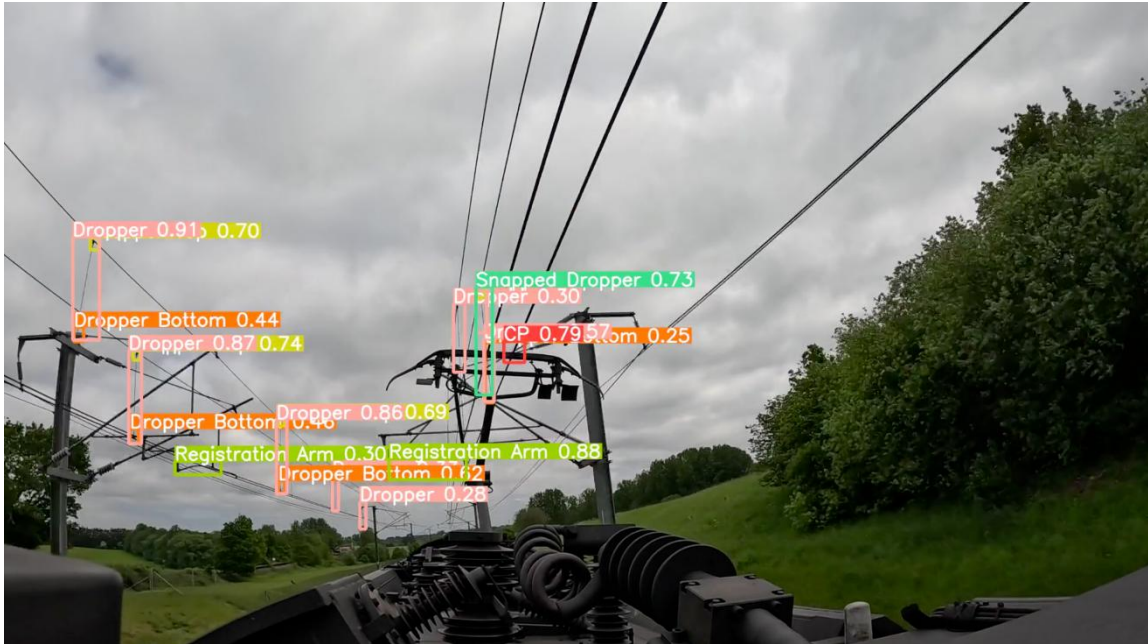


Hitachi Rail launches 'Enhanced by HMAX', committing to embed technology in all new rolling stock from 2027



Berlin, September 22, 2026, Hitachi Rail today announced the launch of 'Enhanced by HMAX', extending its digital asset management platform across the company's entire portfolio, including rolling stock, signaling, infrastructure and operations. The initiative marks a significant step in embedding advanced AI and data capabilities into the core of railway systems and operations worldwide.

As part of the launch, Hitachi Rail has committed to **all new rolling stock being equipped with proprietary HMAX sensor technology from 2027**, including flagship trains such as the iconic ETR1000 high-speed train. These sensors capture real-time data across critical systems, enabling operators to continuously monitor performance, identify emerging issues, and optimize maintenance and operations throughout the lifecycle of the asset.

Following the launch of HMAX at InnoTrans in 2024, Hitachi Rail's HMAX sensor technology is now installed on approximately 2,500 trains. The existing order pipeline will see this expand to almost 3,500 HMAX installed trains in the coming years.

HMAX for Rail is Hitachi Rail's digital asset management platform, designed to integrate and harmonize data from trains, signaling systems and infrastructure into a single, unified system. By leveraging advanced AI and real-time processing at the edge from partners such as NVIDIA, the platform transforms how railway systems are managed, shifting from reactive approaches to predictive, data-driven decision making. Enhanced by HMAX takes the power of these data driven insights to the next level, embedding the suite of solutions across railway systems, rolling stock, signaling, infrastructure and operations.

Giuseppe Marino, CEO of Hitachi Rail, said: “As part of today’s launch, our commitment to install HMAX on all new rolling stock from next year demonstrates how critical digital asset management has become to the performance, reliability and efficiency of modern rail fleets.

‘Enhanced by HMAX’ represents the next step in our mission to deliver the digital mobility transition, embedding AI and real-time intelligence into every part of the railway system. By connecting rolling stock, infrastructure and operations through a single data platform, we are enabling our customers to unlock greater value from their assets and operations.”

Bringing operations and maintenance together in real time

One aspect of the ‘Enhanced by HMAX’ launch is that Hitachi Rail is evolving its Operating Control Centers (iOCC) to enable deeper integration between operations and maintenance teams. HMAX for Rail closes the traditional gap between managing daily service delivery and long-term asset performance.

With an iOCC enhanced by HMAX, rail operators now use the same asset health data as maintenance teams to improve performance – all through integrated systems and processes that mean that asset degradation need not impact service. Instead of relying on planning meetings, spreadsheets and phone calls to share information, HMAX continuously analyses and prioritizes real-time data from across the railway ecosystem, enabling operations teams to respond quickly to disruptions while simultaneously informing and triggering maintenance actions. The single, unified view of network conditions creates real-time alignment, enabling faster, more informed decisions that deliver more reliable, efficient and resilient railway services, and lower total cost of ownership.

Enhanced by HMAX case study: Transforming signaling and operations

The investments being made in the HMAX for Rail digital asset management platform are also increasingly creating innovation capabilities across wider railway operations.

For example, Hitachi’s use of NVIDIA Omniverse libraries, to simulate environments for catenary monitoring is now extending to its autonomous tram technology. The platform is supporting customers to develop autonomous tram programmes. The tram systems combine next generation autonomous positioning (NGAP), which achieves track location accuracy of under one metre, with obstacle detection, classification and tracking (ODT) using a sensor fusion algorithm drawing on IMU, radar, LiDAR, stereo cameras and GNSS.

The AI models underpinning these capabilities were developed using simulated railway data that harness NVIDIA open [Cosmos world model](#) and [NVIDIA Metropolis Blueprint for video search and summarization](#) (VSS) to deploy contextually aware vision AI agents leveraging visual data from camera infrastructure. Additionally, NVIDIA Omniverse libraries enable the team to train against a wide range of scenarios, including rare, safety, or mission critical events, without requiring years of live operational data collection.

The advantages of this approach are significant, including reduced ground-based infrastructure, lower installation and maintenance costs, increased passenger capacity and improved energy efficiency through optimised speed profiles.

Enhanced by HMAX case study: HMAX Catenary Monitoring - From 10 Days to Real Time

HMAX also powers Hitachi Rail's solution for physical infrastructure. For example, HMAX catenary monitoring enables onboard computing to process the monitoring of overhead line equipment from cameras on in-service trains. Previously, processing a day's footage could take up to 10 days due to manual data extraction and cloud processing. With NVIDIA IGX Thor deployed through HMAX, data is now analysed in real time at the edge, with only potential faults transmitted for review. This real-time speed of monitoring enables Hitachi Rail's customers to benefit from being able to make far more impactful corrective decisions, while reducing any disruptions.

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What are the benefits of HMAX for Rail?

HMAX helps to reduce total cost of ownership by extending asset life and minimizing unnecessary maintenance. Approximately 50% of railway costs are attributed to maintenance and energy, and HMAX is designed to optimize these areas. In real-world deployments, the platform has reduced some customers' maintenance costs by 15% and energy consumption by 15%.

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About Hitachi, Ltd.

Through its Social Innovation Business (SIB) that brings together IT, OT(Operational Technology) and products, Hitachi aims to be a global leader in continuously transforming social infrastructure through digital, contributing to a harmonized society where the environment, wellbeing, and economic growth are in balance.

Hitachi operates worldwide across four sectors – Digital Systems & Services, Energy, Mobility, and Connective Industries – as well as a Strategic SIB Business Unit focused on new growth areas. With Lumada at its core, Hitachi creates value by combining data, technology and domain knowledge to solve customer and social challenges.

Revenues for FY2025 (ended March 31, 2026) totaled 10,586.7 billion yen, with 606 consolidated subsidiaries and approximately 290,000 employees worldwide. Visit us at www.hitachi.com.

About Hitachi Rail

Hitachi Rail is committed to driving the transition to sustainable mobility 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, smooth, and sustainable transportation.

With a turnover of more than €7 billion and 24,000 employees in more than 50 countries, Hitachi Rail is a reliable partner for the world's best transport companies. The company's presence is global, but the company is local, with success based on developing local talent and investing in people and communities.

Its international expertise and experience covers every part of urban ecosystems, main lines and freight railways, from high-quality production and maintenance of rolling stock to digital signaling, payment systems and smart operations.

Hitachi Rail, famous for Japan's iconic high-speed train, leverages the digital and artificial intelligence expertise of Hitachi Group companies to accelerate innovation and develop new technologies.

For more information, visit hitachirail.com