

Nomad Digital

Connecting Everything for the Intelligent Journey

Nomad Digital is a world-leading provider of passenger, fleet-management and monitoring solutions to the transport industry.

With a global presence and a team of rail industry experts, Nomad brings its systems architecture and integrator capabilities to provide modern processing, monitoring and connectivity solutions to trains.

Partnering with train and freight operators, rolling stock owners and train builders globally to facilitate a significantly enhanced service from passenger Wi-Fi to infrastructure monitoring, Nomad Digital proudly celebrated its 20-year anniversary last September.

Data-Driven Intelligence

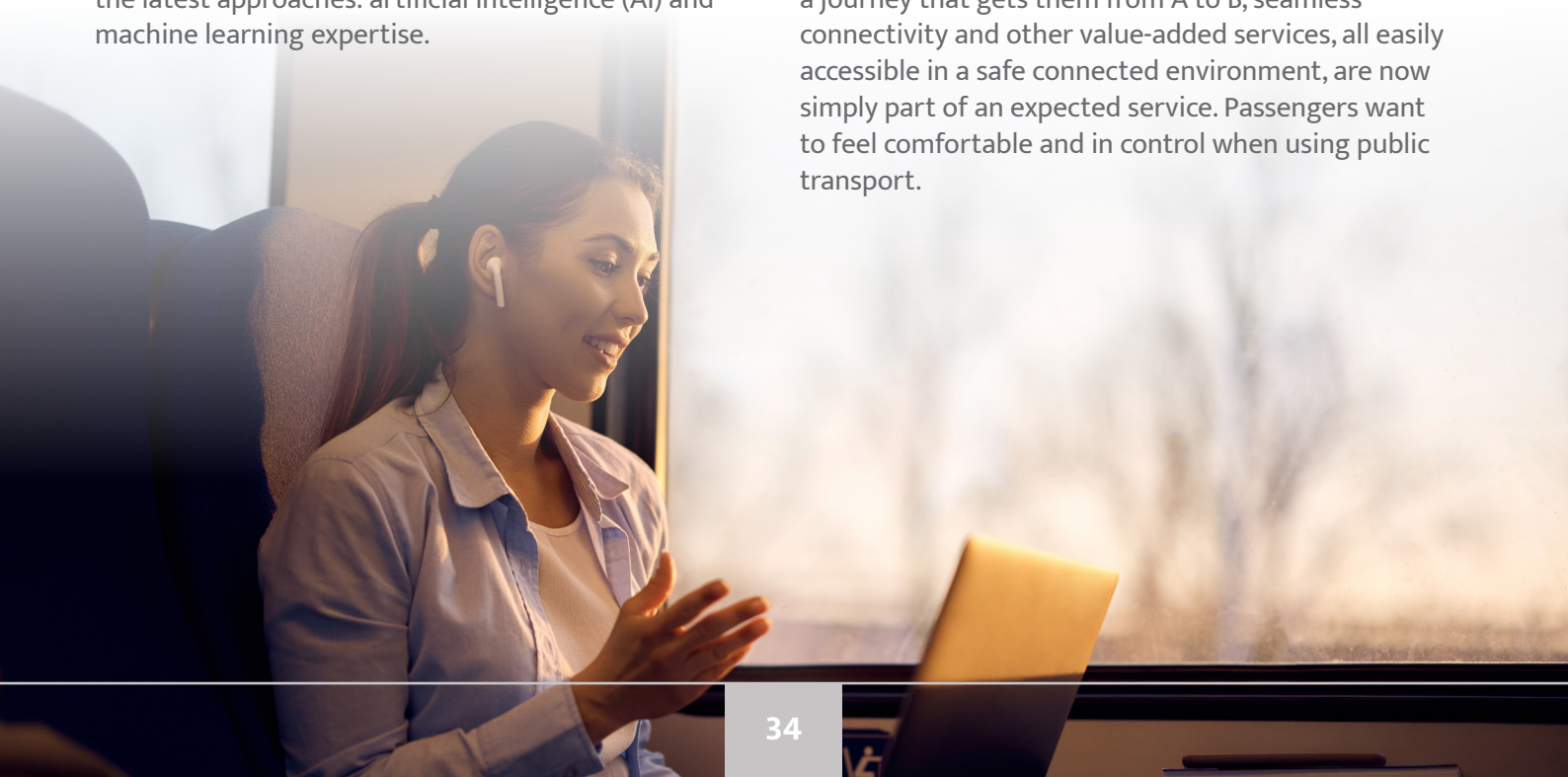
Through understanding the potential unlocked value of data collected from rail journeys, Nomad Digital also supports operators with achieving operational efficiencies through real-time fleet monitoring utilising the latest approaches: artificial intelligence (AI) and machine learning expertise.

This includes supporting the development of proactive **rail maintenance** strategies with robust rail connectivity and edge processing at the core. Providing operators with in-depth fleet intelligence for data-driven decision-making can help tackle operations and maintenance challenges early, thus preventing costly fleet downtime.

Nomad Digital also offers an extensive range of infrastructure monitoring solutions with its powerful Onboard Data Centre (ODC) providing edge processing capabilities to report on 'events' detected by onboard monitoring systems.

More than Travelling from A to B

As passengers continue to seek more than just a journey that gets them from A to B, seamless connectivity and other value-added services, all easily accessible in a safe connected environment, are now simply part of an expected service. Passengers want to feel comfortable and in control when using public transport.



With this in mind, Nomad Digital continues to have one eye trained on the future to develop innovative, AI-supported solutions to meet ever-evolving industry demands for a fully connected, end to end **passenger experience**, as well as supporting Mobility-as-a-Service (MaaS) initiatives.

Leading the Way in Connected Transport

The modern-day landscape of rail services with connectivity at the heart of everything is where Nomad Digital comes in. The integration of Nomad's products and services into the on-train environment improves the passenger journey and delivers efficient technology, both operating on one common platform. Nomad Digital's aim is to add intelligence to what were once passive fleet sensors, eradicating the need to rip and replace.

Integrated and Scalable Solutions

Among all of the available solutions within Nomad's portfolio its offerings include:

- Fleet and rail connectivity
- Trackside networks
- Real-time fleet management
- Historical reporting
- Security-as-a-Service
- Wi-Fi and internet access
- Remote online condition monitoring
- Onboard Data Centre
- CCTV
- Engage Portal
- Passenger and on-board information systems
- Mobile engineering applications
- Infrastructure monitoring solutions

The Train Future

Improved utilisation of available data and extracting more value from existing onboard and wayside sensors is key to the future of rail and public transport. Being able to harness more insights from existing data sources and fill any gaps with AI techniques will help build passenger and operator confidence. From a passenger perspective, they will be alerted when issues have arisen along their journey and will be aware of alternative options which may not necessarily be using

a traditional mode of travel i.e., e-scooters. Operators will have the ability to detect potential issues with their rolling stock or the infrastructure they operate on and be able to act before service-affecting failures occur.

Increased edge processing will make the reliance on data transmission less demanding with only event data being sent. Connectivity will improve with the rollout of 5G and eventually 6G networks, but it will also see satellite connectivity become a viable alternative with the development of new phased array antennas, LEO satellite constellations and falling data costs.

The latest innovative communication solutions, which include **trackside radio networks** can revolutionise the rail industry by providing a flawless, uninterrupted connection for the end consumer with rail operators benefitting from the savings in long-term use. Every indicator is pointing to an increasing demand and higher expectation from rail passengers for fast, consistent, and reliable Wi-Fi communications during their journeys. With the introduction of 5G technology for the train to ground link, some of these measures will be met, however, there is still a strong argument for a private trackside radio network for when the digital experience of passengers becomes priority.

The Future of Mobility

As rail industry requirements continue to evolve, Nomad Digital is committed to innovation and the development of industry-leading solutions to champion the digital train becoming a reality.

To speak with the Nomad Digital team of experts, please contact experts@nomad-digital.com or visit nomad-digital.com.



Leading the way in connected transport



As a world leading provider of passenger, fleet management and monitoring solutions to the transport industry, we are committed to continuous innovation and development of industry leading solutions.

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20 YEARS
Nomad Digital
connected transport, intelligent solutions