NetworkRail

ACCELERATING EXCELLENCE AT NETWORK RAIL

Network Rail's transformation is driven by a new strategic model that aligns with train operators and franchises; bringing tracks and trains together. By necessity, your core motivation is to get people home safely every day.

This summary – drawn from the full report Accelerating Excellence at Network Rail – lays out the key areas where integrating AI and analytics can help deliver Network Rail's mission.

What role can AI play in your transformation?

Your increased focus on customer service is designed to increase rail infrastructure performance, and passenger experience as a result. Decisions will be decentralised in order to better meet the needs of different passenger groups in an effort to make routes more responsive to local needs.

Devolution may well achieve faster outcomes when compared to a centralised decision-making body. However, it could also impact the accuracy and value generated by decisions. Only if decisions are made using data-driven insights can you guarantee they will enable transformation, efficiency, budget optimisation and result in improved services for customers.

AI: the engine behind today's rail innovation

French operator **SNCF** applies predictive maintenance to forecast **80%** of incidents on catenaries, and reduce incidents involving train switches by **30%**.[1]

International engineering company, **Laing O'Rourke**, uses AI and asset digital twins to schedule maintenance work. It enables the company to reduce scheduling activities to **19 seconds** (down from three hours), and plan **23 days ahead** (up from one day ahead).[1]

Italian rail infrastructure firm, **Rete Ferroviaria Italiana (RFI)**, uses a digital replica of its network infused with geolocation data to provide detailed, real-time infrastructure data to customers. RFI's digital replica is part of a **€17 billion**, **five-year** rail infrastructure modernisation program.[1]

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AI in asset management

Network Rail will underpin the customer focus transformation with improvements to the following:

- Passenger and infrastructure safety

- Reliability so travellers and operators have maximum network access

- System and asset integrity to ensure compliance

AI capabilities, using a greater pool of securely shared data from your infrastructure, asset suppliers and train operators, can enable decisions that improve these three crucial areas.

INCIDENT MANAGEMENT 1

By making better informed decisions, you can optimise a sustainable balance of investment, safety risk and performance across the network. SAS can help create continuous monitoring and near-real time predictive scoring models to determine asset health. While root cause analyses minimise unplanned downtime.

PREDICTIVE MAINTENANCE 2

Predict which assets require maintenance or replacement before an issue arises. Improve asset reliability and minimise safety risks and downtime costs. SAS can help Network Rail create a more efficient, timely and effective defect 'predict and detect' capability.

SAFETY MANAGEMENT 3

Delivering projects safely while remaining on time, to specification and to budget can be simplified with AI in support. SAS can help with asset performance intelligence that ensures infrastructure portfolios, programmes and projects are planned and managed effectively through highly integrated standardised processes, structured around a common information model, and supported by controlled information sets.

What can SAS offer?

SAS can help Network Rail to improve across the business, and across your rolling stock, by bringing robust data management, IoT analytics capabilities and AI techniques to enhance asset performance.

Read the full report now to dive deeper, and discover more case studies that illustrate how SAS can help Network Rail transform.