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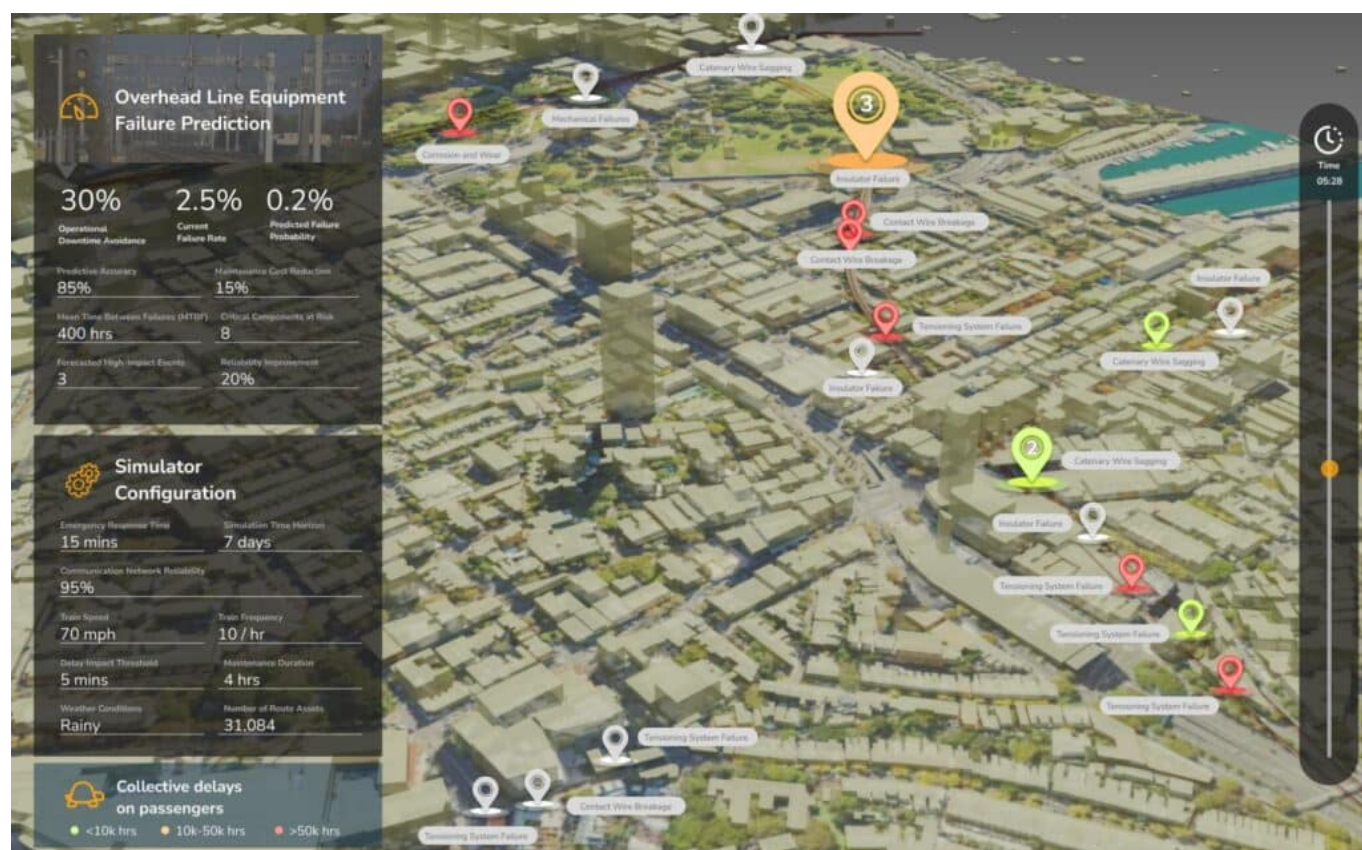
Passengers at the core of net-zero infrastructure maintenance initiative

April 15, 2024

Moonbility, a London-based mobility tech startup, is launching a transformative project in collaboration with Network Rail, the Rail Delivery Group, and South Western Railway.

Funded by Innovate UK, the company says this initiative aims to recentre passenger needs in railway maintenance decisions using ground-breaking machine-learning technology.

Moonbility's new project enhances data visibility and accessibility across the railway network.

The initiative will develop a sophisticated machine-learning system designed to predict, simulate, and visualise the impact of asset failures on passengers.

This includes modelling delay propagation, the allocation of additional operational resources during disruptions, and the carbon emissions associated with alternative transport routes.

"In the disjointed data landscape of the railway industry, our technology strives to decipher complex information and align it with the UK's decarbonisation goals for 2050," stated Andre Wang, CEO of

Moonbility.

"Our system's modularity, simulation capabilities, and user-friendly visualisations will ensure that all stakeholders' interests are addressed, fostering a more sustainable and passenger-focused maintenance strategy."

The project, which receives support under Innovate UK's Net Zero Mobility theme, involves critical cybersecurity oversight by the Warwick Manufacturing Group (WMG) to secure data exchanges throughout the system's deployment, initially focusing on overhead-line equipment (OLE) maintenance.

Rail Data Marketplace Lead at Rail Delivery Group, Jez Smith, said: "One of the aims of the Rail Data Marketplace is to enable innovation across the rail sector.

"There is no doubt that digital twins and predictive modelling can bring significant benefits to both the operational efficiency of the industry and the experience of passengers, and therefore the Rail Data Marketplace is enthusiastic to support Moonbility in their project objectives.

"Moonbility's intent to use advanced digital twin techniques to improve predictive maintenance to the benefit of train operating companies, passengers and decarbonisation could provide a template for the future use of data across the sector."

This collaboration marks the first time Network Rail will integrate direct passenger data from train operators into their maintenance decision-making processes, a milestone that promises to transform maintenance prioritisation and transparency in the railway industry.

For more information about Moonbility click here or email andre@moonbility.com.