Travel Tech
WORLD

FOR A SMARTER MOBILE WORKFORCE

EMPLOYEE
BENEFITS

The technology that will change business travel

>> The always-on workforce

Staying connected has become an expectation, not a luxury – especially for mobile workers. Fixed public WiFi hotspots help, but long train journeys present a particular set of difficulties which smartphones can struggle with. Tunnels, high speed movement between masts and areas with no coverage can all cause breaks in reception, or slow the connection significantly.

That's a problem which Nomad Digital set out to solve. If you've ever used WiFi on a train, then chances are you've sampled their technology – but how does it overcome the geographical challenges of keeping business travellers online?

>> The challenge of constant connectivity

The big advantage of Nomad's system over most mobile devices is its ability to use multiple different connections while the train is moving. Particularly useful when it's fitted to a vehicle which could be travelling at over 100mph.

Primarily, this uses a wireless standard called WiMAX, which is used to provide high-speed, wide-area WiFi coverage in public places. Nomad claims to be the only company to deploy this for use in a train, and the high speed of the vehicles means transmitters need to be placed trackside along the route, at shorter intervals than the technology usually requires. Stations and depots are also typically equipped with a WiMAX radio to keep the trains connected.

This is combined with an aggregated connection from mobile networks. A computer on board is able to intelligently, seamlessly switch between and combine connections while the train is moving, and then distribute it among the wireless transmitters in the carriages. The perception for the passengers is a continuous, high-speed connection regardless of moving through tunnels or areas where there's no mobile coverage. It's even possible to move from the train to the platform and vice versa without changing connection.

Nomad says its on-train hardware is designed to be installed and removed quickly – recognising that rolling stock has a much longer lifespan than the technology itself. The company now offers a 20mpbs connection on its main rail routes – faster than the UK average home broadband speed.

>> A platform for other connected services

Keeping passengers connected is only part of the platform's scope. A high-speed data connection enables train operators to monitor driver behaviour, receive live high-definition CCTV footage and keep track of the location and mechanical condition of their fleets, and also to feed this back to staff without being reliant on a single mobile network.

Nomad says the system also provides a platform for wider services. Its customer surveys showed passengers were often dissatisfied with the information provided about delays and technical issues – both of which could be provided en route, as well as utilising live location data to inform platform displays.

Further ahead, it's said that the technology could take fuller advantage of the continued connection to mobile devices. So it could monitor carriage capacity and tell passengers where to wait on the platform to board a less crowded carriage, offer data about connecting trains and provide a platform for buying tickets through a smartphone or tablet. Services which might sound like a luxury today, but are tomorrow's expected standards.

A PLATFORM FOR GROWTH

British technology company Nomad Digital has been providing on-train Wifi since 2004, and reckons the platform it's created has benefits beyond our rising appetite for data. *Alex Grant* finds out how it works.