

Why the high value of connectivity can't be ignored on the trains

May 15, 2020



The recent announcement of the UK government to push forward with HS2 has led to renewed calls for an improved connectivity on the railways.

Some experts claim that the train network is living in the Dark Ages on cellular connectivity compare to our European counterparts.

However, there are some improvements. In February the government forged a 5G partnership with Chinese firm Huawei, which is expected to bolster the cyber infrastructure.

Jeremy Haskey has written a piece for railbusinessdaily.com about the issues and possible solutions.

He is the Head of Solution Architecture at the passenger and fleet connectivity solutions and trackside networks provider Nomad Digital.

"Whilst temporally stopping life as we know it, causing devastation on a personal and economic level, COVID19 has exposed a positive in the high value that good digital connectivity brings to our lives.

Whether it's catching up with family and friends, working remotely and attending audio and video conference meetings, ordering essential supplies these are all being facilitated by digital connectivity and which are becoming more and more accepted as the norm.

I have wondered how the work environment will look once life starts to return to what we previously considered to be normal. I believe people will take a more cautious approach in returning to a previous view of normality, maybe spending less time in the office or just using the office for key meetings. I do however consider there will still be a need for travel and it is essential people are able to keep productive by using the digital connectivity available on the transportation networks.

From several recent surveys it is clear digital connectivity whilst we travel is becoming expected and rightly criticised when not available. Transport systems, specifically rail, embraced digital connectivity to the train in various ways, accelerated through the introduction of 3G back in early 2004, for both operation and passenger WiFi connectivity.

However, even with the introduction of 4G (LTE) both operational and Passenger WiFi systems are not getting the full route coverage or indeed quality of service required to fully support these services. The growth in data hungry applications and entertainment is particularly highlighting this issue.

As data demands increase, the train operator's data costs typically rise in line with the passenger demand, unfortunately the experience the passengers get of this service is generally poor, due to low data throughputs on the cellular links or lack of consistent coverage.

While 5G is going to be all the rage in 2020, experts are already concerned it won't do enough to sustain the future demand on cellular connectivity. A 2019 report from Deutsche Bahn found that the projected data demand was not likely to sufficiently support the demand for 27GHz.

And that's where the development of trackside networks come into play with their very high bandwidth connectivity and low latency. With spiralling mobile data costs and an insufficient Wi-Fi network in place, the new technology is expected to improve cellular connectivity across the country.

The push for high-quality connectivity will be boosted through the network, with router-style boxes being installed along train routes to ensure your passengers stay connected as trains go through tunnels.

As we await the new world of 5G, and what that really looks like in terms of improving the passenger experience, I suggest the future has a mix of cellular and private networks providing the best experience to the travelling passengers."

Jeremy Haskey, Head of Solution Architecture at Nomad Digital, www.nomad-digital.com