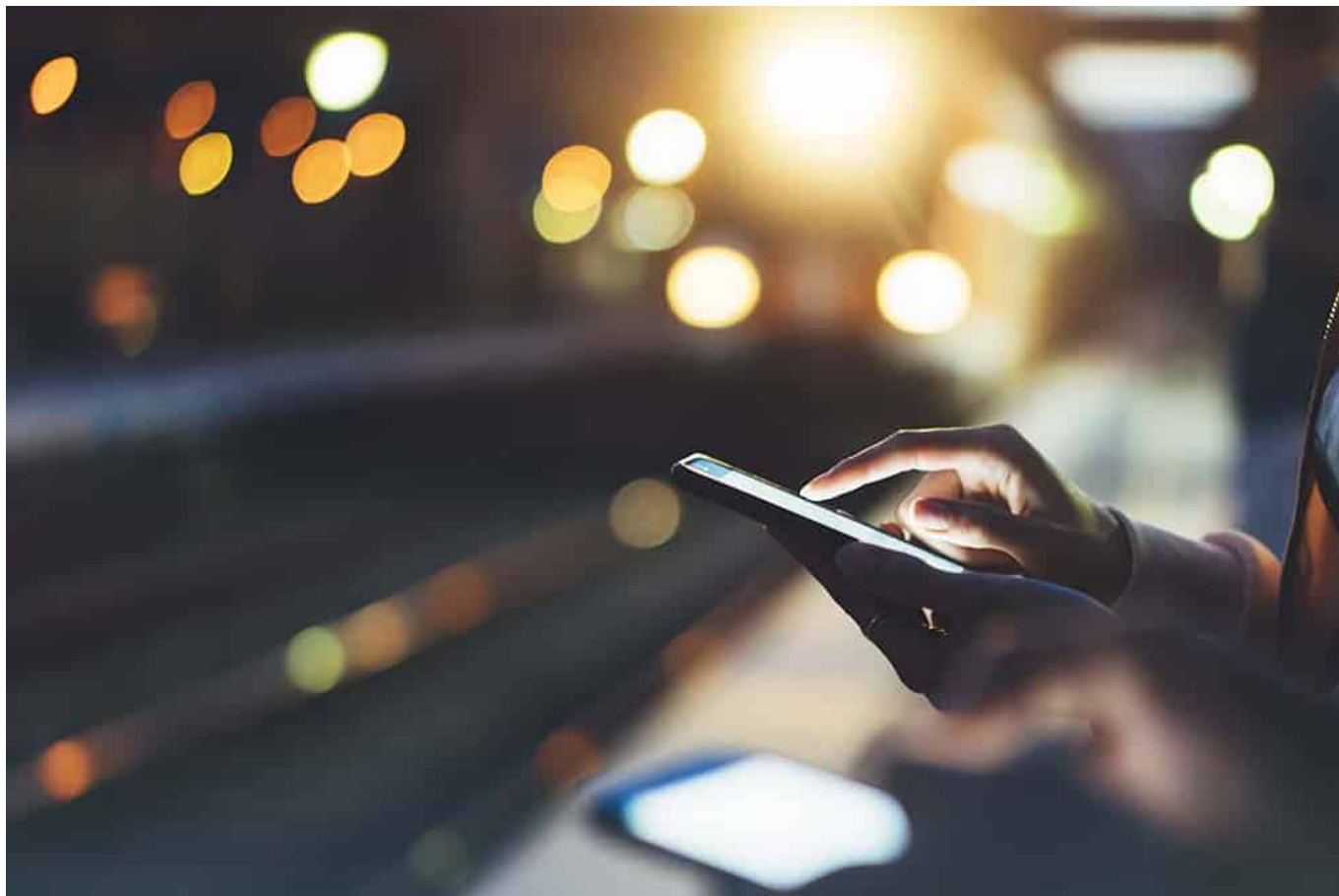# What Does the Future of Transport Connectivity Look Like?

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We live in a connected world whether it is working remotely, or receiving healthcare online the advancements in technology and especially the internet have allowed this. But what about connectivity within transport? How is the industry adapting to the ever-changing world? In the article below, Nomad Digital investigates the trends and innovations that will revolutionise the future of transport connectivity and provide a seamless door-to-door experience.

In 2023, we are living in a connected world. We communicate through robust virtual channels, conduct work remotely, and receive healthcare at a distance, all due to advancements in technology and the transition to the Internet of Everything.

That intelligent connection between data, processes, and people is at the core of our mobility and is bound to shape the future of transport. Connectivity can improve the customer experience, optimise transportation, and create new opportunities for economic growth.

Today, we explore the trends and innovations that will revolutionise the future of transport connectivity and provide a seamless door-to-door experience.

Connected vehicles

Connected vehicles aren't a new technological innovation. From 2017 to 2022, the estimated stock of connected cars in the UK was expected to increase from 4.86 million to 16.65 million, which is a 242% increase.

What characterises connected vehicles is their connection to an external network, such as a phone, Bluetooth, GPS, or an internal SIM, and, most commonly, the internet – usually through an internal SIM card. That allows you to be connected with your car at all times and communicate with it when you're not in it, usually through an app on your smartphone. This allows you to perform a number of functions, such as connecting to your car's radio, using in-car assistants such as Amazon Alexa, receiving traffic updates, and even starting your car remotely.

But with advancements in technology, the future of connected vehicles is looking brighter than ever. With a 5G-enabled connection, vehicles will become an integrated, fully connected hub. Vehicle-to-vehicle (V-2-V) connected technology also enables communication between vehicles, so they can share vital journey information, such as road conditions, traffic, and speed limits.

5G-connected vehicles offer a host of benefits, including an enhanced consumer experience, improved road safety, maximised fuel economy, and reduced emissions.

Connected vehicles technology is also helping advance public transport. Through fleet management, detailed operational information for both bus and rail can optimise performance and operations, improve traffic, and offer more sustainable mobility.

Real-time data collection

According to the UK's Future of Transport programme, real-time data collection and analysis is "driving the development of new modes of travel and new ways to do business". It is also an integral part of improved transport connectivity, shows UK Transport Vision 2050, which is an in-depth study mapping out the future of the UK transport system.

Real-time data can benefit the public sector and transport industry overall, as well as travellers and maintenance. For example, it can improve road-usage planning, which can help with emissions reductions, cost savings.

Artificial intelligence and machine learning can also play a major role in achieving advanced traffic management. As a prime example of connectivity, traffic signals can be adjusted based on real-time traffic data. This data can then be sent to vehicles in traffic, enabling interconnected data sharing and feeding into public transport platforms. That way, cities can manage their mobility ecosystem more efficiently.

Not only that, but machine learning and real-time data collection can aid planning simulations by creating digital twins. Real-time digital counterparts of physical objects can significantly improve traffic management systems.

Advanced rail connectivity

Based on the UK Transport Vision 2050, the UK has mapped out a pathway to improving transport connectivity, and rail connectivity plans are looking promising.

By 2025, the European Train Control System (ETCS) level 2 is expected to commence, and by 2049, 95% of networks should be connected to the system. ETCS is the main signalling and train control component of the European Rail Traffic Management System. Its purpose is to calculate a safe minimum speed for each train. ETCS level 2 is a radio-based system that monitors signalling and moving authorities in the cab.

Not only that but by 2030 all trains are also expected to have Wi-Fi connectivity and fully developed trackside infrastructure, which will take rail connectivity even further.

Technology is changing the world at the speed of light, and we're witnessing the evolution of connectivity. Bolstered by real-time data collection, robust transport infrastructure, and advanced transport management systems, the future of transport connectivity is beyond bright.

Click here for more details about Nomad Digital.

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