

CONNECTIVITY FOR PASSENGER TRAINS ACROSS EUROPE

HIGHLIGHTS

- ✓ Passenger trains, as a lower-emissions means of transportation, are growing in popularity in Europe. This increases the demand for railway connectivity for both passenger and operational benefits.
- ✓ RUTX11 has recently become EN 45545-2-certified, meaning it is safe and approved for use in passenger trains.
- ✓ This powerful, LTE Cat 6 networking device has a long list of features that help it excel in its new role of providing passenger train connectivity, including Wave-2 802.11ac Dual Band Wi-Fi, four Gigabit Ethernet ports, Dual SIM, and easy remote management capabilities.

THE CHALLENGE – RAILWAY CONNECTIVITY ACROSS EUROPE

In a bid to cut carbon emissions, France has recently banned domestic [short-haul flights where train alternatives exist](#). Trains on these routes emit 77 times less CO2 per passenger, are much cheaper for passengers, and take only up to 40 minutes longer. This trend towards lower-emissions means of transportation is part of a larger European effort, which also includes [electric vehicles](#).

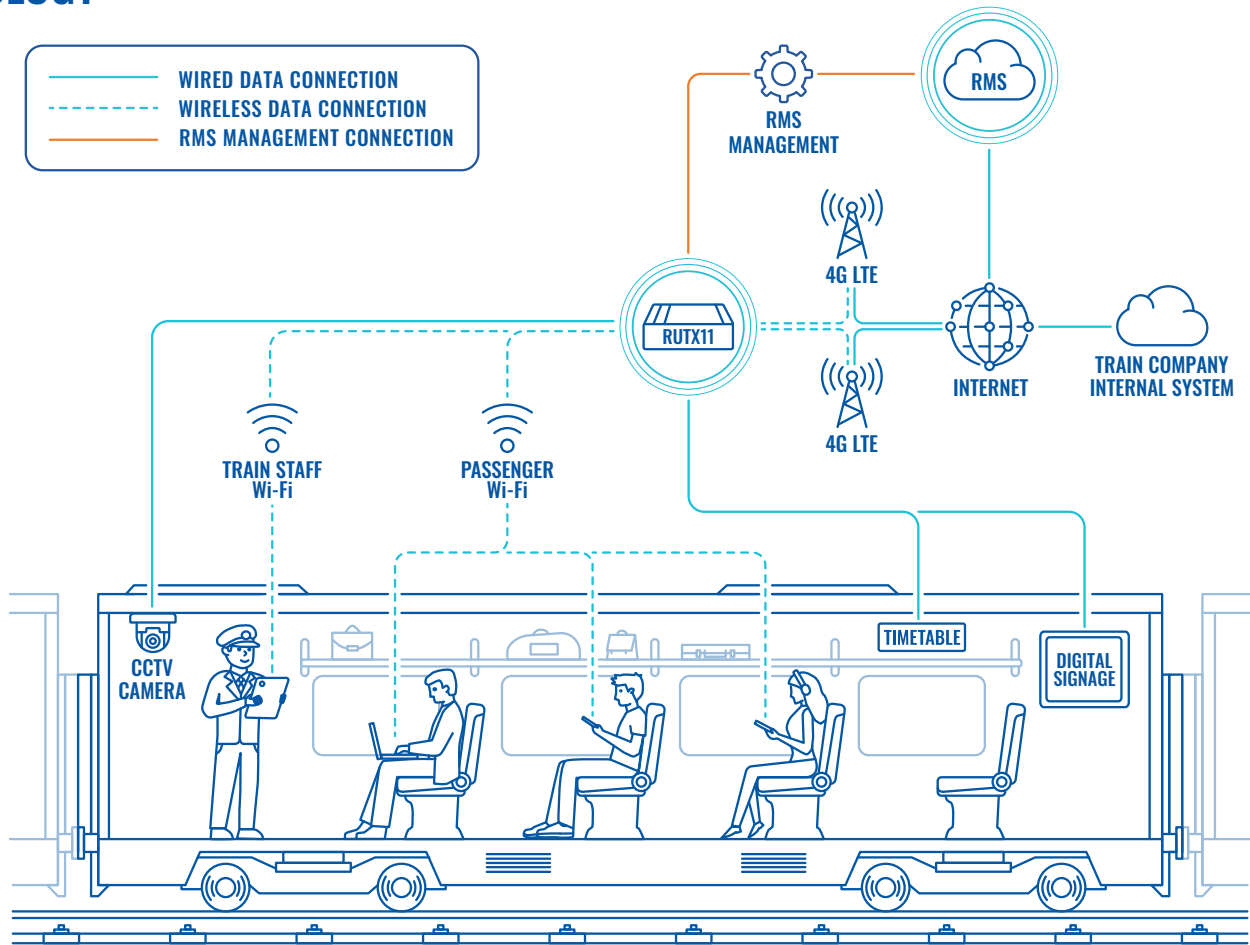
But there is an additional aspect of passenger life that is much easier to achieve in trains than in planes: Internet connectivity.

The value proposition of railway connectivity is high. Reliable Wi-Fi hotspots for passengers enable comfortable on-the-go work and entertainment possibilities, while the train service itself benefits from connectivity-powered CCTV systems, digital signages, remote personnel communication, and more.

However, while train connectivity is easier to implement than airplane connectivity, it is far from actually easy. First, a passenger train's network is often made up of an integrated network of individual devices. This is because each wagon often needs its own networking device to ensure stable connectivity and data throughput.

And since we're talking about European trains, the device must be able to switch operators for when international trains cross the border – which is often. Lastly, the networking device must comply with [European Standard EN 45545-2](#), which dictates the many fire protection regulations for railway vehicles. As you may imagine, this is no simple task.

TOPOLOGY



THE SOLUTION – ALL ABOARD THE RUTX11 TRAIN!

Not simple, but very possible. The RUTX11 industrial cellular router is EN 45545-2-certified, so you're going to enjoy its connectivity on European passenger trains.

Establishing a Wi-Fi hotspot inside the train wagon, the device lets passengers enjoy online activities en route while also facilitating remote communication of train personnel. At the same time, necessary Industry 4.0 equipment such as CCTV cameras, digital signage, and timetable monitors are all connected to the RUTX11 via a wired connection for maximum reliability.

RUTX11 is a powerful, LTE Cat 6 networking device that can reach cellular speeds of up to 300Mbps with Carrier Aggregation. It boasts Wave-2 802.11ac Dual Band Wi-Fi, four Gigabit Ethernet ports, USB-to-Serial support, Bluetooth LE, and [sturdy aluminum housing](#) with a DIN rail mounting option.

In addition, RUTX11 has Dual SIM with auto-failover, backup WAN, and other switching scenarios, meaning that when crossing international borders, the router will switch to another operator to avoid roaming costs.

Last but not least, RUTX11 is compatible with the Teltonika Networks [Remote Management System](#) (RMS). This makes remote management of the entire fleet of RUTX11 devices on any number of passenger trains incredibly easy. Firmware updates, password changes, and troubleshooting can be performed on all networking devices within a few clicks – saving a great deal of time and costs in the process.

All of these features make the RUTX11 perfect for professional applications requiring a reliable, fast connection and high data throughput, like passenger trains, and ensure that the network needs of each wagon will be met without fail.

