

How Does it Work?

Icomera TraXside™ base stations consist of radio units and antennas directed along the track. These base stations are affixed to existing wayside infrastructure such as GSM-R masts, or onto dedicated masts/poles. TraXside base stations send and receive data to and from the TraXside units on the train using the latest 802.11 Wi-Fi standards.

No handover delay or packet loss is experienced since the train is connected to at least one channel at all times, and often two. This means that the transition between signal sources will be seamless.

As a leading network integrator, Icomera manages the TraXside™ delivery, from the planning phase through to installation, optimisation, maintenance, and ongoing support. This includes a holistic framework of radio planning & design, cost analysis, zoning & construction, expert hardware installation, integration & testing, training, commissioning, and optimisation, monitoring tools, and support.

Potential Throughput

With the aggregated capacity of the two radios, Icomera TraXside™ can deliver unrivalled bandwidth for Rail passengers and onboard systems. Throughput varies according to how closely spaced the masts hosting the TraXside units are. As well as aggregating both channels of the units in range, the onboard router is also able to aggregate the signal from cellular providers.

c. 1.0 Gbit/s when masts spaced at 5km intervals
c. 0.8 Gbit/s when masts spaced at 10km intervals

NOTE: Throughput varies according to allowed EIRP and available spectrum in each region.

Onboard Infrastructure

Each trainset typically contains one Icomera router, one TraXside™ Unit in Onboard Mode, six TraXside antennas, and multiple cellular antennas.

Spectrum

Icomera TraXside™ devices operate in the 5 GHz spectrum.

