



Rail & Metro

FiberinMotion®

A first-class train-to-ground wireless solution for high-capacity services

The demand for continuous, high-speed connectivity for railway and metro networks has grown significantly over the last decade. Today, high-capacity connectivity for work or pleasure for the transportation industry is no longer a luxury - it's a must. However, standard Wi-Fi solutions or cellular networks cannot address these challenges easily, especially when trains move at high speeds or through narrow tunnels.

That's where RADWIN's FiberinMotion® train-to-ground communications solution comes in. Designed specifically for the rail industry, FiberinMotion has been successfully deployed in numerous public transport systems worldwide. FiberinMotion powers applications requiring high throughput such as passenger Wi-Fi, TV and media streaming, real-time high-definition CCTV and Passenger Information Systems (PIS).

Operating in challenging outdoor conditions and underground tunnels, FiberinMotion complies with the strictest of railway industry standards and delivers guaranteed throughput, seamless handover, and long-range coverage.

FiberinMotion® overview

RADWIN's FiberinMotion train-to-ground communications solution is comprised of three primary components that assure operational simplicity:

1. TBSPlus: Transportation Base Stations

Deployed along the train route, creating a continuous trackside radio network to which the trains connect.

2. TMUPlus: Transportation Mobile Units

Installed on-board the rolling-stock, creating a continuous, high-speed link to the trackside network, as the train travels along the route.

3. Management and Analysis

A central network management system with an offline performance & optimization application.



FiberinMotion® Highlights:

FiberinMotion incorporates a field-proven air interface and advanced interference mitigation technologies. The solution provides reliable connectivity and high-capacity throughput for very long ranges, therefore lowering the total investment in trackside infrastructure.

High capacity: up to 750 Mbps per train.

Extended coverage per Base Station: reduces the number of trackside installations and associated infrastructure (poles, power, network) for the wayside network.

TDD synchronization: minimizes radio interference for consistent high throughput.

High-speed support: seamless connectivity between radio base stations, at speeds of up to 350 kmph / 220 mph.

Unique handover mechanism: utilizing an on-board decision algorithm

- » No dependency on a network controller, reduces single points of failure and improves the connection speed.
- » Algorithm dynamically addresses capacity requirements for trains moving in parallel.
- » Proactive software engine continuously monitors received signal trends and selects the best available air link.

Low and fixed latency and jitter: critical for delay sensitive applications such as video and VoIP.

Over-the-air QoS: enables service transmission prioritization with assured SLA.

Software analysis applications: real-time and offline software analysis applications, designed specifically for train and metro operations.

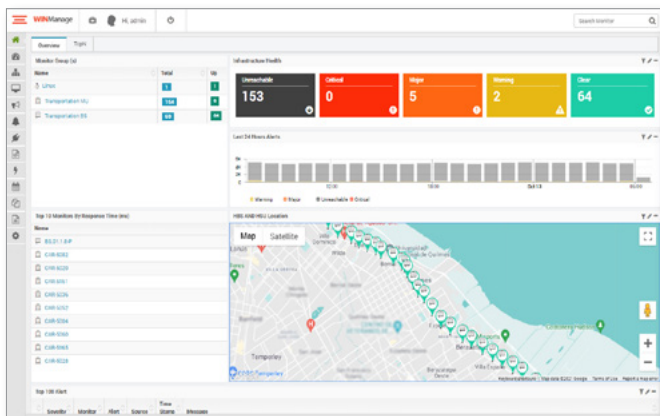
TBSPlus
Transportation
Base Station



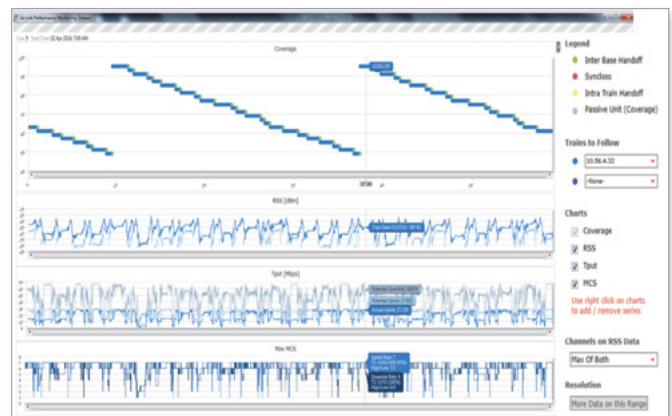
TMUPlus
Transportation
Mobile Unit



Network management & monitoring tools



WINManage: Web based, customizable, real time data management system



Air Link Performance Monitoring Tool

Additional selected features



Multi-band radio

4.9 to 5.9 GHz, per specific country regulation



High reliability

MTBF: more than 47 years



IP-67 radios

Designed for harsh outdoor environment



Railway standards compliance

EN50155, EN61373, EN50121 and IEC 60571, EN45545.



Secured communication

EN50159 Support

About RADWIN's Transportation Solutions:

RADWIN is the global provider of broadband wireless solutions that deliver blazing-fast broadband with unparalleled reliability. Deployed in over 170 countries, RADWIN's solutions power applications including backhaul, access, private network connectivity, and broadband on the move for rail and metro trains.

RADWIN

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