

## Future-Ready Railway Communications

As the railway industry transitions from TETRA and GSM-R to FRMCS, the demand for robust, flexible, and forward-looking planning tools is greater than ever. With over 30 years of experience, ATDI supports railway operators, vendors, integrators, and consultants worldwide—offering expert guidance in network dimensioning, model tuning, and performance assurance for mission-critical communications.

ATDI's HTZ Communications is an all-in-one software suite equipped with a powerful RF engine capable of supporting all generations of radio systems. Designed for future railway needs, it enables prospective planning and evaluation of network migration strategies, including coverage gap analysis, network scaling, and throughput dimensioning.

HTZ helps operators assess the impact of evolving service demands—such as high-speed broadband, real-time data, smart sensors, and autonomous rail equipment—by factoring in data rate requirements and subscriber volume along the rail corridor. This ensures network readiness for the next generation of connected, intelligent railway operations.

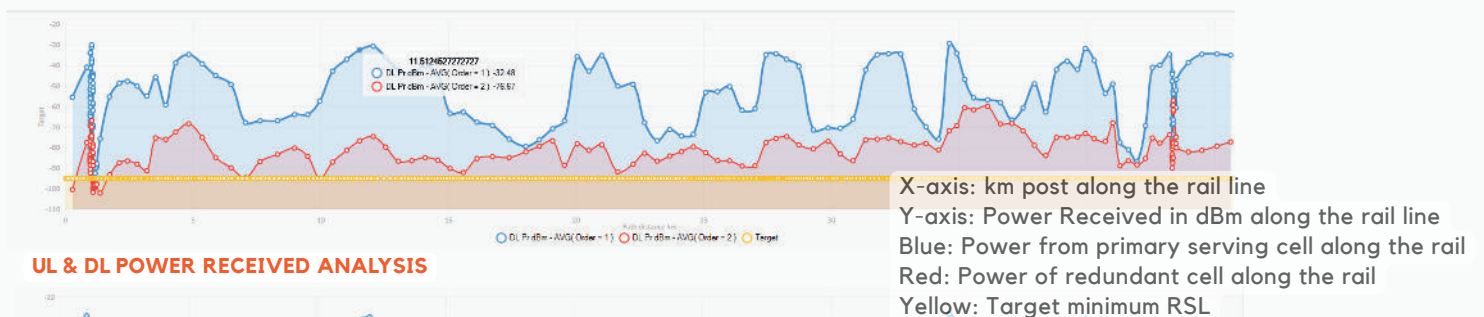
### CONSULTANCY SERVICE

ATDI offers consultancy services across the full network lifecycle—from planning to optimisation. Railway operators, integrators, and regulators rely on our expertise for mission-critical communications. With decades of rail experience, our engineers deliver accurate RF studies, network dimensioning, and customised support tailored to the unique challenges of railway environments.

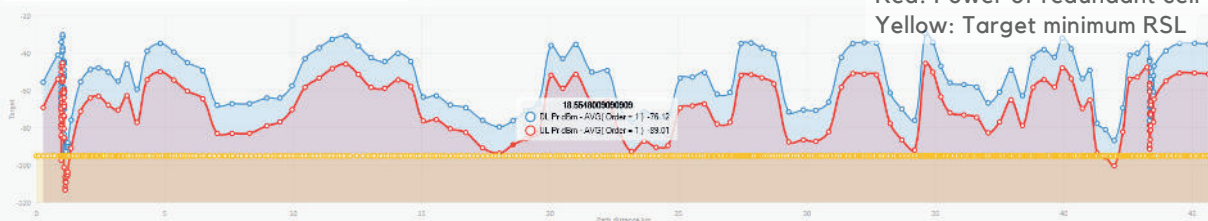
### MAP DATA

HTZ Communications includes a powerful GIS engine for processing detailed cartographic data essential to rail planning. It supports satellite images, aerial photos, and scanned maps to model tracks, tunnels, cuttings, and bridges. Users can access royalty-free maps from ATDI's library or import and convert their own datasets directly into the tool for accurate network modelling.

### DL POWER RECEIVED - REDUNDANCY ANALYSIS



### UL & DL POWER RECEIVED ANALYSIS



## MICROWAVE BACKHAUL PLANNING FOR RAILWAYS WITH HTZ COMMUNICATIONS

Microwave links are vital for ensuring reliable backhaul in railway communications, especially with the shift to FRMCS. HTZ Communications provides a complete toolset for designing and analysing microwave links across complex railway terrains.

Key features include line-of-sight checks, Fresnel zone clearance, link budget analysis, and interference studies. The built-in GIS engine models rail-specific obstacles like tunnels, cuttings, and bridges with high precision.

HTZ supports all frequency bands and helps optimise redundancy, availability, and network performance, making it ideal for mission-critical rail operations.