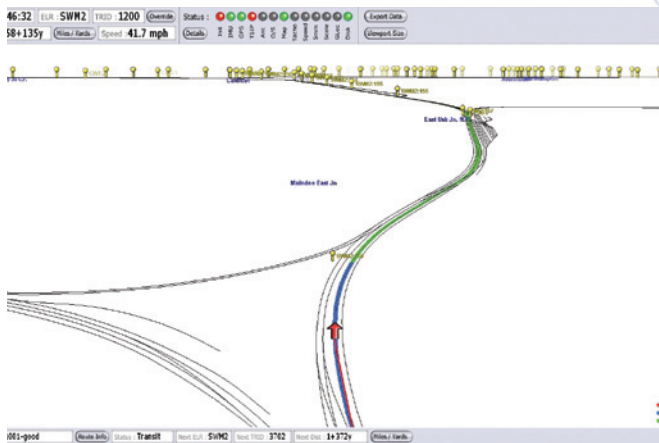# OMNIRTPS®

OmniRTPS is a real-time positioning system designed to provide continuous spatial and linear position, replacing the traditional, manually-operated positioning systems used on most measuring vehicles.

OmniRTPS is a self-contained, compact unit that has been designed to operate with minimal or no human intervention, which means it can be easily installed onto any rail vehicle. The system uses a number of positioning components: a close-coupled GPS/inertial measurement system, a railway track centreline model and innovative map-matching to generate a continuous linear and spatial position track location with a typical accuracy of ± 1 metre, even in areas of poor satellite coverage such as tunnels and cuttings. In the UK the system generates the engineer's line reference, track identifier, and mileage.

The system provides infrastructure owners and fleet managers with the means to provide standard positioning/referencing for the various infrastructure measuring systems/services they use. This enables greater efficiency of measuring and monitoring the infrastructure and gives owners/managers better visibility of their network performance.
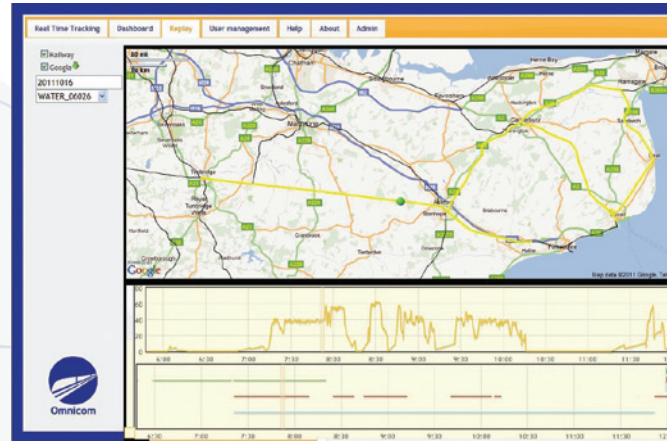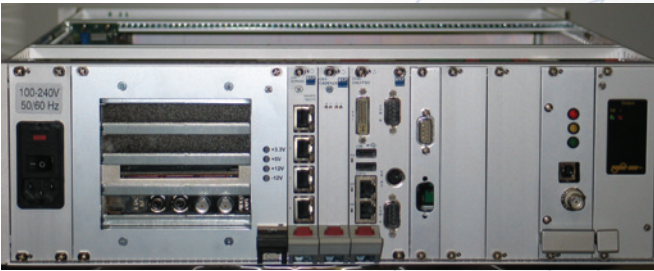
The key benefits of the system are:

- Positional accuracy of ±1m (95% confidence level).
- Repeatability of position, run on run, to assist with trending analysis.
- Ability to provide position and synchronisation signals to third party systems.
- Easy interface with external legacy and current systems.
- Remote monitoring and activation of on-board systems.
- Better information to on-train staff provided by real-time track level view.
- Easier data management as records have both spatial and linear reference.
- No loss of off-route recording data as position is always known.
- Modular architecture enables support for future inertial/GNSS units.
- Standardisation of position recording for various infrastructure monitoring vehicles.

Data positioning with OmniRTPS can be loaded into a spatial database where third party tools enable users to import the latest data and compare the measurements against historical surveys to identify change and plan maintenance works.
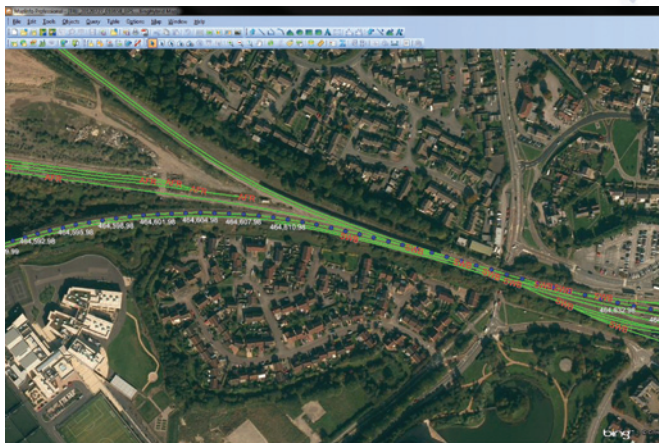
OMNIRTPS®

Features:

- Support for industry standard interfaces (RS232/485/Ethernet).
- Optional mapping front end for easy viewing of location and status information.
- Accurate and stable synchronisation signals.
- High performance GNSS.
- Optional spatial analysis tools to visualise data.
- User-configurable outputs.

OMNIRTPS UNIT

REPLAY

ACCURATE CONTINUOUS POSITION

OMNIRTPS UNIT ACTUAL INSTALLATION

The system is currently used extensively across the UK mainline infrastructure (managed by Network Rail) including the Rail Maintenance Fleet, New Measurement Train (NMT), Structure Gauging Train, Rail Grinders, Ultrasonic Trains, Track Geometry Train and Radio Survey Train.

For further information on our product range, please contact Omnicom Engineering Limited

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AGENT DETAILS