

## AUTONOMOUS GEOMETRY EVALUATION AND NOTIFICATION FOR TRACK (AGENT®)

ENSCO's AGENT system is an unattended, real-time track geometry measurement system that detects and pinpoints the locations of potential track defects. Currently being developed with the support of the Federal Railroad Administration (FRA) Office of Research and Development, as the Autonomous Track Geometry Measurement System (ATGMS), the system is designed to continuously measure track geometry, including gauge, crosslevel, alignment, surface and limiting speeds in curves. AGENT will provide the same accurate and dependable performance as ENSCO's track geometry measurement systems installed on dedicated geometry inspection cars without the need for an onboard crew. The autonomous nature of the system allows it to be used on revenue service trains, which greatly improves the productivity of inspection operations and decreases interruptions to normal revenue service traffic.

A rail car or locomotive equipped with an AGENT system will be able to survey more than twice as much track as the typical dedicated track geometry car at a fraction of the cost per mile. Use of AGENT will facilitate more frequent track inspections, which will improve safety and allow for more efficient maintenance planning. When defects are detected, AGENT will transmit a notification via wireless communication from the vehicle making survey results available in near real time. Information reported by AGENT will be available for viewing and reporting using TrackIT™, ENSCO's Web-based inspection data management system. TrackIT provides a means of presenting data, including geometry strip charts, track charts, maps and reports through a single user interface with powerful query and export tools. TrackIT is fully Web-based, so only a browser is needed to use it; there are no special installation requirements



AGENT Autonomous Track Geometry System

and the application supports an unlimited number of users.

### Use of AGENT will save the railroads time and money. Using AGENT, the railroad inspection personnel will:

- Receive early warning of track-related problems;
- Reduce costs associated with track inspection;
- Decrease track degradation through frequent assessments;
- Minimize labor costs through efficient maintenance planning and scheduling;
- Streamline asset management by accurately monitoring track conditions.

### System design includes:

- Remote assessment of track geometry conditions through continuous and autonomous monitoring of sensors
- Alert or alarm message with location, time and exception description when a track parameter is out of range
- Periodic status reports, including "snapshots" of all measured data, vehicle speed and location, time, and date
- Customized summaries and comparisons
- Real-time vehicle location and data on a GIS map available on the Web
- Auto reset and remote reprogramming capabilities



A Product of FRA Research Federal Railroad Administration, Office of Research and Development

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Innovation Starts Here

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