INTERAIL — Result In Brief

Project ID: 234040
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High-speed rail inspection

*New EU train track integrated inspection technologies mean faster and better inspections. This result of this will be safer tracks, and a more reliable European rail system.*

European rail networks are becoming busier, with more frequent trains travelling at higher speeds and carrying greater loads. That also means increased track wear, meaning more track inspection, maintenance and cost.

Currently employed rail inspection methodologies do not achieve the highest level of reliability and cost effectiveness objectives required by the industry and Europe needs a better, automated track inspection system.

A 13-member European consortium developed the INTERAIL project from October 2009 to March 2013 with a EU funding of EUR 3.2 million. The project aimed to minimise rail failures through the development of a novel integrated high-speed inspection system which combined automated visual inspection, with electromagnetic sensors and conventional ultrasonics supported by a central control data unit and data treatment software. This gave a more efficient and reliable method for inspecting rails in the short to medium-term.

Each inspection module assessed different types of track damage, and the integrated results provided comprehensive track condition data from a single run. Hence, the system will reduce costs and be more reliable than current used methods.

Project members successfully completed their targets and the final prototype system incorporated non-destructive testing techniques into a dedicated inspection vehicle. The project also developed the required mechanical support system, vehicle control unit and associated software. The results of the prototype system were fully verified against manual inspection techniques as alternating current field measurement (ACFM), high-frequency vibration and ultrasonic testing UT phased array.

The project's dissemination work included hosting or participating in various kinds of meetings, conferences (TRA2012, TRA2014), workshops and trade fairs. Furthermore, the project's website promoted project material, including technical papers, presentations, project video and material aimed at popular audiences.

INTERAIL will help the EU achieve its major goal of renewal of the European rail system. The project's system will achieve a greater level of track inspection, and more cheaply and quickly than ever before, resulting in unprecedented track safety, reliability and availability. Increased rail usage will also decrease other problems, including road congestion and pollution. Watch the project’s video here.
## Related information

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## Subjects

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