

PROJECT

MOMIT

Multi-scale observation and monitoring of railway infrastructure threats

Funding: European (Horizon 2020)

Duration: Sep 2017 - Aug 2019

Status: Complete

Total project cost: €599,173

EU contribution: €599,172



Call for proposal: H2020-S2RJU-OC-2017

[CORDIS RCN : 212574](#)

Background & policy context:

The MOMIT project aims at developing and demonstrating a new use of remote sensing technologies for railway infrastructures monitoring. MOMIT solutions will mainly aim at supporting the maintenance and prevention processes within the infrastructure management lifecycle.

The overall concept underpinning MOMIT project is the demonstration of the benefits brought by Earth Observation and Remote Sensing to the monitoring of railways networks both in terms of the infrastructure and of the surrounding environment, where activities and phenomena impacting the infrastructure could be present.

MOMIT will leverage on state of the art technologies in the fields of ICT and space-based remote sensing and RPAS-based to perform different kind of analysis thanks to the wide variety of sensors they could be equipped with.

Objectives:

MOMIT's vision is distilled to the following objectives:

1. To bring at cutting edge level the **remote sensing technology applied to railways infrastructure monitoring** for both RPAS and Satellite based solutions.
2. To **demonstrate value added capabilities of satellite data**, which are able not only to integrate standard technologies (including in situ data and RPAS-based monitoring) but also to complement or substitute them in some cases, with evident benefits in terms of costs, reliability, service coverage.
3. To **develop new platform independent tools** supporting data analysis and the decision making process. **Automation** and **flexibility** will be the key words.
4. To **define operational criteria** for an effective and efficient **use of unmanned technology** highlighting benefits, complementarities and limitations with respect to standard monitoring technologies, taking into account economic and sustainability criteria for the adoption of the developed solutions on the basis of clear evidence derived by in field demonstrators' results.
5. To **maximise the coverage of all monitoring needs for railway networks, in complementarity with the Shift2Rail JU project IN2SMART**, taking into account both MOMIT Internal User specific needs and IN2SMART project technological/operational gaps.

In line with strategic objectives and operational tools of the European Rail System, MOMIT Consortium truly believe that the role of innovative, enabling technologies is fundamental to support maintenance on the basis of risk-based or condition-based analytics, to detect real asset condition. Improved asset information based on remote infrastructure condition monitoring, with a high degree of automation, lead to a wider asset control and also to specific monitoring of bridges and tunnels, tracks.

Coherently with the Intelligent Asset Management of the European Rail System and with the IN2SMART Project, multiscale and automated data post-processing proposed in MOMIT integrates with Value

Added Information Products of the Remote-Sensing Measuring and Monitoring tools.

Related Projects:

In2Stempo
In2Track
In2Smart
In2Rail

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)
[Shift2Rail - Shift2Rail](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Partners:

Centre Tecnològic de Telecomunicacions de Catalunya - Spain

NEAT S.r.l. - Italy

Rete Ferroviaria Italiana - Italy

Terabee S.A.S. - France

University of Alicante - Spain

e-GEOS
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STRIA Roadmaps: Cooperative, connected and automated transport, Infrastructure

Transport mode: Rail transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Safety/Security

Geo-spatial type: Other