

PROJECT

GATE4RAIL

GNSS Automated Virtualized Test Environment for RAIL

Funding: European (Horizon 2020)

Duration: Dec 2018 - Feb 2021

Status: Complete

Total project cost: €1,019,994

EU contribution: €1,019,994



Call for proposal: H2020-S2RJU-OC-2018

[CORDIS RCN : 221686](#)

Objectives:

GNSS Automated Virtualized Test Environment for Rail (GATE4Rail) deals with tasks TD2.4 and TD2.6 of the Shift2Rail Multi Annual Action Plan with the goals to:

1. achieve a realistic characterization of the GNSS in the railway's environment assessing the performance and properties of typical fail-safe train positioning components in nominal and fault conditions;
2. implement a common test process framework for zero on-site testing to minimizing cost and time.

GATE4RAIL will implement a geo-distributed simulation and verification platform connecting GNSS centres of excellence, and ERTMS/ETCS laboratories to evaluate the GNSS performances in the railway environment with agreed methodologies and tools. This approach offers the advantage to stress the global system in presence of very rare fault events instead of long and expensive tests on field, developing a standard methodology for representative test cases. GATE4RAIL will develop methodology and tools for an automated update of tests, through Model-Based System Engineering philosophy to ensure that the simulation infrastructure can be maintained and extended reducing the need for re-assessments to increasing the test environment efficiency.

The entire process will be reviewed by an independent Notified Body already engaged on GNSS assessment for rail applications and a demo on railway line in Italy and Spain is included. GATE4RAIL's team is very competent bringing together expertise on the GNSS and rail sectors necessary for the exploitation of GNSS that is one of the Game changers of the ERTMS.

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)

Lead Organisation:

Consorzio Universita Industria - Laboratori Di Radiocomunicazion I

Address:

CORSO D ITALIA 19
00198 ROMA
Italy

Organisation Website:

<http://www.radiolabs.it>

EU Contribution: €321,650

Partner Organisations:

Ingenieria Y Economía Del Transporte S.a.

Address:

Paseo Habana 138
28036 MADRID
Spain

Organisation Website:

<http://www.ineco.es>

EU Contribution: €134,588

Centro De Estudios Y Experimentacion De Obras Publicas

Address:

Alfonso XII, 3
28014 MADRID
Spain

Organisation Website:

<http://www.cedex.es/>

EU Contribution: €119,625

Bureau Veritas Italia Spa

Address:

VIALE MONZA 347
20126 MILANO
Italy

EU Contribution: €56,750

Rete Ferroviaria Italiana

Address:

Piazza Della Croce Rossa
161 Roma
Italy

Organisation Website:

<http://www.rfi.it>

EU Contribution: €50,174

European Union Road Federation

Address:

Avenue Louise 106
1050 BRUXELLES
Belgium

Organisation Website:

<http://www.unife.org>

EU Contribution: €54,000

Gnss Usage Innovation And Development Of Excellence

Address:

3 AVENUE DIDIER DAURAT

31400 TOULOUSE
France

EU Contribution: €38,158

M3 Systems Belgium Sprl

Address:

Rue Devant Les Hêtres 2
6890 Transinne
Belgium

EU Contribution: €178,954

Institut Francais Des Sciences Et Technologies Des Transports, De L'aménagement Et Des Reseaux

Address:

BOULEVARD ISAAC NEWTON 14 CITE DESCARTES 14-20
77447 MARNE LA VALLEE CEDEX 2
France

Organisation Website:

<http://www.ifsttar.fr>

EU Contribution: €66,096

Technologies:

Infrastructure management
Virtual reality to support planning processes

Development phase: Research/Invention

STRIA Roadmaps: Other specified

Transport mode: Rail transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Digitalisation

Geo-spatial type: Other