RHINOS - Railway High Integrity Navigation Overlay System
will define a GNSS-based system to support the localization
of trains respecting the challenging requirements of the
railway safety standards.

Fact Sheet

Project information

RHINOS

Grant agreement ID: 687399

Project website

Start date 1 January 2016

End date 31 October 2017

Funded under:
H2020-EU.2.1.6.

Overall budget:
€ 1 676 490

EU contribution
€ 1 523 024

Coordinated by:
CONSORZIO UNIVERSITA INDUSTRIA - LABORATORI DI RADIOCOMUNICAZIONI
Italy

Objective

RHINOS aims at increasing the use of EGNSS to support the safety-critical train localization function for
train control in emerging regional and global markets. RHINOS adds value to EGNSS by leveraging the
results from prior or existing projects, and develops a Railway High Integrity Navigation Overlay System to
be used by the rail community. RHINOS pillar is the GNSS infrastructure realized for the aviation
application with additional layers that meet the rail requirements in the difficult railway environments.
RHINOS will feature an international cooperation with the Stanford University that has been involved in the
aviation application since the birth of the GPS, gaining an undeniable knowledge of the GNSS performance
and high-integrity applications. The ambition is a positive step beyond the proliferation of GNSS platforms,
mainly tailored for regional applications, to favor a global solution to release the potential benefits of the
EGNSS in the fast growing train signaling world market. The RHINOS work programme includes the
investigation of candidate concepts for the provision of the high integrity needed to protect the detected
position of the train, as required by the train control system application. The EGNSS (GALILEO and EGNOS)
plus GPS and WAAS constitute the reference infrastructure that is available world-wide. Moreover, local
augmentation elements, ARAIM techniques and other sensors on the train are the add-on specific assets
for mitigating the hazards due to the environmental effects which dominate the rail application. A further objective of RHINOS is to contribute to the definition of a standard for the Railway High Integrity Navigation Overlay System leveraging on the EU-US Cooperation Agreement on ARAIM. The RHINOS dissemination plan includes three specific Workshops with the rail and satellite stakeholders, at Stanford University for the US community, in Roma for the Western European community and in Prague for the Eastern European community.

**Field of Science**

- fertility
- global navigation satellite system
- commerce

**Programme(s)**

**H2020-EU.2.1.6. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies – Space**

**Topic(s)**

**GALILEO-3-2015 - Releasing the potential of EGNSS applications through international cooperation**

**Call for proposal**

H2020-Galileo-2015-1

**See other projects for this call**

**Funding Scheme**

IA - Innovation action

**Coordinator**

CONSORZIO UNIVERSITA INDUSTRIA - LABORATORI DI RADIOCOMUNICAZION I

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<td>Research Organisations</td>
<td>€ 640 000</td>
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- Italy

- **Website**

- **Contact the organisation**

**Participants** (6)
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<td>HITACHI RAIL STS SPA</td>
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<td>Via Mantovani 3/5, 16151 Genova</td>
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<td>SOGEI-SOCIETA GENERALE D'INFORMATICA SPA</td>
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<td>BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY</td>
<td></td>
<td>Serra Mall 450, 94305 2004 Stanford</td>
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