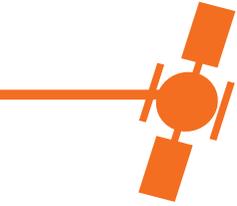


ERSAT GGC

ERTMS on SATELLITE
Galileo Game Changer



Project Overview



The ERSAT GGC project aims to certify EGNSS resources according to the ERTMS standard. The ERSAT program (ERTms + SATellite) was started in 2012 by the Italian Rail Infrastructure Manager RFI in collaboration with Ansaldo STS for the integration of satellite technologies on the ERTMS platform. The primary objectives of ERSAT GGC are to allow RFI, recently named Game Changer to integrate satellite technology into ERTMS, commissioning an operational line by 2020, the same year in which Galileo services will be operational, and to accelerate the standardization process at European level to include satellite requirements in the new ERTMS TSI (Interoperability Tech Specification).

Objectives

ERSAT GGC (Galileo Game Changer) innovation project represents a fundamental contribution to the roadmap of the ERTMS for the adoption of the EGNSS satellite technology, already identified as one of the game-changer technologies of the ERTMS evolution. Particular focus is given to the certification process of the satellite assets to allow the ERTMS to operate seamlessly with Virtual Balises, which are functionally equivalent to the Physical Balises in order to ensuring the end-to-end compatibility with the ERTMS.

All in all, the objective of ERSAT GGC is to agree the certification process and develop the tools to support the validation of the satellite technology in view of its operational exploitation.

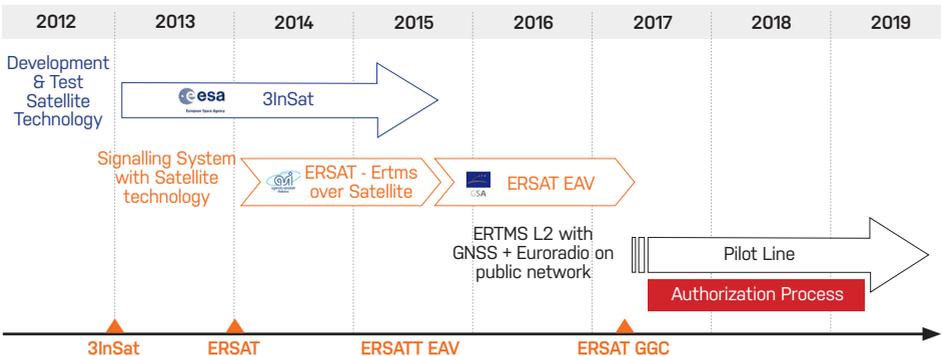
Contribute to the standardization process & dissemination of results on the satellite and rail stake-holders

Validation of EGNSS assets and relevant certification process compatible with the ERTMS Standards



Consolidation and Certification of the Enhancement of the Functional ERTMS Architecture integrated with satellite based Location Determination System (LDS)

Definition and Certification of a STANDARD Process, Methodology and the related Toolset for Classifying Track Areas as "Suitable" or "Not Suitable" for locating Virtual Balises



Impact

ERSAT GGC impacts primarily on the evolution of ERTMS that thanks to the use of satellite assets will become more efficient and economically advantageous for its deployment on local and regional lines, contributing to the EC policy on the adoption of the ERTMS on the European railways. At the same time, the project will be impacting on the utilization of EGNOS and GALILEO, primarily designed for aviation application, in the demanding rail operational environment

threaten by local effects that have not been addressed so far by the aviation community. A further contribution of ERSAT GGC with the introduction of new technologies lies on linking together ERTMS and EGNOS-GALILEO, both pillars of the European Commission industrial policy with the promise to impacting on the rail and satellite sectors, creating unprecedented mutual benefits, rail being one of the highest potential user of EGNSS.



Links & Interactions

Collaboration with future GSA funded project dealing with rail GNSS-based positioning is foreseen to continue the evolution of the use of satellite services on the rail sector. Strong working relations are also foreseen with projects responding to the IP2's Call for Members and Open Calls within Shift2Rail JU framework, to make sure that outputs of the ERSAT GGC will become an integral part of the Shift2Rail's Technology Demonstrators. showing the potential of the satellite positioning technologies within the

portfolio of next generation of train control applications. ERSAT GGC may interact with ERSAT EAV, Rhinos, NGTC and STARS. The interaction with NGTC and STARS deserves a special mention, since their results are the main basis of ERSAT GGC due to their contribution to the implementation of the Virtual Balise using the EGNSS infrastructures and the characterization of EGNSS signals in different railway environments and operational scenarios.

ERSAT GGC In a Nutshell



3.83M€
Total Project Value



3.10M€
EU Contribution



14
Partners



24
Months Duration

PROJECT MEMBERS

Coordinator



Technical Leader

Ansaldo STS
A Hitachi Group Company

Partners



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