GaLoROI

Galileo Localization for Railway Operation Innovation

**Funding:** European (7th RTD Framework Programme)

**Duration:** Jan 2012 - Jun 2014

**Status:** Complete

**Total project cost:** €1,509,102

**EU contribution:** €916,450

**Call for proposal:** FP7-GALILEO-2011-GSA-1-b

**CORDIS RCN:** 208256

**Objectives:**

The European satellite based localization system Galileo which is currently put into operation promises innovative solutions for transport. The goal of this project is to apply Galileo as a base for migration from conventional railway localization equipment towards guaranteed Galileo Safety of Life (SoL) services for transportation. Since in Europe nearly 50% of all railway lines belong to secondary railway lines (and probably even more in non-European countries), this sector may be assumed as a niche but could rise to a mass market if the number about 50,000 locomotives in Europe is regarded. Reaching for safe, efficient and energy saving train control the new resulting localization unit promises a short-term return on investment (ROI).

The outline for the project GaLoROI therefore aims on replacing trackside or manual localization technique by satellite based localization equipment on trains. This fundamental shift of paradigm generates the localization data at the source of movement to the train. This corresponds also to ETCS level 3. Railway Operators will be enabled to replace expensive and old track side equipment by modern on-board satellite based localization units. On-board satellite based localization supplies the train control and protection as well as interlocking and track vacancy detection with safe and accurate position information at lower costs. Cost-intensive maintenance of track side equipment will not be necessary anymore. If satellite based localization is integrated into a modern train control system, the capacity and/or frequency of trains will increase and thus will enable more attractively public transport solutions and freight transport. Localization and train control could benefit through satellite based localization. Moreover, optimized train dispatching will benefit from precise localization as well as energy optimized runs of trains.

**Parent Programmes:**

*FP7-TRANSPORT - Transport (Including Aeronautics) - Horizontal activities for implementation of the transport programme (TPT)*

**Institute type:** Public institution

**Institute name:** The European Commission

**Funding type:** Public (EU)

**Lead Organisation:**

Iqst Gmbh - Institute For Quality Safety And Transportation

**Address:**

Hermann Blenk Strasse 22
38108 Braunschweig
Germany

**EU Contribution:** €252,000

**Partner Organisations:**
Technische Universitaet Braunschweig

Address:
Pockelsstrasse
38106 Braunschweig
Germany

Organisation Website:
http://www.tu-braunschweig.de

EU Contribution: €152,053

Septentrio Nv

Address:
Interleuvenlaan 15G
3001 Leuven
Belgium

EU Contribution: €76,226

Karlsruher Institut Fuer Technologie

Address:
Kaiserstrasse
76131 Karlsruhe
Germany

Organisation Website:
http://www.kit.edu

EU Contribution: €107,125

Bbr - Baudis Bergmann Rosch Verkehrstechnik Gmbh

Address:
Pillaustrasse 1E
38126 Braunschweig
Germany

EU Contribution: €211,872

Institut National De La Recherche Sur Les Transports Et Leur Securite

Address:
2 Avenue du General Malleret Joinville
94114 ARCUEIL
France

Organisation Website:
http://www.inrets.fr

EU Contribution: €117,173

Technologies:
Safety systems
Galileo Safety of Life (SoL) services for transportation

Development phase: Research/Invention

STRIA Roadmaps: Vehicle design and manufacturing, Network and traffic management systems

Transport mode: Rail transport
Transport sectors: Passenger transport, Freight transport
Transport policies: Safety/Security
Geo-spatial type: Other