Project Partners

- iQST GmbH
  Institute for Quality, Safety and Transportation
  www.iqst.de
- Septentrio nv
  www.septentrio.com
- BBR Verkehrstechnik GmbH
  www.bbr-vt.de
- French institute of science and technology for transport, development and networks
  IFSTTAR/LEOST-ESTAS
  www.iffstar.fr
- Institute for Traffic Safety and Automation Engineering, Technische Universität Braunschweig
  www.iva.ing.tu-bs.de
- Institute of Measurement and Control Engineering
  Karlsruhe Institute of Technology
  www.mrt.kit.edu

SEVENTH FRAMEWORK PROGRAMME

GSA

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GaLoROI smart railway localisation

Institute for Quality, Safety and Transportation

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Prof. Dr.-Ing. Dr. h.c. mult. E. Schnieder

Septentrio

BBR VERKEHRSTECHNIK

IFSTTAR

KIT Karlsruhe Institute of Technology

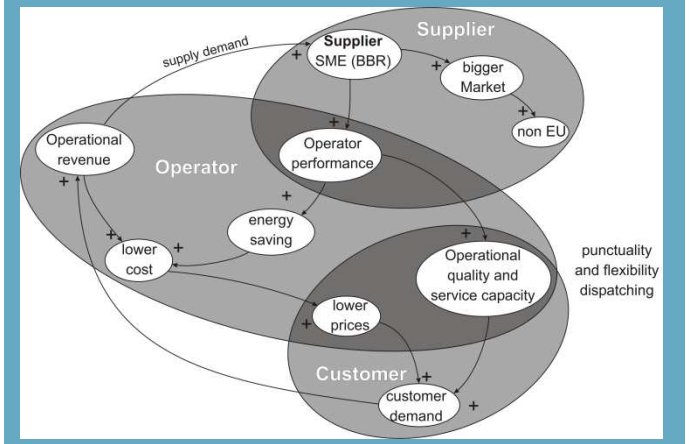
GaLoROI

Galileo Localisation for Railway Operation Innovation

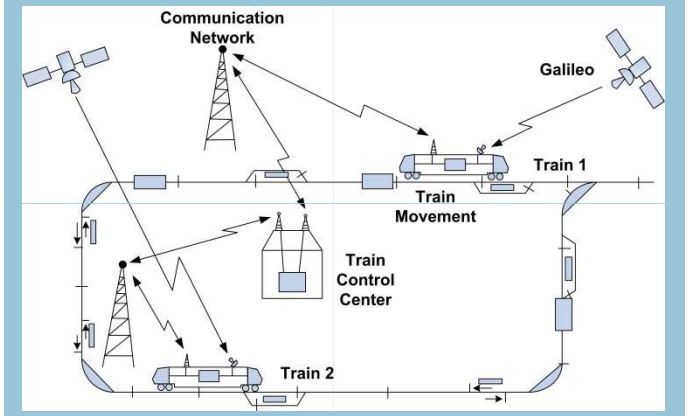
www.galoroi.eu

Problem / Motivation

New solutions are today required to reach an enduring strengthening of railways. The European satellite based localisation system Galileo which is currently put into operation promises an advanced solution. The goal of the GaLoROI project is to serve as an appropriate base for the migration from conventional localisation equipment towards the usage of Galileo for railways. Since in Europe nearly 50% of the railway network are secondary lines and in other countries this is even more, 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. The resulting localisation unit developed promises economical benefit by short-term return on invest (ROI).



Approach and Project objective



The objective of the GaLoROI project is the development of a certifiable safety relevant satellite based on-board train localisation unit to be used on low traffic density railway lines.

The safe and precise on-board localisation unit developed in GaLoROI will mainly serve for train control but also for train integrity monitoring, train and fleet management, green driving and furthermore for track inspection, especially for diagnosis during operational movement. GaLoROI allows migrating from conventional localisation techniques towards a satellite based technology. A safe localisation will be enabled by a satellite independent device (eddy current sensor) supported by the EGNOS Safety of Life service.

Current state

The satellite based localisation unit development is fostered in several work packages to ensure the fulfilment of the targeted results.

After deriving the specifications of the localisation unit, the development is conducted based on the current normative background which has been analysed in the project as well. The project development is accompanied by a safety assessment to guarantee a smooth safety case and according certification of the localisation unit.

The installation of the localisation unit is expected at the beginning of 2013 on a vehicle running in real operation on a line near Šumperk, Czech Republic to test its functionality.