

R&D PROJECT



Title of the project

Advanced safety architecture and components for next generation TCMS in railways

Acronym

SAFE4RAIL-3

Content of the project

Transport of people and goods is a fundamental need for the global society and economy as it allows citizens to enjoy the freedom to travel and enables transportation of goods within and across international markets. In this context, transport is one of the fundamental pillars for the European society and economy allowing Europe to provide connectivity between its different regions and remain fully and competitively integrated with the rest of the world and the world economy. Transportation is a key infrastructure for European citizens not only to improve their every day's quality of life, but also to enable economic growth, job creation and overall prosperity. The European railway industry evaluated how other transportation industries have addressed the development of new technologies and which architectural concepts have been applied. This led to a revaluation for the rail industry providing significant and fast progress in safety, security and in the integration of new functions.

General objectives

- Advanced safety architecture and DbD devices in order to move from prototypes to TRL 6/7 solutions
- Advanced wireless technologies for a wireless TCMS
- Integration of TCMS subsystems (AP) on Functional Distribution Framework
- Assessment of the safety and cybersecurity of DbD, FDF and Wireless TCMS
- Development of a centralization tool for the DbD
- Contribution to benchmarking of proposed NG-TCMS as well as standardization in railway and wireless domains
- Testing and validation of Safe4RAIL-3 devices and tools into CFM project's demonstrator

Project tasks

- I. Next generation TCMS
- II. Next generation wireless TCMS
- III. Building tools, safety & security assessment, and Test integration
- IV. Dissemination, communication and exploitation
- V. Project Management

Results and conclusions

COMSA has developed, using commercial 70GHz ground to train modems, a wireless solution for telematic and multimedia communications between the same train Consists. COMSA has also validated the use of AI solutions for distributed control and improvement of Wi-Fi communications within the train.



BUSINESS AREA

Technical and Innovation R&D Area
COMSA INDUSTRIAL

DURATION

2020 - 2022

BUDGET

Consortium Budget:

6.132.399,18 €

COMSA Budget: 929.958,57 €

KEYWORDS

TCMS security, railways, TRL 6/7, wireless technologies

COORDINATOR

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