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Message from the Coordinator

It is May 2018 and all milestones (MS) so far have been achieved, the concepts for next-generation Train Control and Monitoring System (TCMS) are defined and the architectural blueprints are nearing their completion. It will be a hot summer this year for the project partners with the last six months of Safe4RAIL. The summer will focus on finalization of the proof of concept developments. Find more information about all our activities in the pages below!

The closing event of the project, jointly with the CONNECTA project, is also coming nearer. We are looking forward to welcome to Paris on the 26th of September for information and demonstration about the results achieved and the path forward beyond the project end!

Date & Venue

Date: 26th September, 2018

Time: 9:00—17:00 CET

Venue: Paris, France



Registration

Agenda, registration link and more detailed information will follow soon!

CONNECTA-Safe4Rail Joint Final Conference on 26th September 2018 (09:00 - 17:00 CET)

We are pleased to invite you to attend the CONNECTA-Safe4Rail Joint Final Conference in Paris, which will provide blueprints for next-generation TCMS.

The conference also welcomes participants from railway technology suppliers and manufacturers, safety experts, and authorities as well as academic participants in the domain of train control and communication systems.

Blueprint topic overview:

- Drive-by-Data (DbD)
- Functional Distribution Framework (FDF)
- Distributed Simulation Framework (DSF)
- Train-to-Ground Communication (T2G)
- Wireless Train Backbone (WTB)
- Brake-by-Wire (BbW)
- Functional Open Coupling (FOC)
- Application Profiles

Key Data:

Start Date:	1 st October, 2016
End Date:	30 th September, 2018
Duration:	24 months
Project Reference:	730830
Project Costs:	€ 6,681,211.25
Project Funding:	€ 6,681,211.25
Complementary Project:	CONNECTA (Ref: 730539)

Consortium:

Project Coordinator:

Contact Person at Technikon:

Project Website:

11 partners (6 countries)

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Ongoing Activities

Since the last newsletter (Issue 2) in October 2017, the partners have continued their work in their tasks made are on track in order to achieve the project objectives.

WP1: The concepts and constraints were consolidated to achieve a detailed clear picture on the aspects contributing to the robustness, safety, security, reliability and availability of the communication system.

This includes the following aspects:

- Robust Fault-Tolerant Network Topology
- Robust Fault-Tolerant Clock Synchronisation
- ECN to ETB Gateway and Communication Protocol
- Safe Communication Layer
- Safe Inauguration
- Configuration Concept & Methodology

Furthermore, the first version of the Train Network Simulation Concept was released, including prototypical implementation of the simulation test bed. This prototypical release was provided much earlier than expected.

WP2: The main goal in this period was to provide a reference architecture for the **fdf** as well as a report on three different design instantiations. The first is based on **AUTOSAR**, which aims to create and establish a standardized software architecture for automotive electronic control units. The design instantiation on **AUTOSAR** provides a detailed report on how the conceptual and structural design of the **fdf** could be mapped to the elements and components in **AUTOSAR**, while taking the safety and security concepts into account. The other two options are based on the Real Time Operating System (RTOS) **INTEGRITY** and the hypervisor **PikeOS**. The major challenges in these design instantiations will be how to map the designed components in the **fdf** to the paradigms of both operating systems.

WP3: The main achievements and results for WP3 are the completion of the proof-of-concept implementations of the distributed simulation framework (DSF) and the T2G test environment (TE) in M18. Hence, all contributions to MS5 could be provided in time.

WP4: The main achievements for WP4 are:

- Completion of the Emergency Brake System Requirements
- Completion of the System Design
- First architectural step for the Electronic Control Design
- Definition/Specification of the Requirements for Methods and Tools

Partners will be involved in the Safety and Assessment activities and they have granted the review and technical support to the development work wherever it was necessary.

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WP5: Regular communication via the project website and social media channels increased awareness about the project. In total, there have been 19 dissemination activities within the first 12 months. The Safe4RAIL partners participated in 6 events including conferences, exhibitions and workshops during the first project year. Furthermore, 4 press releases have been published. Additionally, 4 blog entries have been published on the official project website (<https://Safe4RAIL.eu/blog>) and 9 tweets have been posted on the project Twitter page (<https://twitter.com/SAFE4RAIL>).

WP6: The objective of WP6 is to ensure sound project management structure and processes, as well as the provision of an effective risk management. These activities are running smoothly and partners are able to use and participate in these management activities successfully.

Technical coordination of activities is an ongoing process that leads to the successful interaction of the different work packages and their teams. The interdependence of the activities, both within Safe4RAIL and between S4R and CONNECTA is very clear to all participants in the project which makes the technical coordination much simpler. Short lines exist between the leaders and participants across work packages and regular technical telephone and face-to-face meetings ensure the day-to-day interaction.

The cooperation with CONNECTA is well established and the cooperation with Shift2Rail in general is smooth. The periodic reporting for the first twelve months was submitted in this timeframe successfully and the first batch of deliverables has been reviewed by the Joint Undertaking (JU).

Public Deliverables Submitted [M13-M18]

From M13 to M18 three public deliverables have been submitted to the European Commission and one further milestones (MS5) has been achieved.

D2.3: Report on 'TCMS framework concept' design, security concepts, and assessment (M15)

D2.4: Report on TCMS framework instantiation (M18)

D4.2: Final requirements definition for Brake by Wire and safety concept (M13)

See all public deliverables on <https://safe4rail.eu/news/deliverables>.

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Mid-Term Conference in Prague

On 25th January 2018, the Safe4RAIL consortium met together with interested attendees among others from the railway domain as well as suppliers and manufacturers, safety experts and authorities of train control and communication systems at Safe4RAIL's Mid-Term Conference in Prague (Czech Republic).



Technical Meeting in Bologna



From 20th to 21st March, 2018, the Safe4RAIL consortium met for the 4th technical project meeting in Bologna (Italy) at NIER premises. The first day was dedicated to give an overview of the current status of all work packages, as well as the planned next steps. On the second day in-depth discussions on WP1, WP2 and WP3 took place. Moreover, MS5 was successfully achieved and the meeting was concluded with an overview on past and upcoming deliverable submissions and their impact on the last milestone of the project.

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