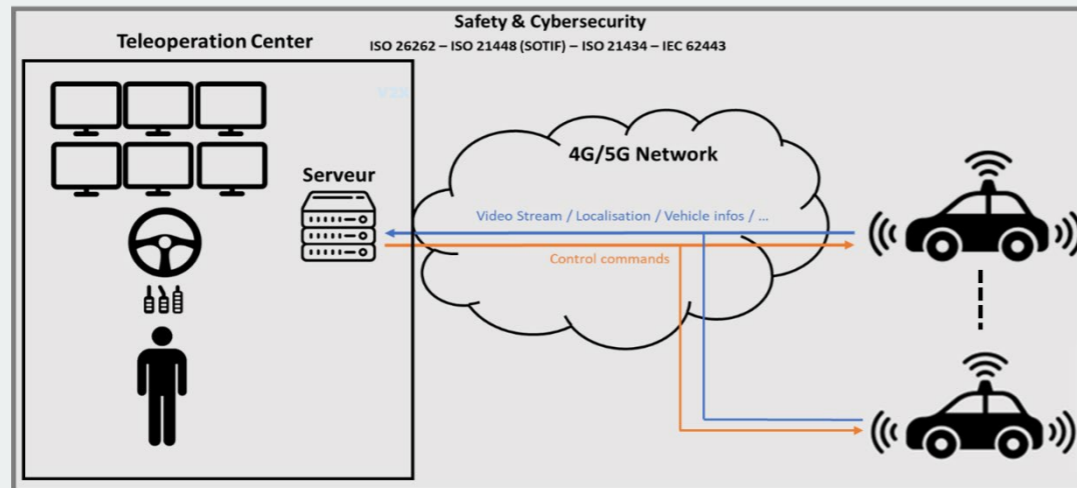


Project Teleoperation

Development and implementation of a centralised teleoperation concept for remote control of automated and connected vehicles based on safety and cyber security requirements

Context

To date, several public transport operators (SBB, PostAuto, TPF) have carried out tests related to automated vehicles in Switzerland. While these tests have certainly enabled each operator to acquire valuable technical, operational and organizational know-how, this individualistic and costly approach seems to have reached a "break-even point". A coordinated and scalable solution to successfully implement efficient mobility of a national level is currently lacking.



Objectives

The solution is to enable a remote operation control center which can teleoperate any vehicle at once. Therefore, this project aims to develop a teleoperation concept adapted to automated vehicles. To achieve this, the project team has worked on the following workpackages :

1. Business case and social acceptability analysis of teleoperation
2. Development of the teleoperation system at the conceptual level
3. Development and integration of the automated security functions required for remote operation with the demonstrator
4. Adjustment and configuration of the chassis and bodywork
5. Verification and validation
6. Authorization of the entire system

Impacts

The regional and national economy will benefit in many ways:

- Recognition of SwissMoves to become a national leader in the implementation of teleoperated vehicles
- Strengthening the Ra&D capacity of SwissMoves
- Strengthening the position and services of the project's partners
- Developing a strong scalable solution to enable efficient mobility on a national level

Partners



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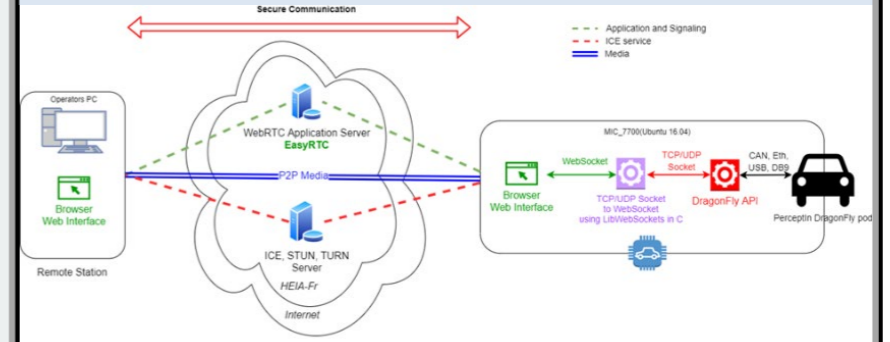
Bernhard Gerster, Peter Affolter, Marcel Strub, Reto Röthlisberger
Thomas Probst

Maurizio Caon, Mélanie Thommet

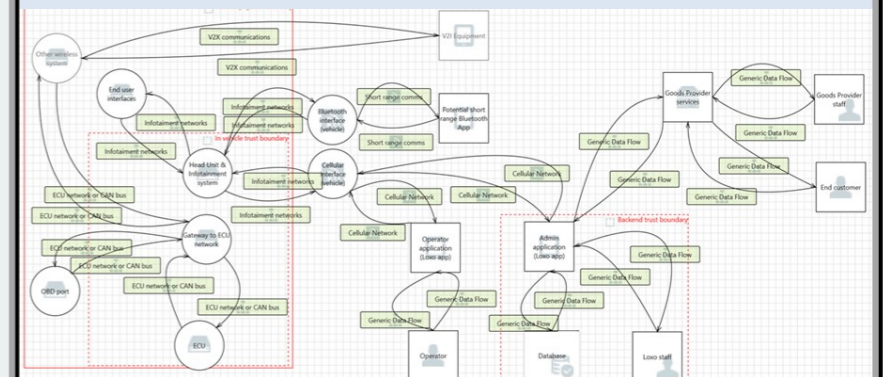
Roland Scherwey, Vincent Bourquin, Marc-Antoine Féart, Wolfgang Berns, Gabriel Python, Laurent Pichon, Oliver Nahon, Sylvain Rhème, Jonathan Hendriks, Frédéric Schenker, Samuel Rieder, Lucio Truatsch, Celso Cippà, Ivan Baeriswyl, Jan Huber, Timothy Rayroud



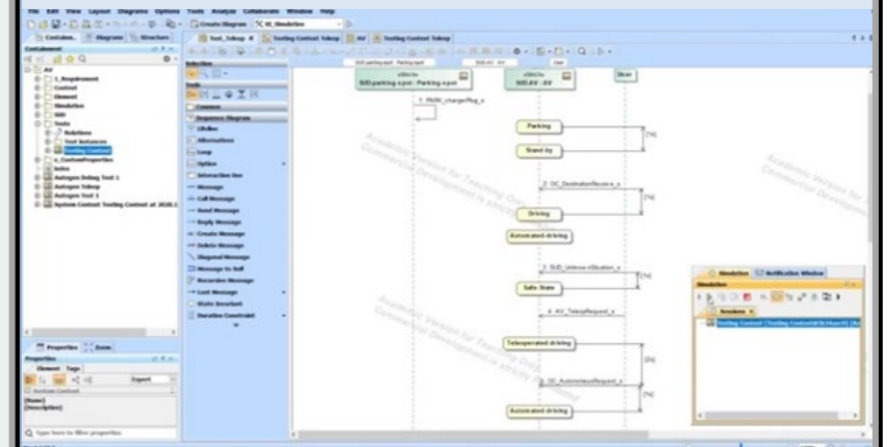
Teleoperation Concept



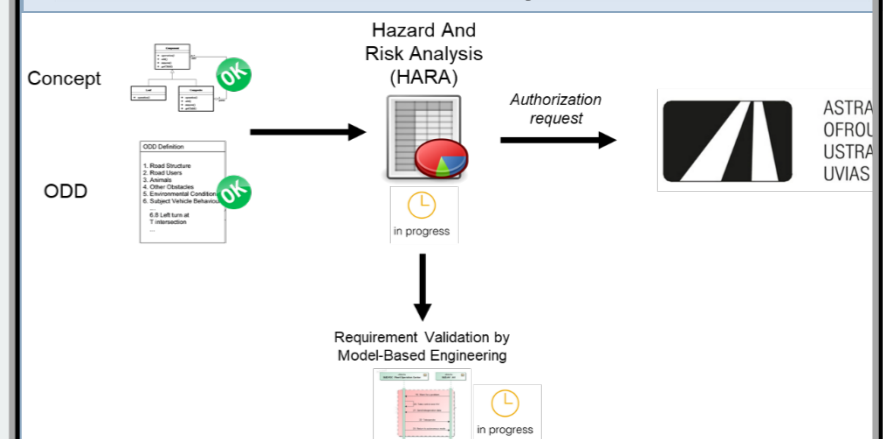
Cyber Security Requirements



Verification and validation



Authorization process



Testing of Teleoperation



Research domain

Automated and Integrated Mobility

Project leader

Roland Scherwey / Gabriel Python

Project duration

10 months

Amount allocated

248'300.-

Video capsule:

