



The certMILS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 731456.

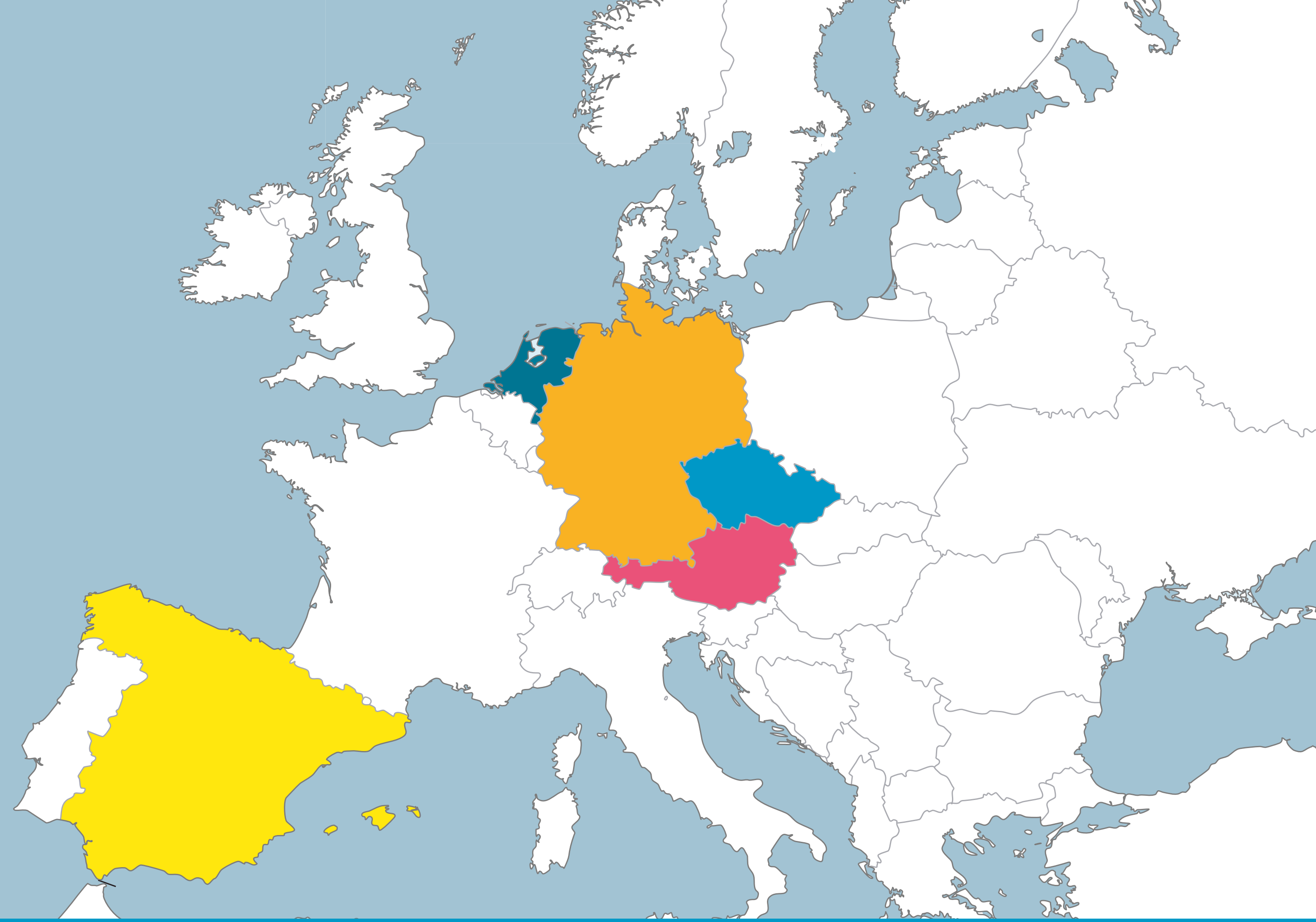


Compositional security certification for medium- to high-assurance COTS-based systems in environments with emerging threats

www.certmils.eu

Project Coordinator
Dr. Klaus-Michael KOCH
coordination@certmils.eu

Technical Leader
Dr. Sergey TVERDYSHEV
sergey.tverdyshev@sysgo.com



MISSION

certMILS develops a security certification methodology for cyber-physical systems (CPS). CPS are characterised by safety-critical nature, complexity, connectivity and open technology.

certMILS aims to increase the economic efficiency and European competitiveness of CPS development, while demonstrating the effectiveness of safety & security certification of composable systems.

CERTIFICATION PILOTS

PILOT SMART GRID

- The Smart Grid Pilot is based on Industrial and Automation Control System (IACS).
- Remote Terminal Units (RTU) are one of the main elements of the IACS: the challenge is to improve the cyber-security of these control devices.
- Industrial protocols for electrical networks and security standards have been considered.

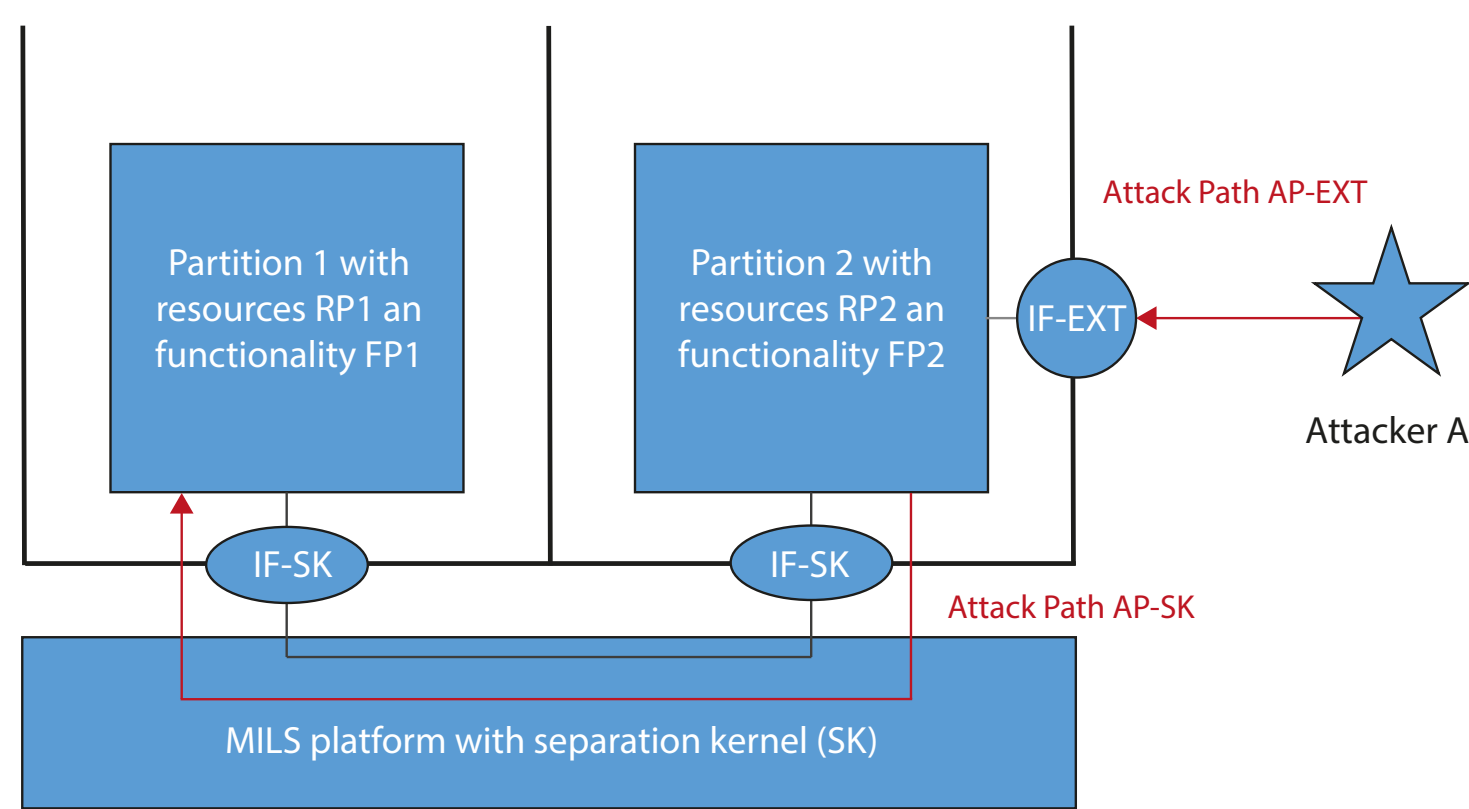


Fig. 1: High assurance smart grid pilot composition

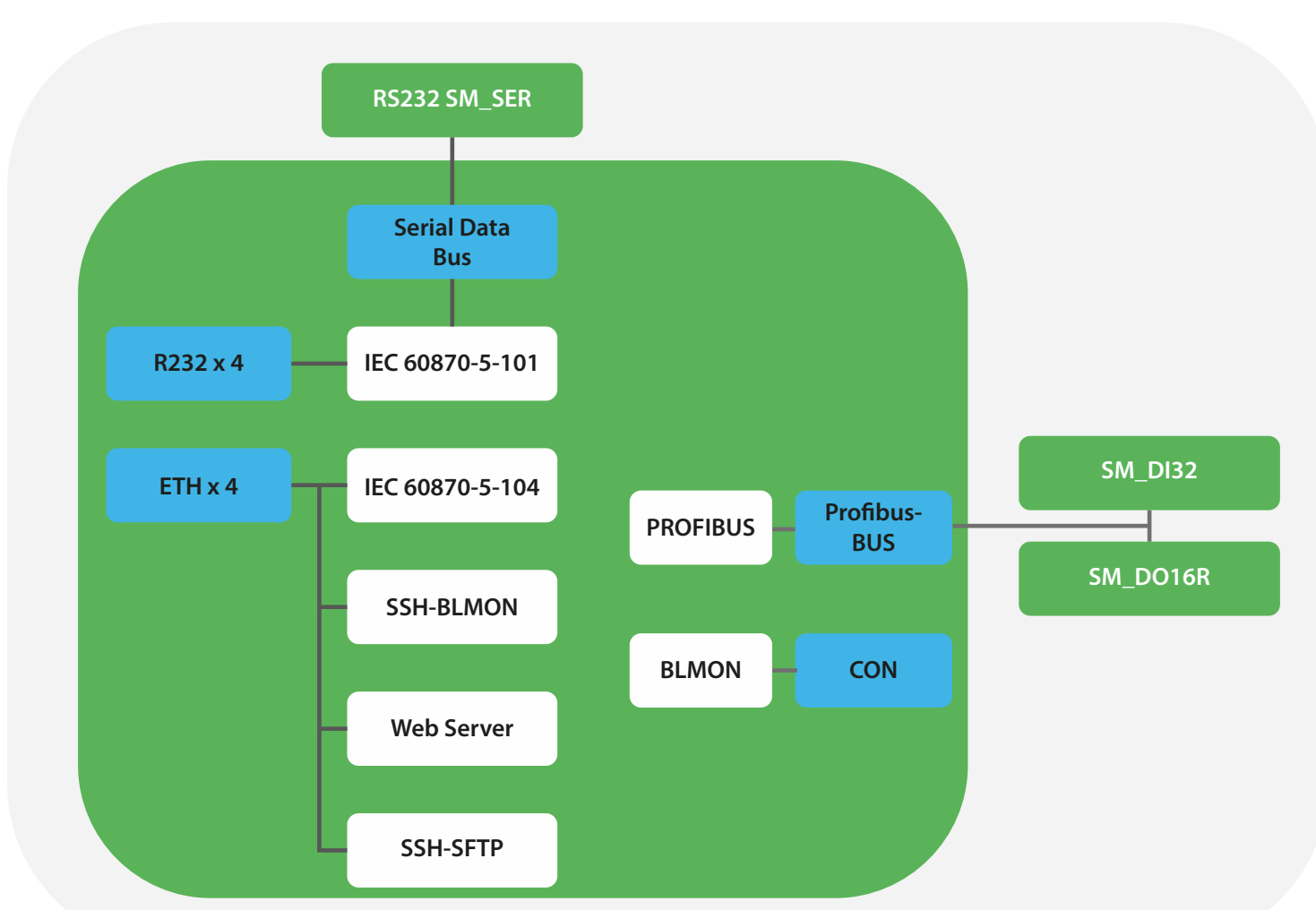


Fig. 2: Medium assurance smart grid pilot composition

PILOT RAILWAY

- The Railway Pilot is built on an existing computing platform: the TAS platform.
- The main purpose is to leverage the certifiability on applications constructed on top of Commercial-Off-The-Shelf (COTS) hardware.
- Using MILS concept and common standards, the integration of safety and security in the TAS Platform is possible.

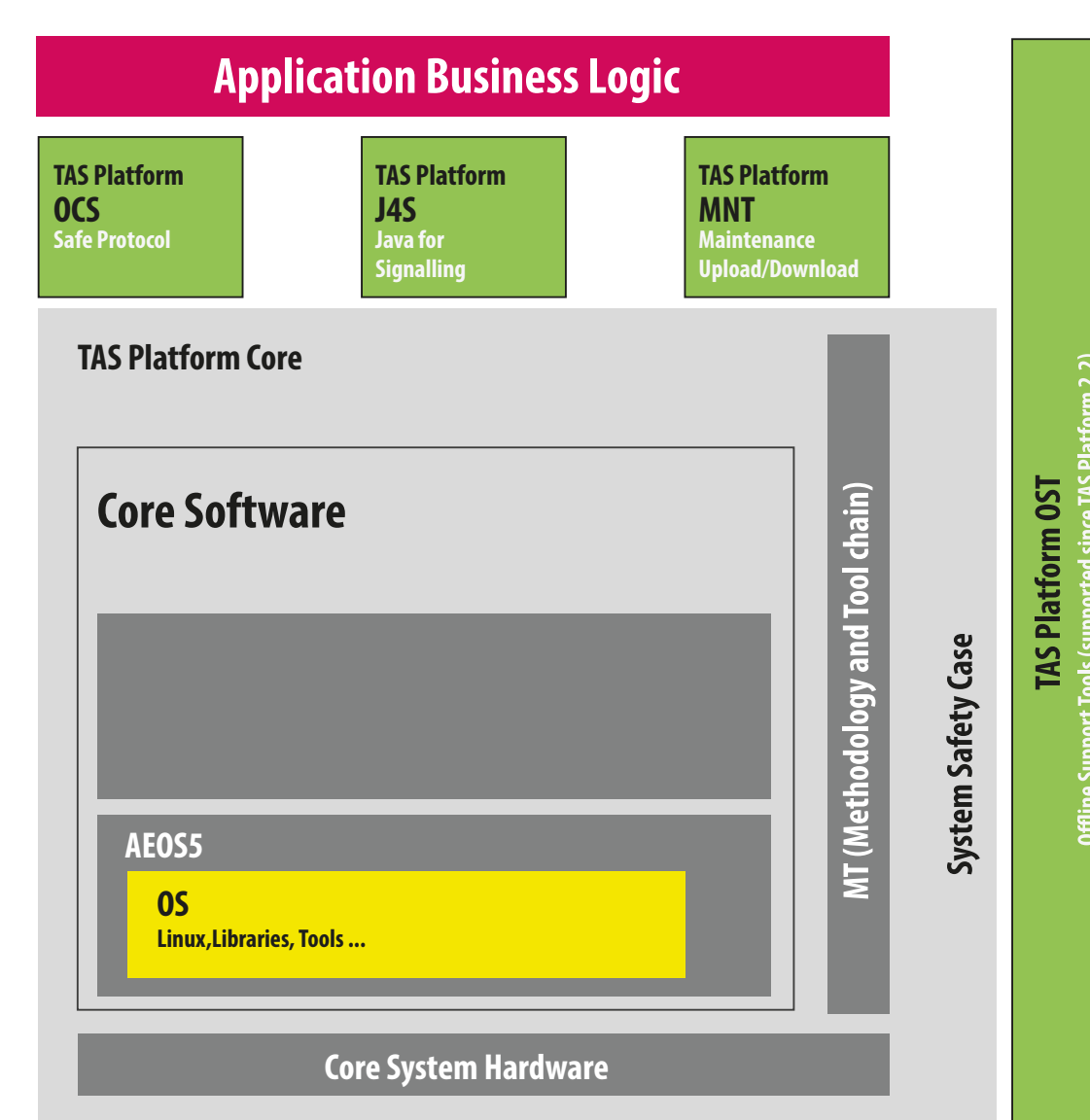


Fig. 3: TAS platform

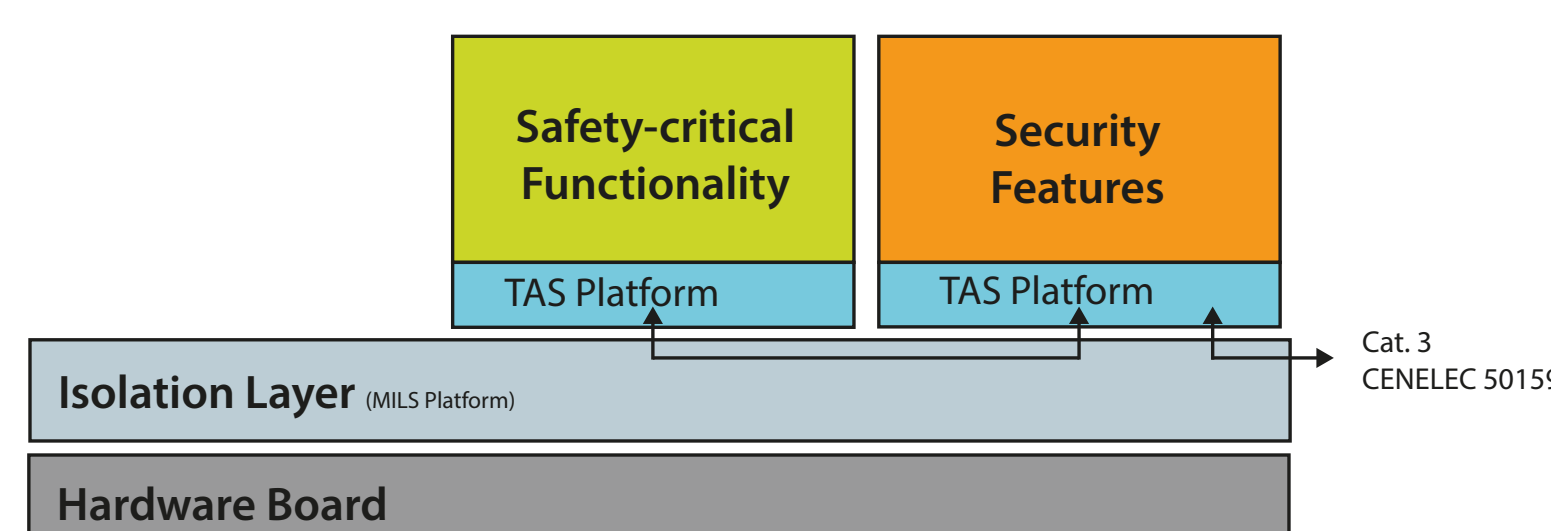


Fig. 4: Integration of safety-critical functionality and security features on top of a MILS platform

PILOT SUBWAY

- The Subway pilot reduces the criticalities between different kind of industrial networks, using the MILS platform.
- It is built on Prague's metro supervision and control system (Automatic Dispatcher Control System) and on the European standards of Urban Guided Transportation Management and Control System.
- The demonstrator represents T-composition based on I-composition (integration of certMILS security targets).

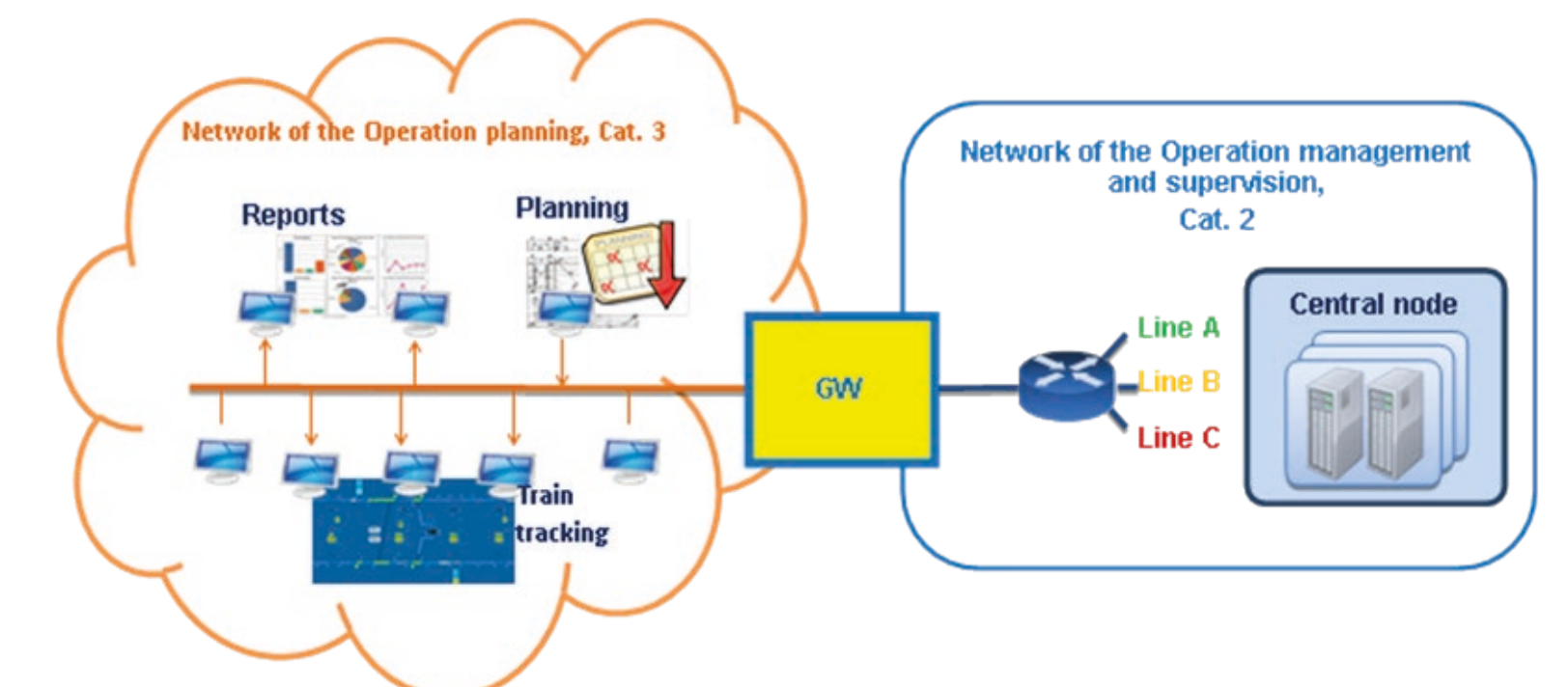


Fig. 5: Demonstrator deployment area