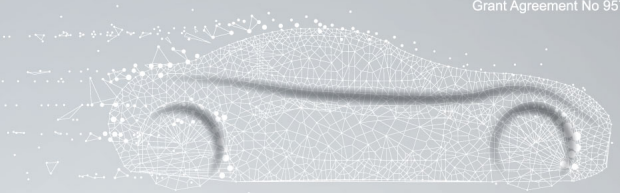
XANDAR has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 957210

XANDAR

Safety and Security for Embedded Software Systems



www.xandar-project.eu

Key Facts

A three-year (1/2021 – 12/2023) Research and Innovation Action project funded under Horizon 2020 framework with 5 million Euros aiming at the delivery of a mature **SW toolchain** fulfilling the needs of the industry for rapid prototyping of interoperable and autonomous Embedded Systems.
With the contribution of diverse partners' knowhow in Model-Driven Engineering, Software Systems and V&V, multicore architectures, code generation, and security enforcements from higher-level behavioral models to actual runnables, XANDAR, at the final stage, will be validated by an automotive OEM (BMW) and the German Aerospace Center (DLR)

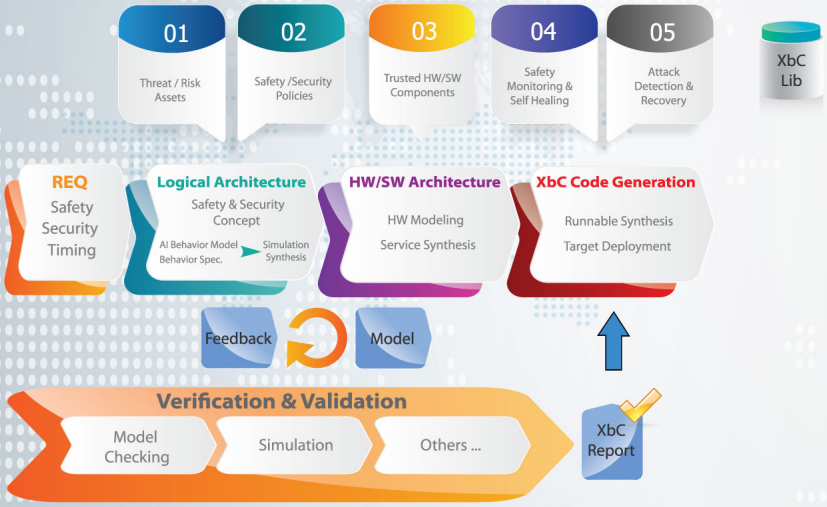
Starting point: Model-based system architecture

Target: Setting the foundation for novel real-time, safety-, and security- by-Construction (X-by-Construction)

Innovation point: XbC-guided code generation for non-deterministic ML/AI applications will be combined with novel runtime monitors

Technical need met: Ensure fail-operation in the presence of runtime faults and security exploitations

Advantage: Leverage of novel automatic model synthesis and software parallelization techniques



Objectives

- Holistic design methods and architectures that guarantee non-functional properties "by construction" throughout all phases of the SW & SDLC
- Improvement of productivity and SW quality via safety & security patterns, trusted HW/SW templates, and monitoring mechanisms
- HW/SW platform architecture that support runtime platform health monitoring and self-healing capabilities
- Verification and validation of functional and non-functional requirements using simulation and other V&V techniques
- Prototyping comprehensive avionics and automotive use-case applications
- Disseminate competence and raise awareness at European and worldwide scale

Consortium

KIT Karlsruhe Institute of Technology
University of Peloponnese
DLR German Aerospace Center
fentISS
AVN Innovative Technology Solutions
VECTOR
Queen's University Belfast
BMW Group
MINI
Rolls-Royce Motor Cars Ltd

Project Coordination
Prof. Dr.-Ing. Dr. h. c. Jürgen Becker
Karlsruher Institut für Technologie (KIT)
Institut für Technik der Informationsverarbeitung (ITIV)
Engesserstr. 5
76131 Karlsruhe

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