The Panorama project boosts design efficiency for heterogeneous automotive and aerospace systems. Based in open source, it provides an environment for collaboration amongst diverse hardware and software technologies and teams, especially at the early stages of design. It supports efficient design decisions by defining evolving standards, tools and best practises for exchange of non-functional, formal models.

**Open Ecosystem to support Heterogenous Mobility Systems**

Software developers in the automotive and aircraft industries will face major challenges in the future. Future mobility will be electrified, automated and highly networked. As a result, mobility systems will be subject to radical changes in the way electrical/electronic (E/E) architectures are designed, software and hardware are integrated, and development processes are shaped. Three central, heterogeneous fields of tension are emerging:

- Previously separated functional areas (for example, drive, comfort, multimedia, etc. are integrated within central hardware platforms.
- Future development processes will be designed collaboratively by several heterogeneous partners (OEM, Tier 1, and Tier 2 suppliers) along the value chain. In particular, Software providers, domain experts, and service providers will become more involved in future development processes.
- The application of heterogeneous, that is, specialized and networked hardware (for example, AI-Accelerator for the realization of Deep Learning), will become necessary.

Panorama addresses these issues through an open ecosystem for efficient collaborative design.

### Analysis will include:

- latency
- resource consumption
- timing behavior
- memory usage
- overall communication
- software distribution
- system optimization
Research Focus

Integration of heterogeneous functional domains
Use of heterogeneous specialized hardware
Involvement of heterogeneous, collaborating parties for design and development

Use Cases
The project results will be explored and demonstrated via the following use cases.

Exchange of system models in cross-company, collaborative development projects
Assessment of different hardware architectures for a given software
Assessment of deployment alternatives for a given software onto a given hardware architecture
Informed guidance for optimization of system level design decisions
Traceability and Safety throughout the development process
Secure model exchange in collaborative development projects

Project Facts
Duration 04/2019 - 03/2022
Volume ~ EUR 17 million
Involved Countries
- Finland
- Sweden
- Germany
- Turkey
- Portugal

Contact us
Website www.panorama-research.org
Twitter @PanoramaEng
Mail info@panorama-research.org

Supported by:

Federal Ministry of Education and Research
ITEA3