Key Facts

Start: 1-1-2020
Duration: 36 months
Participating organizations: 10
Number of countries: 5

Contact

Coordinator: Prof. Davide Bacciu
Institution: University of Pisa
Email: bacciu@di.unipi.it

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Project Consortium

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TEACHING

A computing **toolkit**
for building **efficient**
autonomous applications
leveraging
**humanistic** intelligence

Objectives

- Provision of high-level parallel programming framework for AI-based applications on CPSoS
- Establishment of smart communication paradigms, architectures for real-time and energy-aware CPSoS
- Definition of a CPSoS computing system supporting a cross-platform cloud-edge continuums
- Development of architectural patterns and dependability-engineering framework for runtime adaptive CPSoS
- Development of tools for dependable and secure CPSoS
- Development of distributed AI-as-a-service toolkit enabling human-driven adaptive applications in CPSoS
- Evaluation of CPSoS functionalities on safety-critical industrial applications like autonomous driving & aviation
- Consolidation of international and EU links, raising awareness and ensuring the transferability of project's results

TEACHING is an EU-funded project that designs a computing platform and the associated software toolkit supporting the development and deployment of autonomous, adaptive and dependable CPSoS applications

Architecture

TEACHING's technical concept
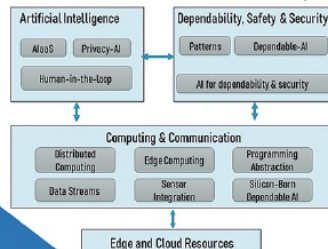
Industrial Applications

TEACHING use cases demonstrate AI-based autonomous transportation applications with different security, dependability and energy-consumption requirements. The TEACHING computing-runtime-software system will be deployed and executed under different configurations of these cases.

Aviation: Cyber Blackbox

A Cyber Blackbox is a concept of aggregated monitoring of multiple avionics applications. This use case exercises the support and management of heterogeneous, distributed and highly connected computing devices in the CPSoS.

Autonomous driving: Convoy Function

A convoy function is a complex driving scenario addressing the issues of testability, trust and cybersecurity. This use case demonstrates TEACHING's innovation aspect through human integration into the loop.