Press Release

January 18, 2023

TaRDIS project kicks off

A brand new project in the topic of "Programming tools for decentralized intelligence and Swarms"

On January 17-18, 2023, 11 partners from industries and academia joined together in the beautiful city of Lisbon to officially kick off the activities of the project TaRDIS. TaRDIS stands for Trustworthy and Resilient Decentralised Intelligence for Edge Systems.

TaRDIS proposes a language-independent event-driven programming paradigm that exposes, through an event-based interface, distribution abstractions and powerful decentralized machine learning primitives. The programming environment will assist in building correct systems by taking advantage of behavioral types to automatically analyze the component's interactions to ensure correctness-by-design of their applications, taking into account application invariants and the properties of the target execution environment. TaRDIS underlying distributed middleware will provide essential services, including data management and decentralized machine learning components. The middleware will hide the heterogeneity and address the dynamicity of the distributed execution environment by orchestrating and adapting the execution of different application components across devices in an autonomic and intelligent way. TaRDIS results will be integrated in a development environment, and also as standalone tools, both of which can be used for developing applications for swarm systems.

The project results will be validated in the context of four different use cases provided by high impact industrial partners that range from swarms of satellites, decentralized dynamic marketplaces, decentralized machine learning solutions for personal-assistant applications, and the distributed control process of a smart factory.

The Consortium

TaRDIS showcases a balanced consortium of 11 partners includes prestigious industrial partners of world-class size (EDP New R&D, GMV Aerospace and Defense, and Telefonica

Research), highly specialized and top ranked academic partners (NOVA University of Lisbon, Technical University Denmark, Imperial College London, University of Novi Sad, and National and Kapodistrian University of Athens), and SMEs and solution providers (Actyx AG, Caixa Mágica Software, and Martel Innovate) bringing multi-disciplinarity in terms of both technical and business skills.
The partners very much look forward to cooperating and fostering the innovation in decentralized swarm computing environments and increasing European industrial leadership in the field.

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