



Press Release

Towards a functional continuum operating system: EU Funded project ICOS kicks off in Barcelona

22 leading European organizations from 11 countries join forces to tackle the main challenges of the IoT – Edge – Cloud paradigm, proposing an approach to embed a set of functionalities and define a brand new IoT-edge-Cloud Operating System (ICOS).

For immediate release

Barcelona, Spain. November 2022. Coordinated by the Research and Innovation hub of the Atos Group in Spain, ICOS project started officially on September 1st, 2022, and will continue for 3 years. The project is funded by the European Commission under the Horizon Europe Programme within the topic *Future European platforms for the Edge: Meta Operating Systems*. The first Face to Face kick-off meeting took place in Vilanova i la Geltrú, Barcelona area, Spain, on November 2nd-3rd.

ICOS aims to design, develop, and validate a meta-operating system for the Cloud-Edge-IoT continuum by addressing four main challenges:

- i. device volatility and heterogeneity, continuum infrastructure virtualisation and diverse network connectivity;
- ii. optimised and scalable service execution and performance, including resource consumption, guaranteed trust, security and privacy;
- iii. reduction of integration costs;
- iv. effective mitigation of cloud provider lock-in effects.

Efforts towards these objectives will be consolidated in a data-driven system built upon the principles of openness, adaptability, data sharing and a future edge market scenario for services and data.

The project will contribute to European competitiveness by achieving the creation of a globally attractive, secure, and dynamic data-first economy, moving beyond a simple send-data-to-the-cloud strategy. It will offer new opportunities for European actors to enter the market with new services, resulting in increasing the EU's autonomy, sovereignty, and performance in the global data economy. Moreover, its technical impact will consist of a new platform and ecosystem for managing the application lifecycle in a secure, smart, and efficient way across the entire Cloud-Edge-IoT continuum, while its economic impact will be proven by the feasibility demonstrated through the ICOS micro analysis, according to the use case KPIs (namely: In-car Advanced Infotainment and Multimedia Management system; Agriculture Operational Robotic Platform; Railway Structural Alert Monitoring system, and Energy Management and Decision Support system).

ICOS will not be alone in this huge mission. As its coordinator Francesco D'Andria (Atos) states, *"The project will cooperate with the other RIA¹ projects –such as NEMO or NEPHELE– addressing the same topic, to exploit results and synergies, maximize impacts*

¹ RIA: Research and Innovation Action





of the Cloud-Edge-IoT project portfolio and coordinate dissemination activities. In addition, ICOS will contribute to the consolidation and coherence work to be implemented by the two CSAs² related, OpenContinuum and Unlock-CEI.

² CSA: Coordination and Support Action

