



CoGNETs
Continuums of Game Nets

Press release

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EU-Japan Project Launches to Innovate IoT-to-Cloud Systems

CoGNETs is an IoT-to-Cloud innovation initiative aiming to forge an intelligent framework for autonomous information processing.

As industries become more reliant on interconnected devices, the need for smarter and more autonomous systems is growing. CoGNETs, short for "**Continuums of Game NETs: Swarm Intelligence as Information Processing**," is a project that introduces a new way for devices to interact and cooperate, improving efficiency within complex networks. By achieving this, the Horizon Europe project aims to advance data processing and service provisioning across the Internet of Things (IoT), Edge, and Cloud environments.

Leveraging the Internet of Things with dynamic swarm intelligence

While existing AI technologies provide tools for running AI on IoT and resource-constrained devices, they often lack the capabilities for self-organization and collaborative learning—essential for devices to autonomously adapt to ever-changing data and resource availability.

CoGNETs fills this gap by developing a Middleware Framework that enables IoT, Edge, and Cloud devices to form dynamic "swarm continuums"—self-organizing networks that optimize operations based on real-time conditions. This framework allows each device to act as a cognitive resource, autonomously managing data processing and service provisioning within a decentralized, context-aware system. By enabling on-demand, opportunistic collaboration among devices, CoGNETs maximizes efficiency, security, and resilience, surpassing the potential of current AI-driven systems. Aligned with broader EU goals, CoGNETs supports the advancement

of digital sovereignty, cybersecurity, and sustainable growth in sectors like Industry 4.0, Mobility, and Health 4.0.

Who is in CoGNETs?

The CoGNETs consortium is composed of a varied array of ICT industries, SMEs and Academia representatives that will bring unique and valuable contributions to enable the project's objectives.

The CoGNETs consortium is led by the Centre for Research and Technology Hellas (CERTH) and includes a diverse range of partners from across Europe and Japan. The Technical Coordinator, the FIWARE Foundation, is a leading SME from Germany specializing in open-source solutions. Other notable research and technology organizations include VTT Finland, SBA Research, the National Centre for Scientific Research "Demokritos" (NCSR), Fraunhofer IPK, and the National Institute of Informatics (NII) from Japan. Academic expertise is provided by the University of Lancaster, Hellenic Mediterranean University, Avignon Université, and The University of Electro-Communications (UEC) from Japan.

The consortium is further strengthened by prominent industry partners such as Netcompany-Intrasoft, Siemens, AVL, Meditech and AVL Japan. Additionally, several innovative SMEs, including Axon Logic, Beyond Semiconductor, K3Y, Ubitech, and Martel Innovate, contribute to the project's ambitious goals. Together, these partners form a robust and dynamic team, dedicated to advancing the CoGNETs initiative and transforming the IoT, Edge, and Cloud computing landscape.

The work officially started on June 1st, 2024, and all partners met online at the Kick-Off meeting held on June 21, 2024 and held their first in-person Plenary Meeting on 16-17 July 2024 on the CERTH Campus in Thessaloniki, Greece. The team is looking forward to working together to accomplish CoGNETs' ambitions.

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