



Welcome to the OASEES Newsletter!

We are pleased to announce the publication of the fourth issue of the OASEES Newsletter! This newsletter will be published twice a year bringing the latest news and advances of the OASEES project!

First and foremost, OASEES is a 36-month Research and Innovation Project, funded by the European Union, that will last until December 2025.

The OASEES project will deliver a European, fully open-source, decentralized, and secure Swarm programmability framework for edge devices and leveraging various AI/ML accelerators (FPGAs, SNNs, Quantum) while supporting a privacy-preserving Object ID federation process.



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Our pilots

e-Health

The outcome of this pilot will be an intelligent edge device capable of sensing, recording and analysing patients' utterances, as well as providing smart, adaptive and personalised guidance on rhythm and intonation. The system will be usable both in rehabilitation centres during sessions with therapists and at home. We will adopt a privacy-by-design approach when collecting and treating patients' acoustic data

Drone Swarm for area and infrastructure inspection

Autonomous drone inspections provide tower companies with data and insights to expand their infrastructure by gathering high-resolution aerial data, generating accurate 3D models and a 360-degree panoramic view of a potential antennae location. It helps to identify potential obstructions, establish the distance from nearby existing antennae, and acquire local permits easily. It also enables tower companies to adapt their existing site to the 5G network needs in urban environments.

Collaborative robotic automation

This use case investigates the application of a finishing machine in the context of medium and large-scale industrial operations. The machine is specifically designed to meet the demands of companies that prioritize high-quality sanding and finishing outcomes. The study takes into consideration the ongoing transformation of the furniture market, which is shifting from mass production to a more customized approach characterized by small batch production and even single piece fabrication. The research highlights the machine's ability to enhance the thermal properties of treated wood materials.

Energy

The real-field pilot will demonstrate the capability of deploying and coordinating in a scalable yet near the real-time way the operation and management of swarms of IoT-based devices (e-vehicles), which will be coordinated and programmed through the OASEES SDK and orchestration platform.

Structural Safety for Building and Critical Infrastructure

The structural condition of critical infrastructures is inferred by processing data from local sensors, SENSO operates a decision support software that collects this structural data and helps in decision-making during critical times. Currently, the collection of sensor data takes place on customer's premises, but it is inefficient and causes data privacy concerns and increased response time. A distributed DSS architecture, with components at the edge and the central cloud, would be more beneficial.

Wind Energy

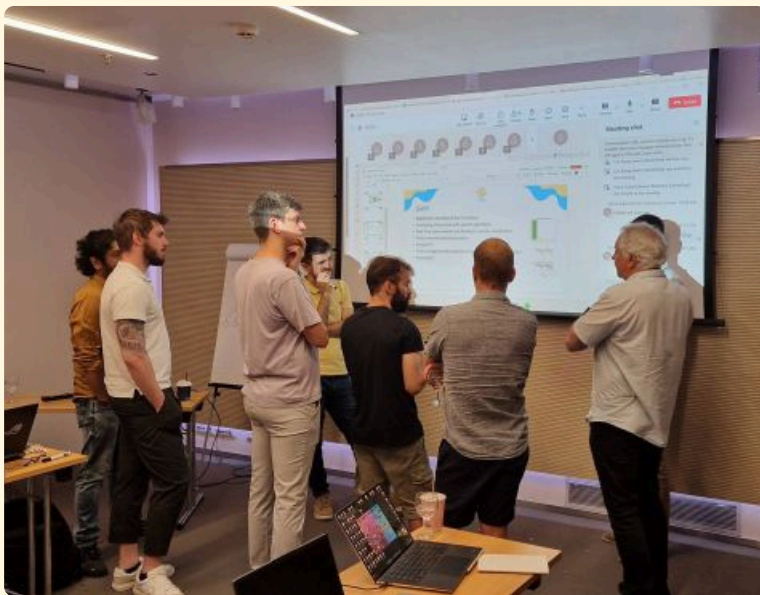
Blockchain can be used in the distribution and operation of IoT networks as a target for DAO paradigms, providing a backend for distributed data structures to securely store transactions in a decentralized manner. Smart metering is a key enabler for integrating smart energy renewable systems to existing infrastructure. In the OASEES project, novel IoT-based meters will be implemented to support on-the-fly programmability, using IoT sound transducer (microphones) applied to wind turbines

8th Plenary Meeting



OASEES' 8th Plenary Meeting occurred in Heraklion, Crete, organised by Adretia R&D

Two days with a lot of discussions regarding comments from the first review, and the next steps for the remainder of the project.



Our consortium during our exercise session for the use cases



Events

SwarmAware 2025 – Call for Papers **Trustworthy & Decentralized Intelligence at the Edge**



Are you researching resilient, distributed computing at the intelligent edge? Don't miss SwarmAware 2025, a new workshop exploring the intersection of swarm intelligence, secure edge-AI, and dependable distributed systems.

Join thought leaders and innovators tackling the technical challenges of decentralized AI systems operating at the edge!

TOPICS OF INTEREST:

- RESILIENT COORDINATION IN DECENTRALIZED SWARMS
- EDGE-NATIVE AI: REAL-TIME, PRIVATE, AND EXPLAINABLE
- FEDERATED LEARNING & SECURE SWARM INTELLIGENCE
- RESOURCE-AWARE COMPUTING & FAULT TOLERANCE
- DOMAIN APPLICATIONS: SMART CITIES, 6G, EHEALTH, AND BEYOND

Co-located with SRDS 2025 in Porto, Portugal, the P2CODE project, TARDIS project, OASEES, and SwarmAware 2025 jointly organize the workshop

Events

OASEES participated in the DATAMITE Project Meetup!



The DATAMITE Project Meetup, hosted by OTE's IT Innovation Center in Athens, Greece, on February 06, 2025, under the theme "Bridging Research and Industry in EU-funded Innovation", brought together Europe's top innovators, researchers, policymakers, and industry leaders to foster collaboration, accelerate data-driven progress and create a unified strategy for Europe's digital future.

OASEES was represented by Mrs. Vasiliki Vlahodimitropoulou (OTE), in the section serving several ongoing Horizon Europe projects.



Consortium

Get to know the OASEES Consortium!



adrestia
Equilibrium in Research & Development



umec



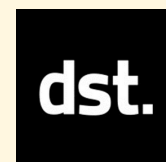
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