This Communication is part of a project that has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement N°101069732

aerOS
EUROPEAN IOT-EDGE-CLOUD

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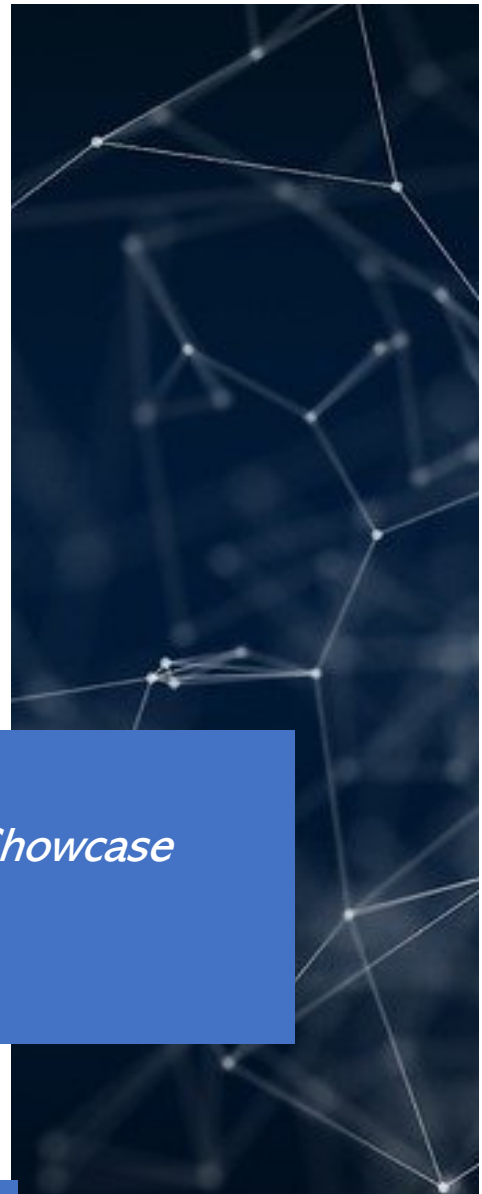

aerOS 1st Open Call

AIOTI Innovative SME Showcase

6th November 2023

aerOS overview

What is aerOS?

- aerOS is a project funded by HE programme aiming at designing and building a virtualized platform-agnostic meta operating system for the IoT-edge-cloud continuum.
- As a solution, to be executed on any Infrastructure Element of such continuum, aerOS will be independent from underlying hardware and operating system.
- More information can be found at: https://aeros-project.eu

aerOS will perform two rounds of Open Calls

- aerOS has reserved a total of 900.000 € for financially supporting third parties enhance the scope of the project by joining the project via Open Calls

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Open Call overview

The 1st aerOS Open call has just started!

1st Open Call Schedule	
Announcement	September – 2023
Submission Phase	October - 2023 to January - 2024
Evaluation Phase	February - 2023 to March – 2024
Start Participation	April - 2024
End participation	November - 24

This 1st Open Call focuses on two main key points:

- Extension of functionalities delivered by aerOS
- Expansion of application of aerOS in the five use case verticals considered in the project.

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Open Call overview

For this first round, a budget of 420k€ is available considering the following:

- A maximum of 7 proposals will be funded
- A maximum requested amount of 60.000€ per proposal might be accepted
- Fixed duration of projects is 8 months

Only the following type of entities will be able to submit proposals:

- European SMEs
- Universities
- Research centres (RTOs)
- Individuals

You may find all the relevant information here:

- https://aeros-project.eu/open-calls/open-call-1/

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aerOS
EUROPEAN IOT-EDGE-CLOUD

THANK YOU!

Andreu Belsa Pellicer ✉ *anbelpel@upv.es*

FOLLOW US!

https://aeros-project.eu

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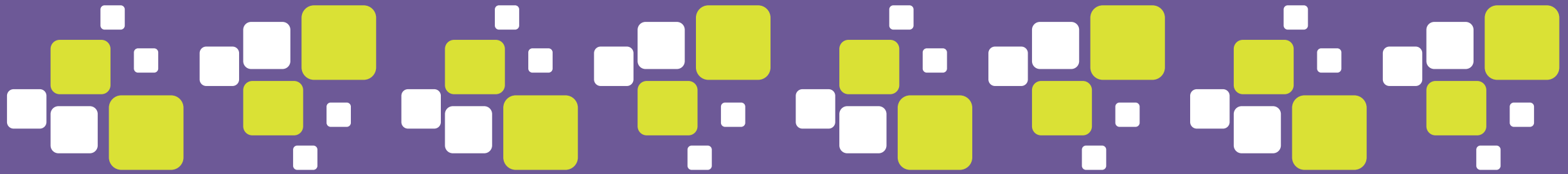
Flexible, Scalable, Secure, Decentralized

a MetaOS spanning IoT - Edge - Cloud Continuum



FLUIDOS : A Dynamic and Trustable Computing Continuum

"FLUIDOS (Flexible, scaLable, secUre, and decentralIseD Operating System) aims to leverage the enormous, unused processing capacity at the edge, scattered across heterogeneous edge devices, servers and on-prem datacenters, that struggle to integrate with each other and to coherently form a seamless computing continuum."

FLUIDOS Objectives:

1. Unify edge and cloud computing through decentralized, autonomous resource integration.
2. Shift computing gravity beyond data centers, fostering cross-provider community computing.
3. Orchestrate services and applications across devices and domains with energy-efficient AI.
4. Implement a Zero-Trust security approach for authenticated, authorized access to dispersed resources.
5. Cultivate a multi-stakeholder edge services market, promoting European digital autonomy.

FLUIDOS OPEN CALLS

- In FLUIDOS, Open Calls play a crucial role in community building, gathering requirements, and validating the platform. FLUIDOS will provide financial support through two grant types:

1. Technology Extension Grant (TEG)
    a. *December 2023 – February 2024*

2. Use Case Grant (UCG)
    a. *August 2024 – October 2024*

1) **Technology Extension Grant (TEG):** For individual applicants (i.e., no consortia), with a maximum award of **€75,000**. TEG grants are available in the first Open Call (M16) and are designed for 3rd party projects enhancing FLUIDOS with new features, tested in novel use cases.
    a. TEG will be awarded to 5 applicants

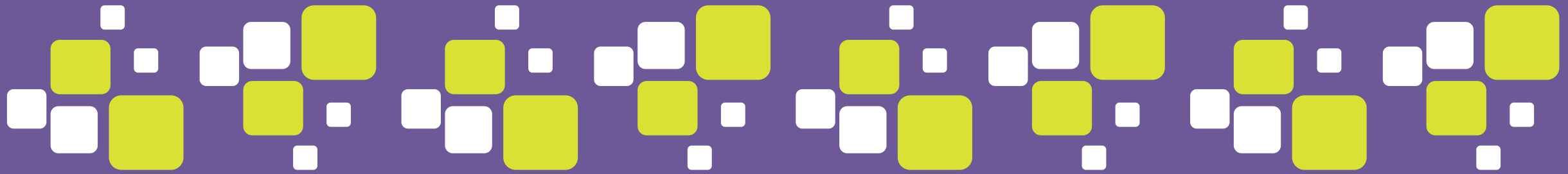
2) **Use Case Grant (UCG):** Available for both individuals and small consortia (up to 3 entities), with a maximum award of *€120,000*. It is for 3rd party projects creating demonstrators to validate FLUIDOS architecture and software.
    a. UCG will be awarded to 10 applicants:
        - 5 applicants in the first Open Call
        - 5 in the second Open Call

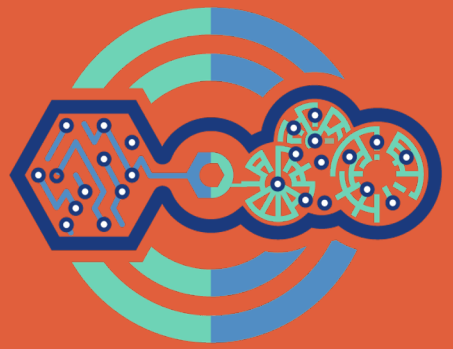
FLUIDOS – EVALUATION TIMELINE

Evaluation Process

1. The proposal evaluation process aims to be efficient, taking about a month.
2. The evaluation process involves external and project-based technical partner evaluations
3. There will be evaluators' open call launching in the next week.
4. The selected evaluators will sign non-disclosure and impartiality agreements.
5. Evaluation templates are provided after an online introduction meeting and agreement signing.
6. Evaluators review applications with identifying information removed within three working days.
7. The final selection of successful applicants, **10 for the first Open Call and 5 for the second**, is made in a consensus meeting within three weeks of the call's closure.

https://fluidos.eu





ICOS

IoT2Cloud Operating System

Elena Japundžić
Diana Järve
FundingBox

FundingBox
#FundingChampions

November 2023

About the project

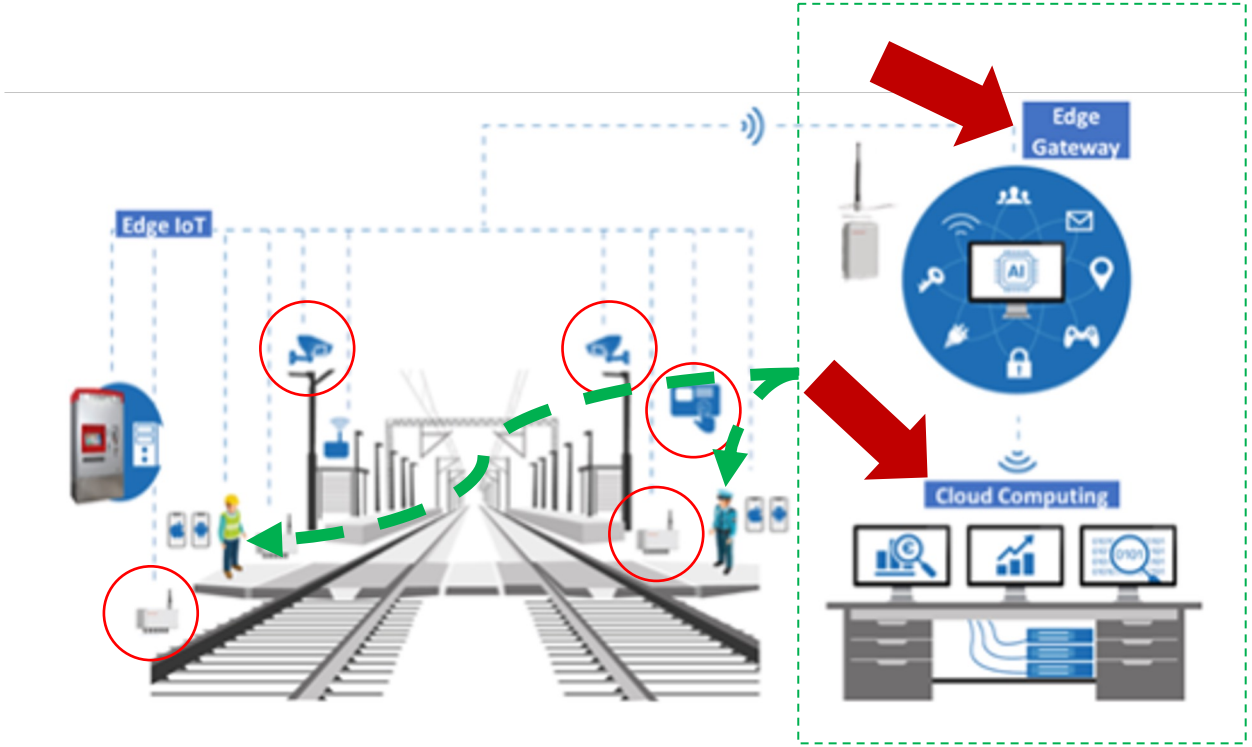
ICOS = IoT2Cloud Operating System

Topic: HORIZON-CL4-2021-DATA-01-05: Future European platforms for the Edge: Meta Operating Systems (RIA).

Main objective: to design, develop and validate **a meta operating system** for a continuum.

How? By extending existing platforms and creating a platform where not only **cloud computing resources are managed** but also **edge/IoT devices are integrated.**

Railway Structural Alert Monitoring System



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ICOS

Architecture

Dynamic metaOS distributed along the continuum.

Cloud (virtually unlimited computing and storage capacity, ubiquity) **vs.** the Edge (locality exploitation, latency and communication reduction, privacy preservation)

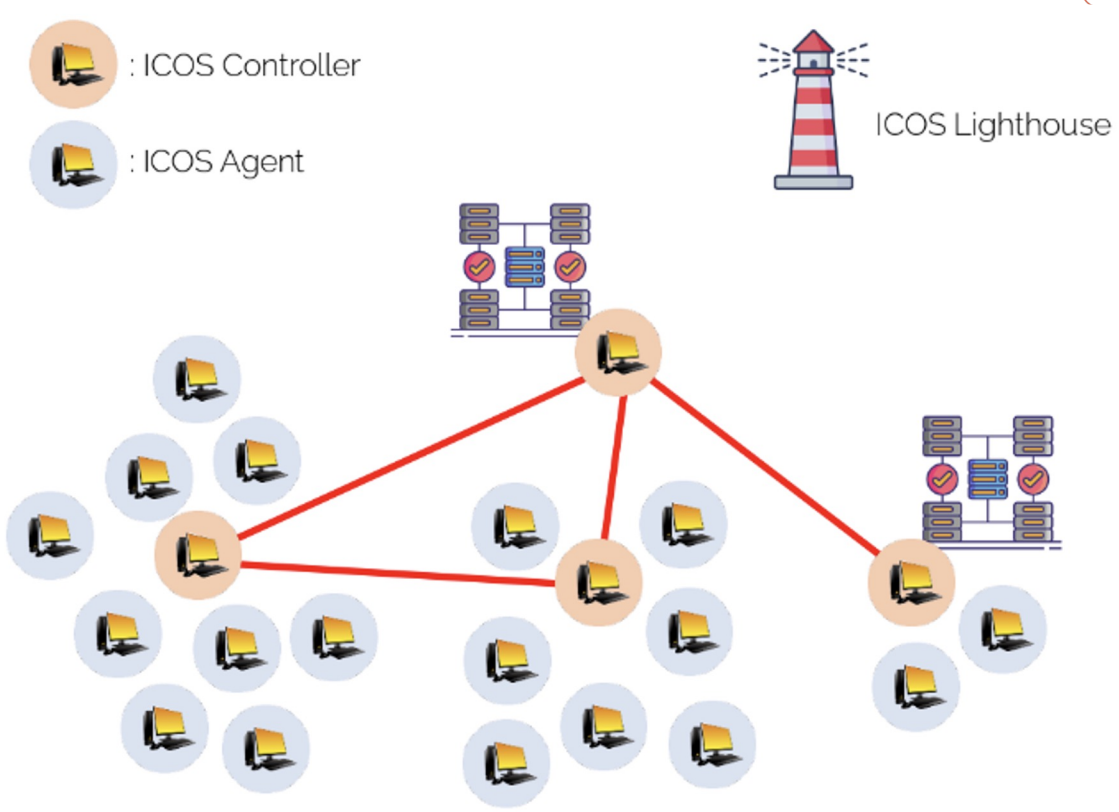
Nodes can join/leave, move throughout the continuum, establishing new proximity-based relationships between other nodes in different geographic locations

2 types of nodes:

the **Agents** (that execute the users' workloads)

the **Controllers** (responsible for managing the agents)

+ a 'Lighthouse' to simplify and automate the dynamic on-boarding of ICOS Agents to ICOS Controllers.



ICOS

Architecture

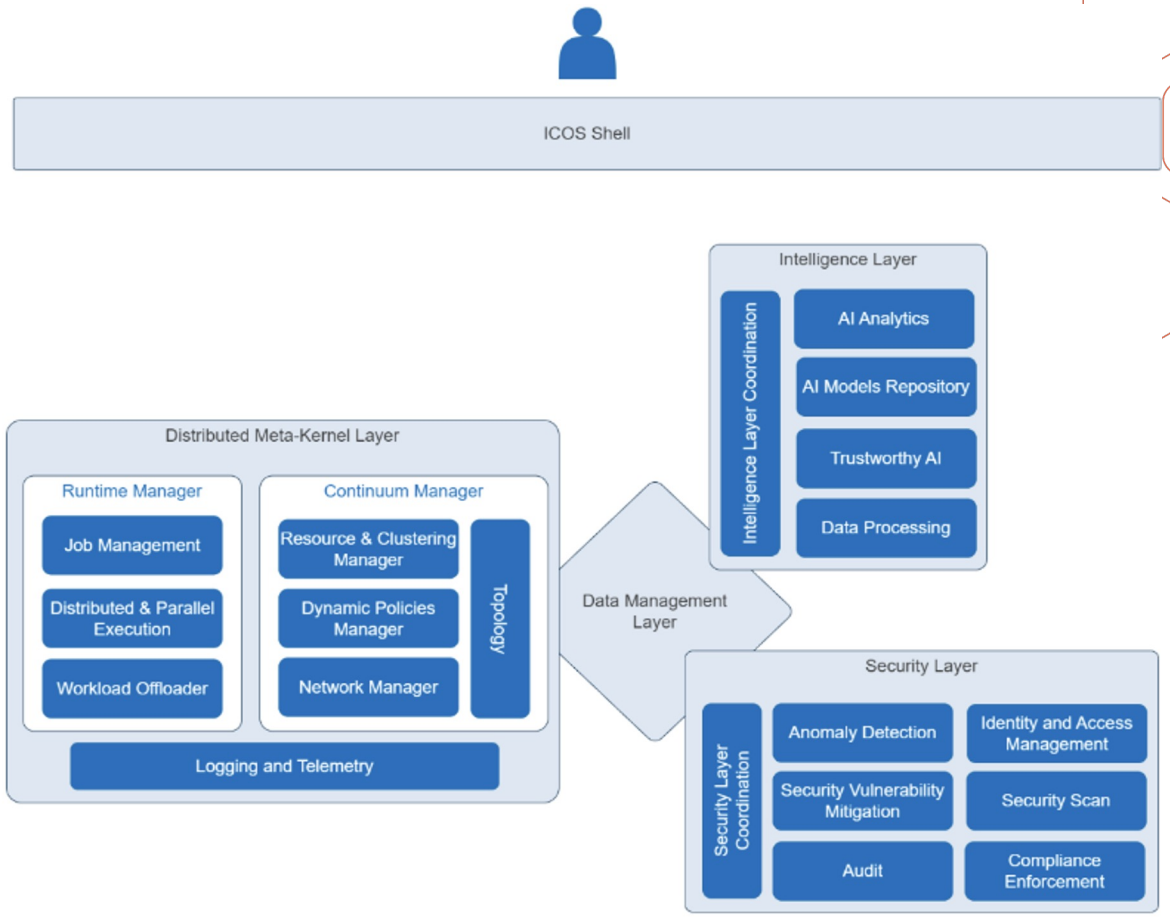
Conceptual architecture built on 4 functional layers:

- Distributed Meta-Kernel Layer,
- Intelligence Layer,
- Security Layer and;
- Data Management Layer

\+ Additional Module - ICOS Shell

- layers are providing functionalities at node level and at continuum level
- widely distributed approach allows to decentralise the management of the continuum, reduce data transfers, ensure privacy and better exploit computational resources at the Edge without the need for a central point of control.

\+ ICOS Shell, includes the user interfaces and the tools to interact with the ICOS continuum.



ICOS' funding instruments

1st Open Call

Solution Development Projects

€200k / project

5 consortium-type projects

1st support programme

12-months

2nd Open Call

Uptake Projects

€60k / project

15 individual-type projects

2nd support programme

6-months

1st Open Call

Who are we looking for?

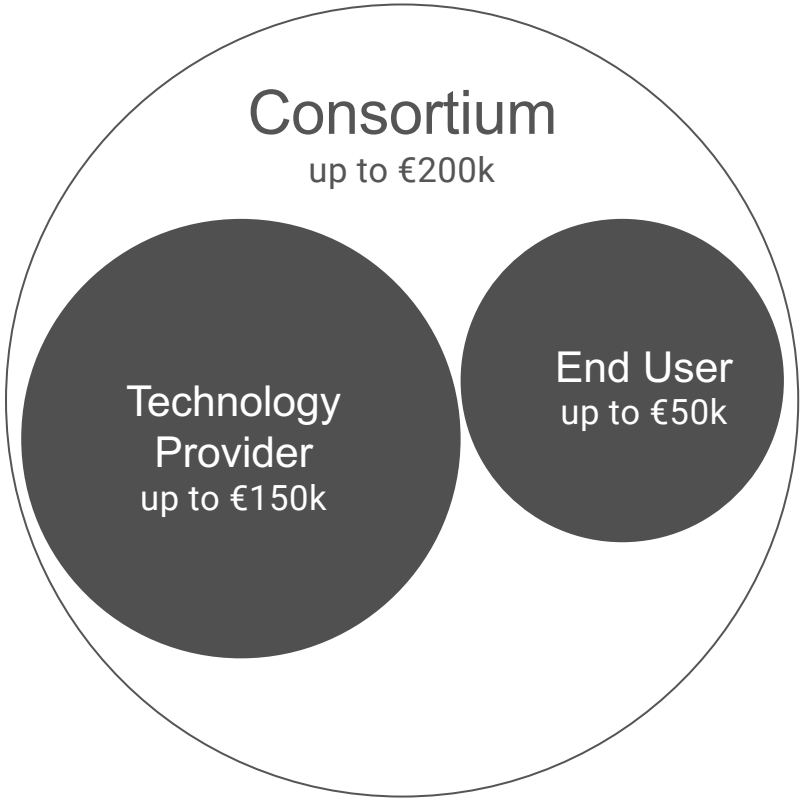
Who are we looking for?

Technology Provider is any entity that is an IoT infrastructure provider, who is providing the infrastructure that will be deployed across the ICOS continuum.

End User is an entity that will be the end user of the deployed application.

What types of activities can be funded?

Developing the **use case service** by integrating it into the ICOS ecosystem and adopting the ICOS architecture/infrastructure



1st Open Call

Ethics assessment(SUITE5)
Formal check (FBA)
SGA signature (FBA)

Open Call end date
17 November

Evaluation of proposals

Eligibility Check (FBA)
Pre-scoring (FBA)
In/Out of Scope (SC, except FBA)
External Evaluation (Independent experts)
Consensus Meeting (SC)

1st Support Programme launch

Thank you for your attention.

More on:

https://www.icos-project.eu/

NebulOuS

A META OPERATING SYSTEM FOR BROKERING HYPER-DISTRIBUTED APPLICATIONS ON CLOUD COMPUTING CONTINUUMS

Main goals of the project

- Develop a Meta OS and a platform that enables transient fog brokerage ecosystems that can seamlessly exploit edge and fog nodes with multi-cloud resources while coping with low-latency applications.
- Manage the CEI continuum layers with a focus on efficiency and decentralised processing, with the development of interoperability capabilities and security guarantees necessary for the ecosystem.
- Use AI to strengthen its brokerage and orchestration processes, delivering a self-healing and self-managing continuum with the flexibility and stability to adapt to virtually any scenario or malfunction.

Main outputs of the project

- NebulOuS Meta-OS platform.
- Semantic models for fog brokerage.
- Multi-Criteria Decision Making (MCDM) based cloud & fog service brokerage.
- Optimised application lifecycle Management.
- Autonomous and secure reconfiguration support.
- Distributed Event Management System (EMS) with automatic anomaly detection.

Use Cases

Agriculture

Precision Agriculture

Supply of Fresh Food to a City

Energy and Utilities

Windmill Maintenance

Environment

Crisis Management

Smart City

Computer Vision for City Maintenance

Funded by the European Union

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NebulOuS

GET INVOLVED!
OPEN CALL OPPORTUNITIES

NebulOuS FSTP action aims to fund 9 projects, up to €150K each and 7 months duration (Total of €1,35M)

2 Open Calls

1ST OPEN CALL

Type of Action: Validation of basic aspects of the platform

An initial list of assets will be available for the launching of the 1st call

Open Date: **Feb 2024**
Close Date: **Mar 2024**

2ND OPEN CALL

Type of Action: Validation of extended aspects of the platform

An updated list of assets will be available for the launching of the 2nd call

Open Date: **Sep 2024**
Close Date: **Oct 2024**

Eligible organisations:

1. Micro, small and medium-sized enterprises working on the IoT, Edge, Cloud or and other related technologies.
2. Research institutions, research infrastructures, non-profit organisations and charitable (scientific) foundations and public research centres, when supporting organisations of category 1 in a collaborative 3rd party project.

Besides the equity-free funding up to €150K, the teams will benefit from:

- Direct support and guidance from a pool of mentors in the field for using and integrating NebulOuS components.
- Access to specialized and qualified resources.
- Designated mentor in implementation stage.

More info

- ✓ Latest updates here https://www.nebulouscloud.eu/open-calls/
- ✓ Open Call Coordinator contact opencall@nebulouscloud.eu
- ✓ Apply via F6S Platform

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NebulOuS

Empower your cloud journey to the edge with NebulOuS: efficient and intelligent fog brokerage for data driven applications

1st Open Call Process

Type of Action: Validation of basic aspects of the platform

4 Projects

- Call open during 2 months from **Feb 2024**
- Applications handled via F6S platform
- **April 2024:** First Admissibility, Eligibility Check/In-Out Scope and External Evaluation/ Consensus meeting
- **May 2024:** Selection and Legal check/ SgA signing
- **June 2024:** Support programme **start**

NebulOuS at a glance

- **NebulOuS** is a **meta Operating System** that can **seamlessly exploit edge, fog and multi-cloud** shared resources while coping **with low-latency applications.**

It consists of:

- **Web GUI** Facilitating

i) devOps to deploy and monitor applications by providing services descriptions and requirements (SLO, security policies, hardware specifications, etc.);

ii) admins to register computing power to be managed by NebulOuS.

- **NebulOuS core:** Optimizing application placement across available resources, monitoring its behaviour, and redeploying as necessary.

- **NebulOuS Agent:** Installed in each computing node, responsible for deploying and monitoring client application components.

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nephele

1st Open Call

Diana Järve
FundingBox

Overview of the project

General info

Topic: HORIZON-CL4-2021-DATA-01-05 - Future European platforms for the Edge: Meta Operating Systems (RIA)

Duration: 36 months, start date 1 Sep 2022

Vision: To enable the efficient, reliable and secure end-to-end orchestration of hyper-distributed applications.

Main goal: Two core innovations:

(1) **an IoT and edge computing software stack** for leveraging virtualization of IoT devices at the edge;

(2) **a synergetic meta-orchestration framework** for managing the coordination between cloud and edge computing orchestration platforms.

1st Open Call
General info

Deadline:
10 Jan 2024

Type of applicants:
Industrial SMEs and Mid-caps

Funding:
Up to €76k per beneficiary

What kind of support will be offered?
Support programme lasting for 6 months, including technical mentoring

Supported activities:
Extension of the Virtual Object Stack and the development of Virtual Objects, composite Virtual Objects and Digital Twins

Apply:
https://nephele-1st-open-call.fundingbox.com/

TARGET-X

Overview of the project

VISION: TARGET-X 's Vision is to strengthen important economic sectors in Europe by integrating 5G and 6G, accelerating the digital transformation.

Accelerating the digital transformation of key verticals

- energy,
- construction,
- automotive, and
- manufacturing

using large-scale trials in multiple testbeds, evaluating 5G/6G technologies such as

- real-time communication,
- localization,
- self-description,
- digital twinning, and
- sensor-network data fusion

methodologically with KPIs and KVIs.

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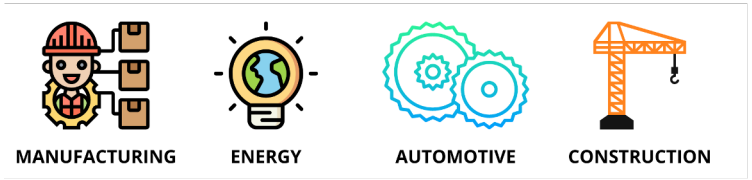
6GSNS

TARGET-X

Funding:
Up to €60k per beneficiary (approximately 64 entities will be funded)

Supported activities:
Testing or implementation of technologies.

Oriented to use cases.



What kind of support will be offered?
Support programme - up to 9 months

Type of applicants (individuals or consortia)

- SMEs
- Universities, Academia, Research Institutions
- Mid and Large Companies

Expected start/end:

6th of December, 2023 - 28th of February, 2024

Information will be available at:
https://target-x-2oc.fundingbox.com/

https://spaces.fundingbox.com/c/iot-edge-community