



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 Overview of Results

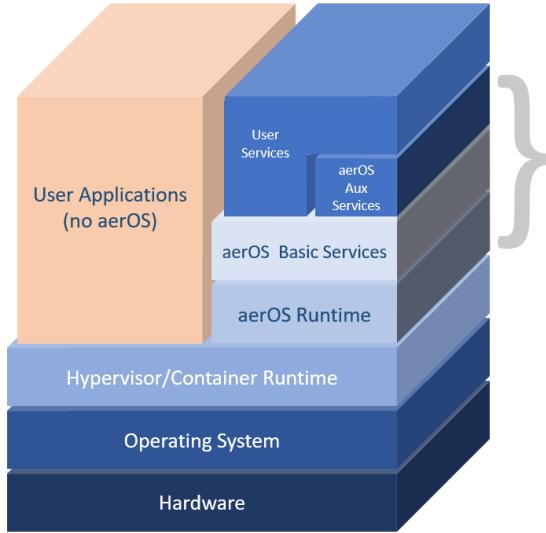
The finalised project

5-December-2025

aerOS Final Review



aerOS departing challenges and scope



- ...using context-awareness to distribute software task (application) execution requests
- ...supporting intelligence as close to the events as possible
- ...supporting execution of services using “abstract resources” (e.g., virtual machines, containers) connected through a smart network infrastructure
- ...allocating and orchestrating abstract resources, responsible for executing service chain(s)
- ...open source as a pillar for innovation

aerOS overarching goal has been to design and build a virtualised, platform-agnostic meta operating system for the IoT edge-cloud continuum. As a solution, to be executed on any Infrastructure Element within the IoT edge-cloud continuum – hence, independent from underlying hardware and operating system(s)

 **Manufacturing:** Data-Driven Cognitive Production Lines (Manufacturing Autonomy Level 4 – MAL4)

 **Renewable energy:** Containerised Edge Computing near Renewable Energy Sources

 **Machinery:** High Performance Computing Platform for Connected and Cooperative Agricultural Mobile Machinery to Enable CO2 Neutral Farming (HPCP-F)

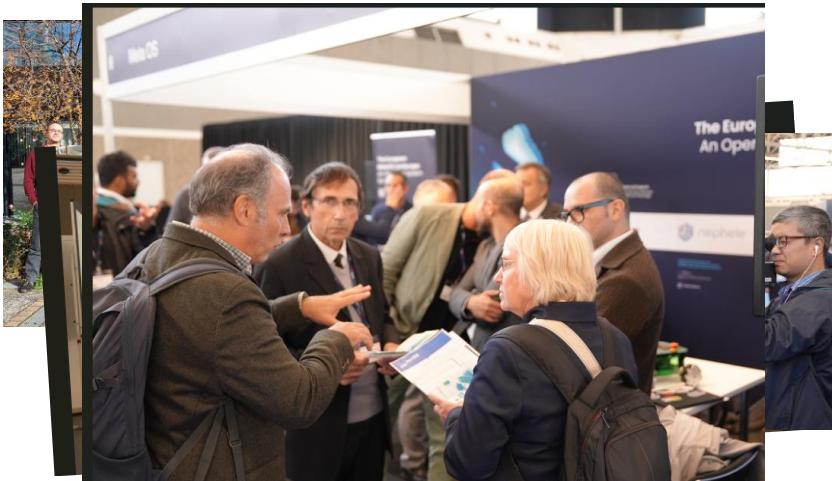
 **Maritime ports:** Smart edge services for the Port Continuum

 **Smart Buildings:** Energy Efficient, Health Safe & Sustainable Smart Buildings



aerOS Results in Numbers

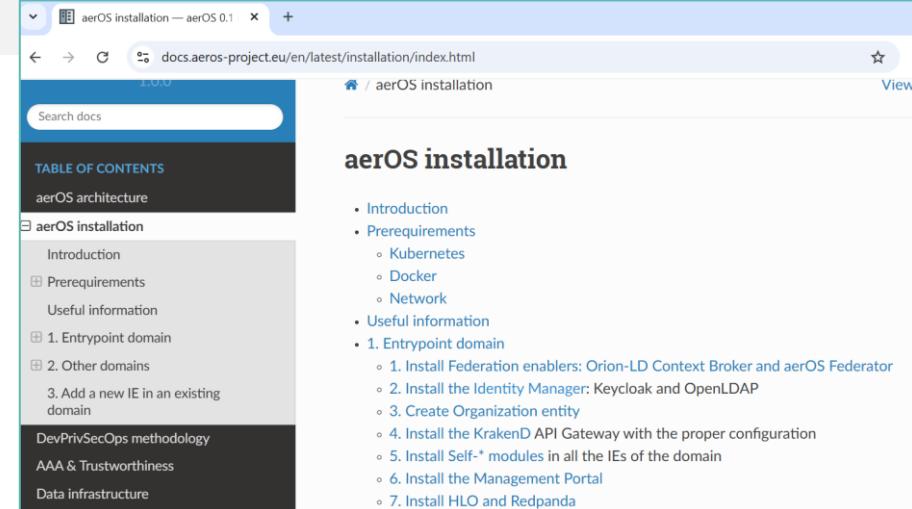
- **23** public deliverables
- **8** milestones accomplished
- **2** project amendments
- **13** Physical Meetings conducted
 - 9 Plenary Meetings
 - 4 code-camps



- **29** Journal Articles Published
- **32** Conference Proceeding Articles published
- **53** presentations at physical or virtual events
- **33** (co-)organized or invited workshops or special sessions
- **8** appearances at Whitepapers
- **2** rounds of Open Calls organized
 - 15 successfully finalized projects (ok 60k€ each)

aerOS Results in Numbers

- **Complete installation and adoption guide**, improved by comments from pilots and Open Call participants.
<https://docs.aeros-project.eu/en/latest/>
- Contribution to Open Source initiatives such as FIWARE Smart Data Models, KubeEdge or IOTA (DLT).
- 4 Key Exploitable Results (and a complete list of Exploitable Assets per pilot)



The screenshot shows a web browser displaying the 'aerOS installation' documentation. The URL is docs.aeros-project.eu/en/latest/installation/index.html. The page has a sidebar with a 'TABLE OF CONTENTS' section containing links to 'aerOS architecture', 'aerOS installation' (which is expanded to show 'Introduction', 'Prerequisites' with sub-links for 'Kubernetes', 'Docker', and 'Network', 'Useful information', '1. Endpoint domain', '2. Other domains', '3. Add a new IE in an existing domain', 'DevPrivSecOps methodology', 'AAA & Trustworthiness', and 'Data infrastructure'), and 'aerOS architecture', 'aerOS installation', 'DevPrivSecOps methodology', 'AAA & Trustworthiness', and 'Data infrastructure'. The main content area is titled 'aerOS installation' and lists a numbered list of steps: 1. Introduction, 2. Prerequisites (with sub-points for Kubernetes, Docker, Network), 3. Useful information, 4. Endpoint domain (with sub-points for 1. Install Federation enablers: Orion-LD Context Broker and aerOS Federator, 2. Install the Identity Manager: Keycloak and OpenLDAP, 3. Create Organization entity, 4. Install the KrakenD API Gateway with the proper configuration, 5. Install Self-* modules in all the IEs of the domain, 6. Install the Management Portal, 7. Install HLO and Redpanda).

	P1 Mfg	P2 RES	P3 Agri	P4 Port	P5 Buildings
KER1 MetaOS	Portable runtime; line ops	Green nodes runtime	Mobile runtime	Multi-tenant port services	Building services runtime
KER2 Orchestration	Policy-based placement; OE ↑	Energy-aware placement	Mobility-aware placement	Low-latency ETA/ops	Demand response & comfort
KER3 Data Fabric	Traceability/DPP	Cross-site federation	Farm–OEM data loops	Port community sharing	Asset & energy/occupancy data interoperability
KER4 DevPrivSec	Compliant analytics	Privacy by design	On-device privacy	Secure multi-tenant flows	Tenant privacy & safety



On-going impact generation!

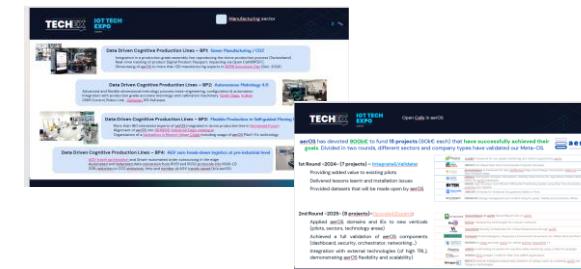


- aerOS finalised 31-October-2025.
- Several research projects have **already adopted the Meta OS**
 - SAFE-6G, 6G-BRICKS, O-CEI..
- Companies have **already inserted** (all or part of) aerOS in their operations
 - Internal – aerOS partners (SME, research...): CloudFerro, Prodevelop, IQB, TID, SIEMENS
 - External – Open Call winners – SMEs and Universities
- 8 Pilots have **successfully integrated** orchestration, network management, AI procedures, data Exchange, IoT deployment, trust via DLT, security, function-as-a-service, self-capabilities, among others...



ECLIPSE **Open Source product** is created emanating from aerOS technology

- Standard ISO/IEC SC41/JTC1 IoT – DT **orchestration track is championed by aerOS**



Please, attend topic#6 presentations about **pilots** and **Open Calls**



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

FOLLOW US!



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



EUROPEAN IOT-EDGE-CLOUD

THANK YOU!

Prof. Carlos E. Palau ✉ +34 96 387 73 01

✉ cpalau@dcom.upv.es

🌐 www.satrd.es



<https://aeros-project.eu>



[@AerosProject](https://twitter.com/AerosProject)



[aerOS Project](https://www.youtube.com/aerOSProject)



[/aeros-project](https://www.linkedin.com/company/aeros-project/)



[/aerosproject](https://www.facebook.com/aerosproject)



[/aerosproject](https://www.instagram.com/aerosproject/)

