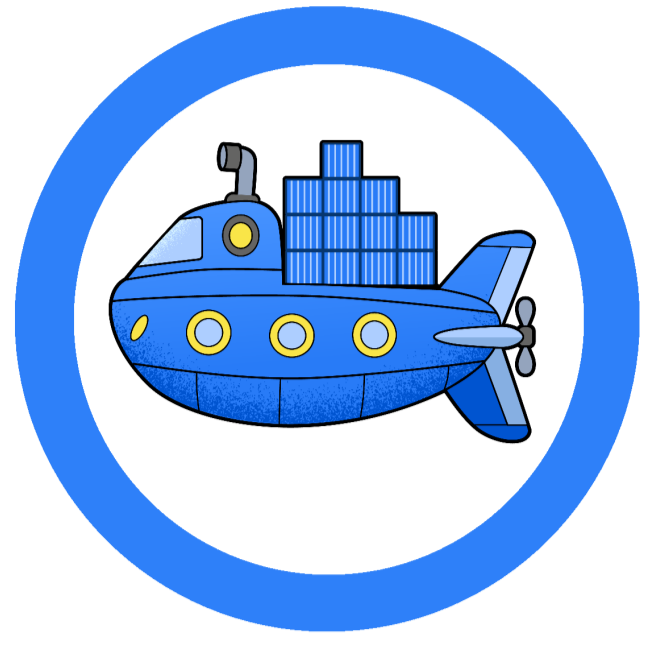# NEMO

NEXT-GENERATION
META-OPERATING SYSTEM

TECHNOLOGICAL INNOVATIONS

MetaOS Meta-Architecture framework

integrating IoT, edge and cloud ecosystems

Cognitive intelligence closer to data

Federated MLOps
Federated Reinforcement Learning
Cybersecure AI: self-aware, self-audited, self-healing

Network orchestration & virtualization

intent-based networking
multipath routing, network slicing, TSN

Multi-cluster workload orchestration

addressing cloud- and edge-native apps
clusters' onboarding & provisioning
federating clusters across domains

Cybersecurity

ZeroTrust: privileged access control, securing ingress/egress traffic, inter-process secure communication
Secure workload execution
Observability & auditing

Privacy & Policy compliance

User-centred policy enforcement
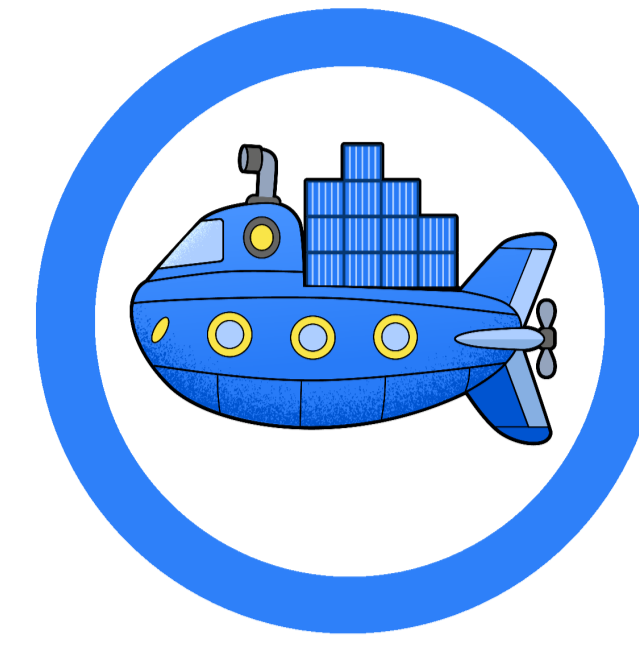GDPR compliance

Automation

ZeroTrust: privileged access control, securing ingress/egress traffic, inter-process secure communication
Secure workload execution
Observability & auditing

LIVING LAB VALIDATION

#1 NEMO Integration Infrastructure Technology Lab

validation of NEMO network elements towards IoT/ 5G meta-network cluster controller resource self-awareness and CF-DRL in IoT constrained devices

#2 Smart Farming

Increased energy efficiency & reduced CO2 through flexible deployment of services IoT-edge-cloud continuum
Enhanced precision bio-spraying with advanced multimodal ML models

#3 Smart Energy & Smart Mobility

increased grid resilience
a sustainable and eco-friendly infrastructure for smart city mobility by integrating 5G, TSN, and Green Data Centers

#4 Smart Manufacturing & Industry 4.0

improved mass production and safety in factories with high levels of automation, enabling Cobots, AGVs and humans co-work
High speed heterogeneous connectivity using 5G NR, TSN and WiFi

#5 Smart Media, Smart City & XR

Time sensitive services migration and extreme large media of thousands of users
Media processing, AI operations at the continuum, support multiple users using their mobile phones.
Advanced FML analytics

Consortium Partners

Atos · SYNELIXIS · THALES · SPACE · netcompany intrasoft · ENTERSOFT · Maggioli · Continental · SIMAVI

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https://meta-os.eu/ | info@meta-os.eu

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Coordinator

Dr. Enric Pages Montanera
(Atos Research & Innovation)

Find us on social media

@HE_NEMO_Project
/HE-NEMO
@henemoproject

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