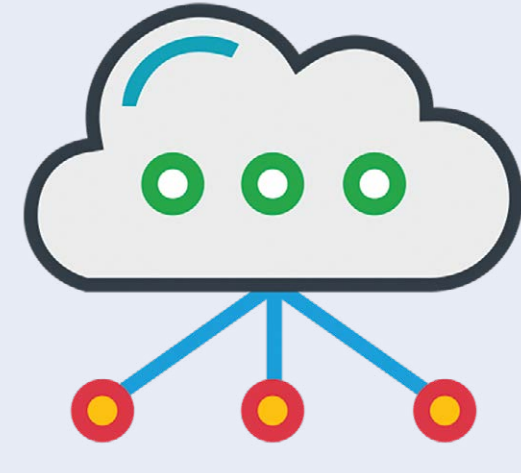


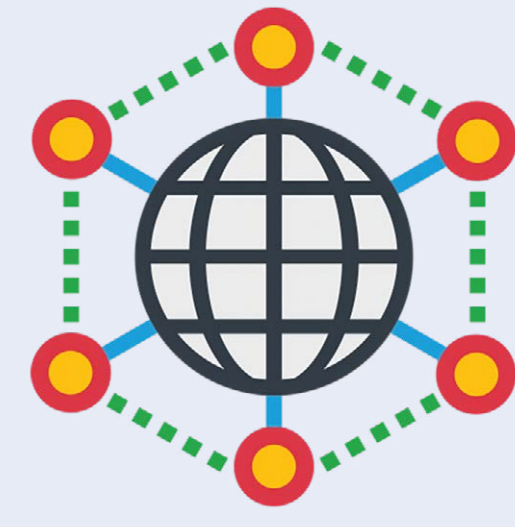
## KEY CONCEPTS

### aerOS description

aerOS overarching goal is to design and build a virtualised, platform-agnostic meta operating system for the IoT edge-cloud continuum.



**EDGE Cloud**  
Design, implementation and validation for optimal orchestration



**Internet of Things**  
Foundation for IoT-cloud continuum



**Artificial Intelligence**  
Design, implementation and validation for optimal orchestration



**Security, Privacy, Trust**  
Holistic cross-layer solution for cybersecurity, with federated & distributed data governance

### Particularly, aerOS:

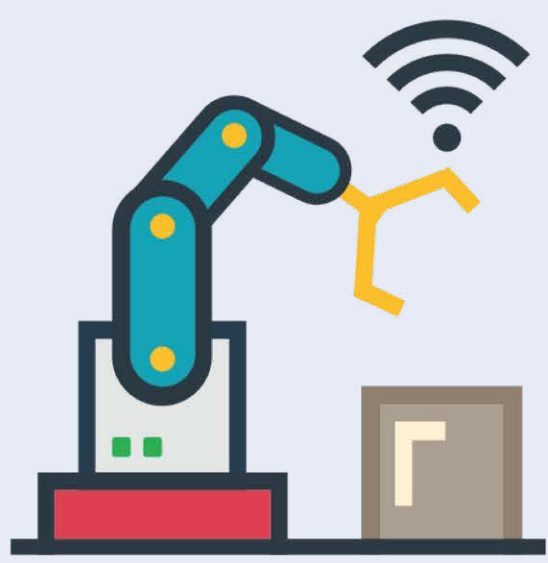
- ▶ Delivers common virtualised services to enable orchestration, virtual communication, and efficient support for frugal, explainable AI and creation of distributed data-driven applications;
- ▶ Exposes an API to be available anywhere and anytime, flexible, resilient and platform agnostic;
- ▶ Includes a set of infrastructural services and features addressing cybersecurity, trustworthiness and manageability.

aerOS will be implemented as virtualised modules, executed on top of any operating system (e.g., Linux-based, Android, ROS, etc.) of an Infrastructure Element (IE) of the IoT edge-cloud continuum, e.g., a smart device, IoT gateway, edge node or network component.

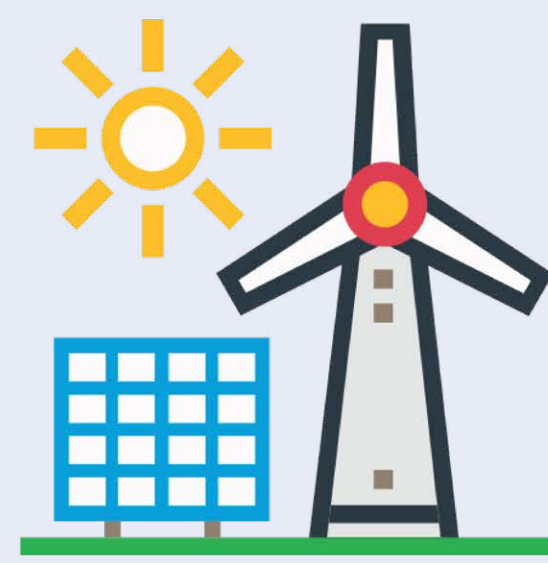
Each aerOS IE deployment will consist of the following key modules: (i) services and API; (ii) virtualisation, abstraction and container runtime; (iii) core aerOS modules; (iv) supporting aerOS features; (v) orchestration; (vi) security, privacy and trust; and (vii) management framework.

**Five industry-driven heterogeneous use cases will demonstrate the value of aerOS**

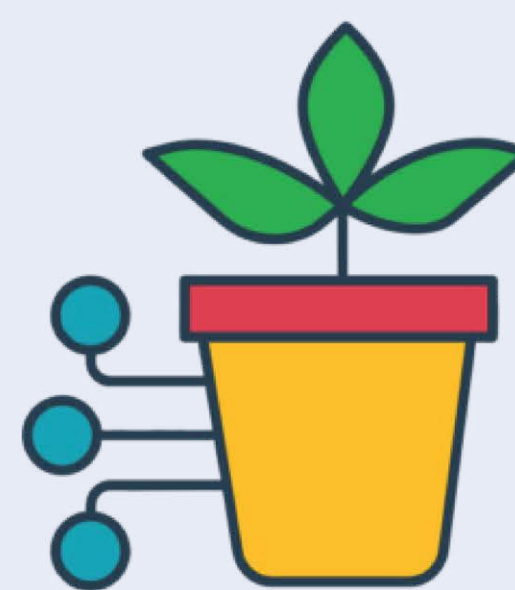
## USE CASES



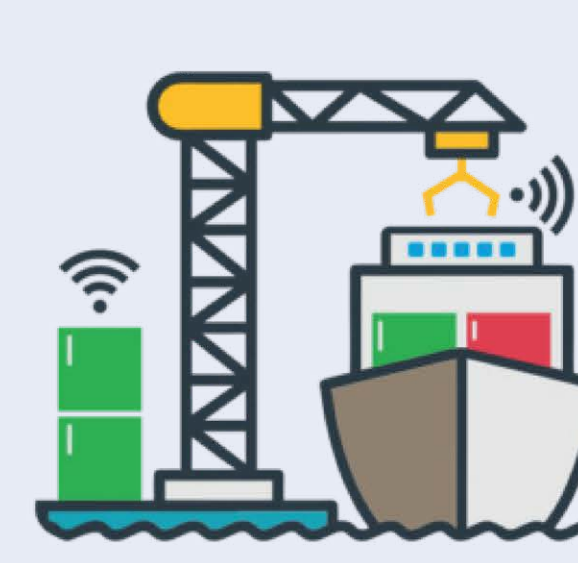
**Data-Driven Cognitive Production Lines**  
Manufacturing Autonomy Level 4 (MAL4) in 4 public-private Pilot Lines



**Edge Computing near Renewable Energy Sources**  
EDGE Data Centers connected to smart infrastructure providing Cloud continuity



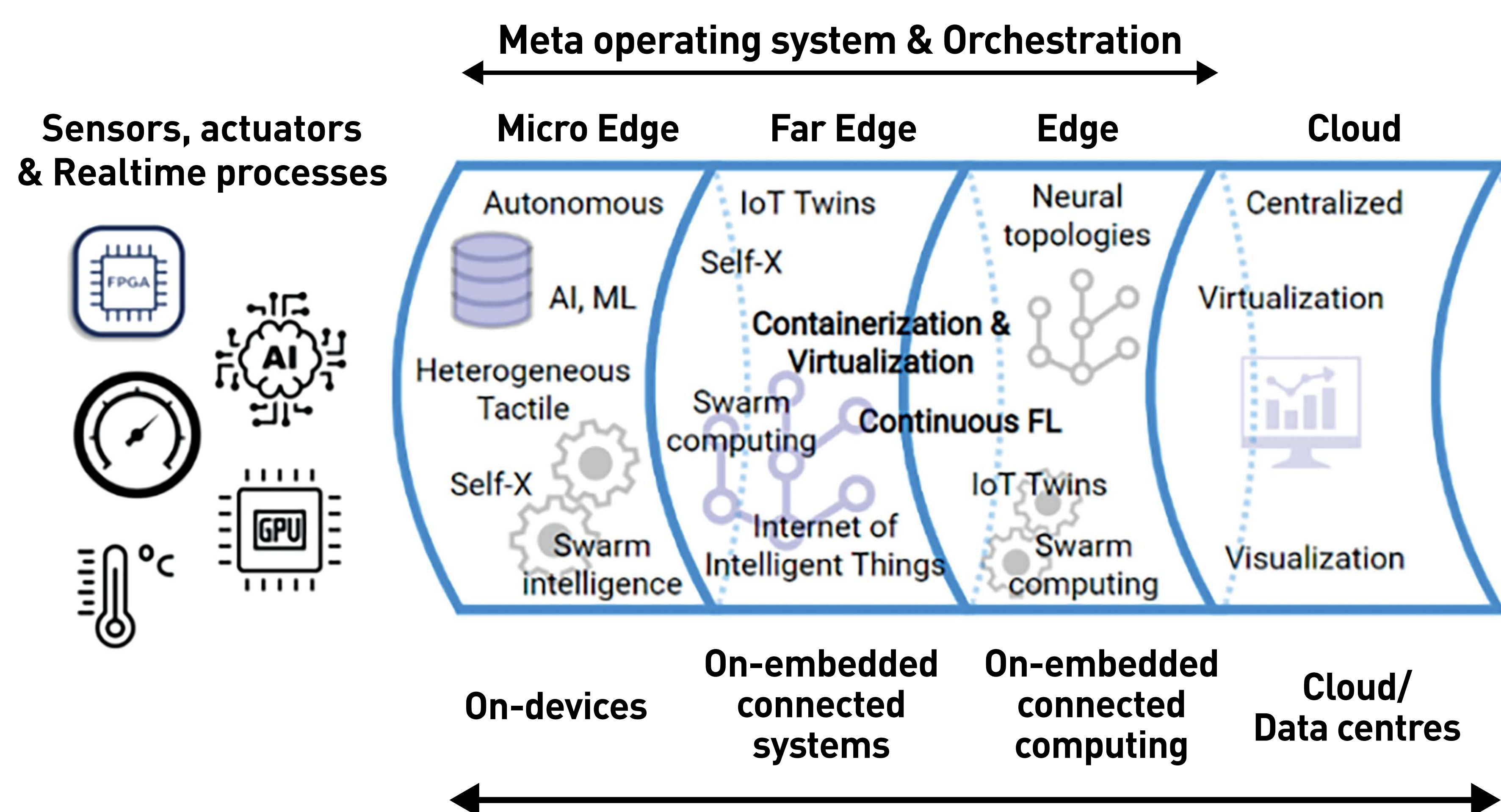
**CO<sub>2</sub> Intelligent Neutral Farming**  
Smart agriculture, Precision Farming, maximising yields and quality of goods



**Smart EDGE services for the Port Continuum**  
Predictive maintenance of Container Handling Equipment & Risk prevention via computer vision



**Energy Efficient, Health Safe & Sustainable Smart Buildings**  
Occupational safety & health, Cybersecurity and data privacy in building automation



**Project's site:**  
<https://aeros-project.eu/>

**Consortium:**  
<https://aeros-project.eu/consortium/>

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aerOS project has received funding from Horizon Europe, the EU's key funding programme for research and innovation, under grant agreement No 101069732



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### Academic & SME & Industrial Partners

