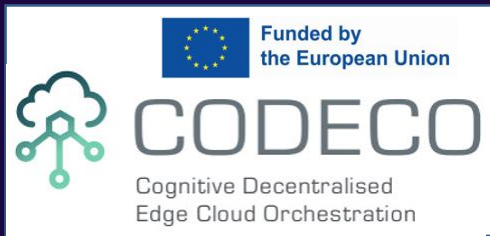




Alliance for IoT  
and Edge Computing  
Innovation



24-25 Sep  
BRUSSELS

AIOTI  
DAYS 2024

## The CODECO OSS Toolkit Integration aspects

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# THE CODECO TOOLKIT

- Decentralization

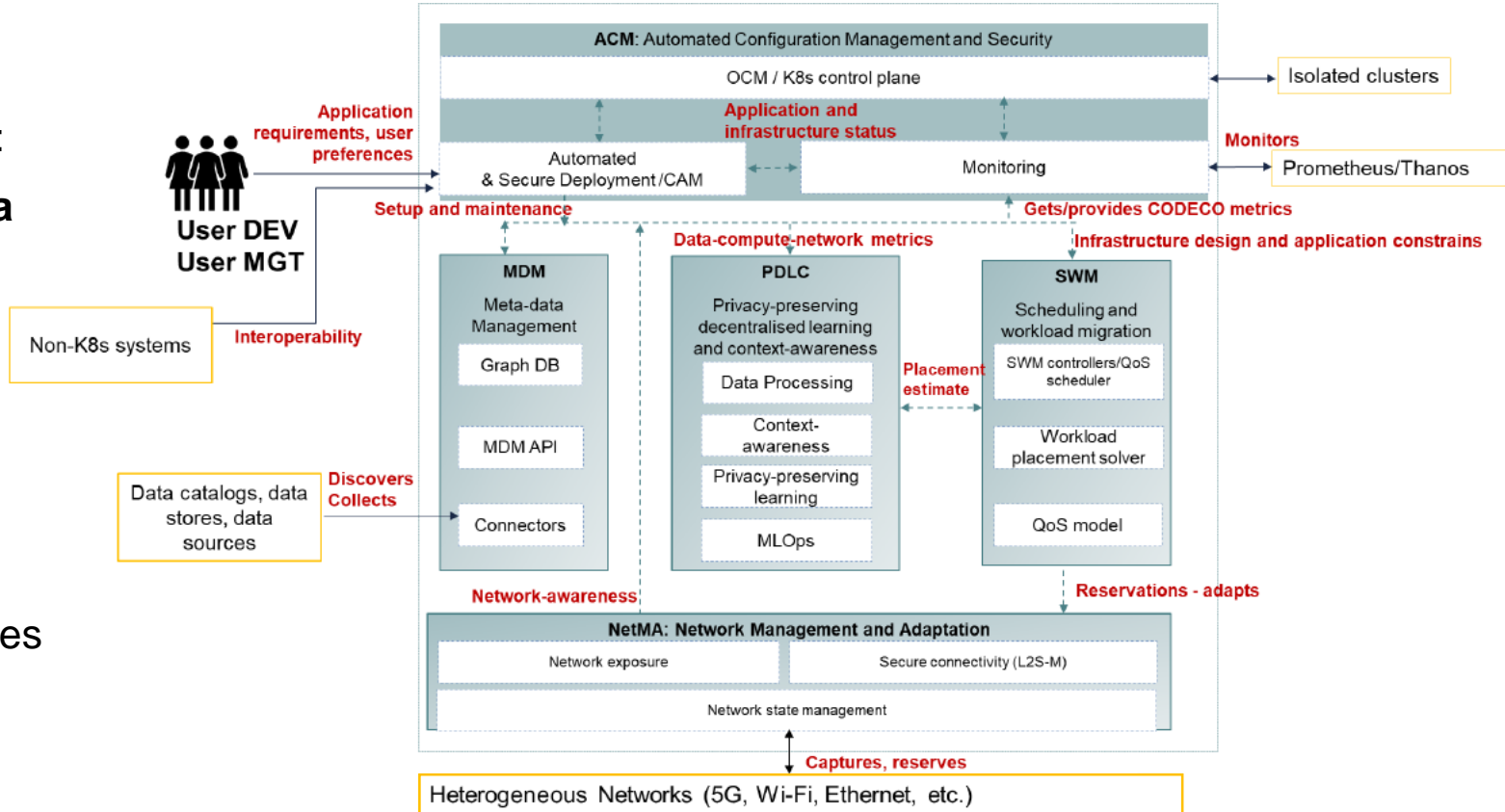
- **Micro-services** architecture with advanced features:



- **Versatile data**
- **Cloud-native deployment**

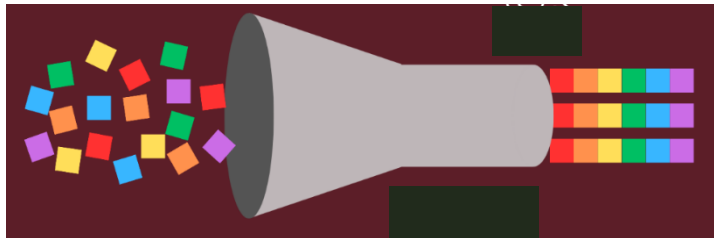
- **2 levels of functional integrity:**

- **Control plane** components
- **Application services**

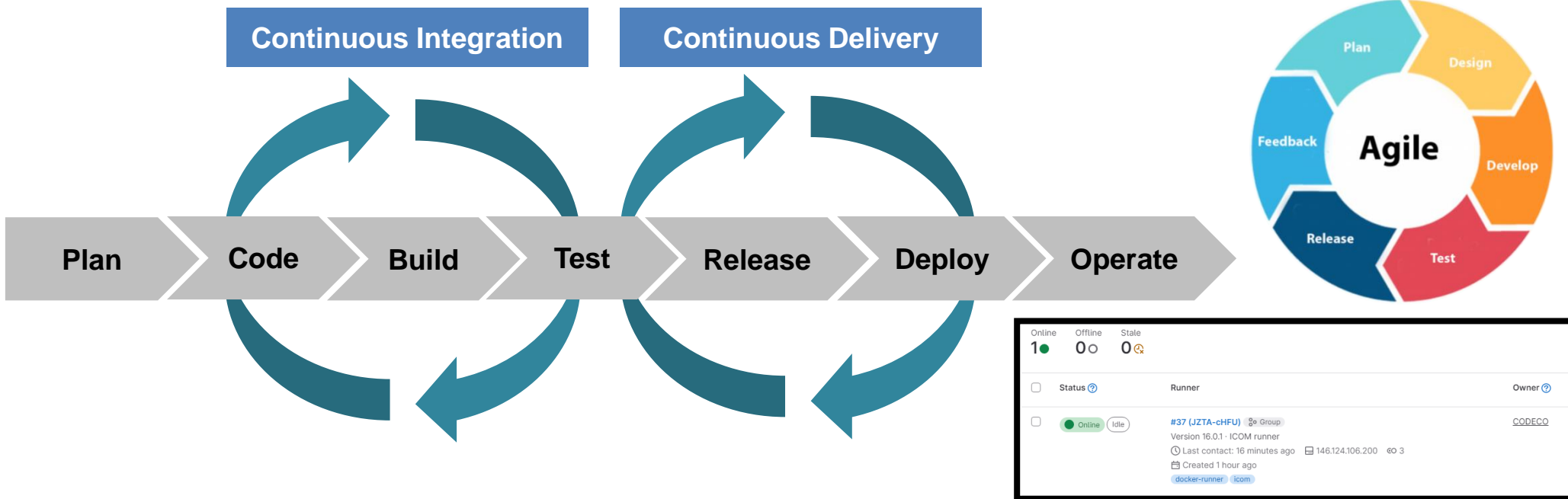


# IMPLEMENTATION CHALLENGES

- **Multidisciplinary** team
  - Collaboration between partners **across** different **countries**
  - Experts from many **different domains** (K8s, AI/ML, Cloud/Edge Computing, Telecom, Data Modeling, ...)
- Components **starting points**
  - Components to be implemented **from scratch** VS **mature** services (starting as **private** assets!)
- Ambition: **Embrace OS from the beginning** of the journey
  - **Streamline** development & testing into **simple processes** to be picked by **OS community**



# AGILE DEV & CI/CD PIPELINES



- **Kubernetes cluster fully integrated with GitLab provided as Testbed environment**

- Gitlab Runners for executing relative CI/CD jobs

- Publish subcomponents images to container registries

- Deployment and testing of components, subcomponents and services

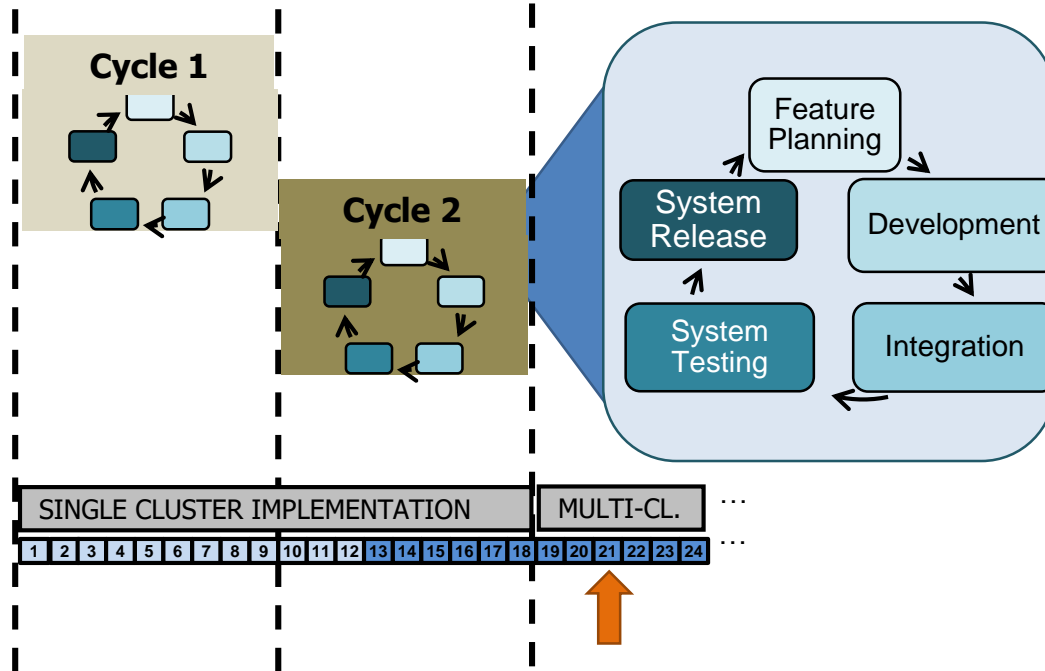


GitLab



# CONTINUOUS INTEGRATION

## Continuous Integration with incremental implementation cycles



- GitLab (*ECLIPSE* → open source repo): [public repo](#) → Open Source Software (OSS)

Eclipse Research Labs / CODECO Project

### CODECO Project

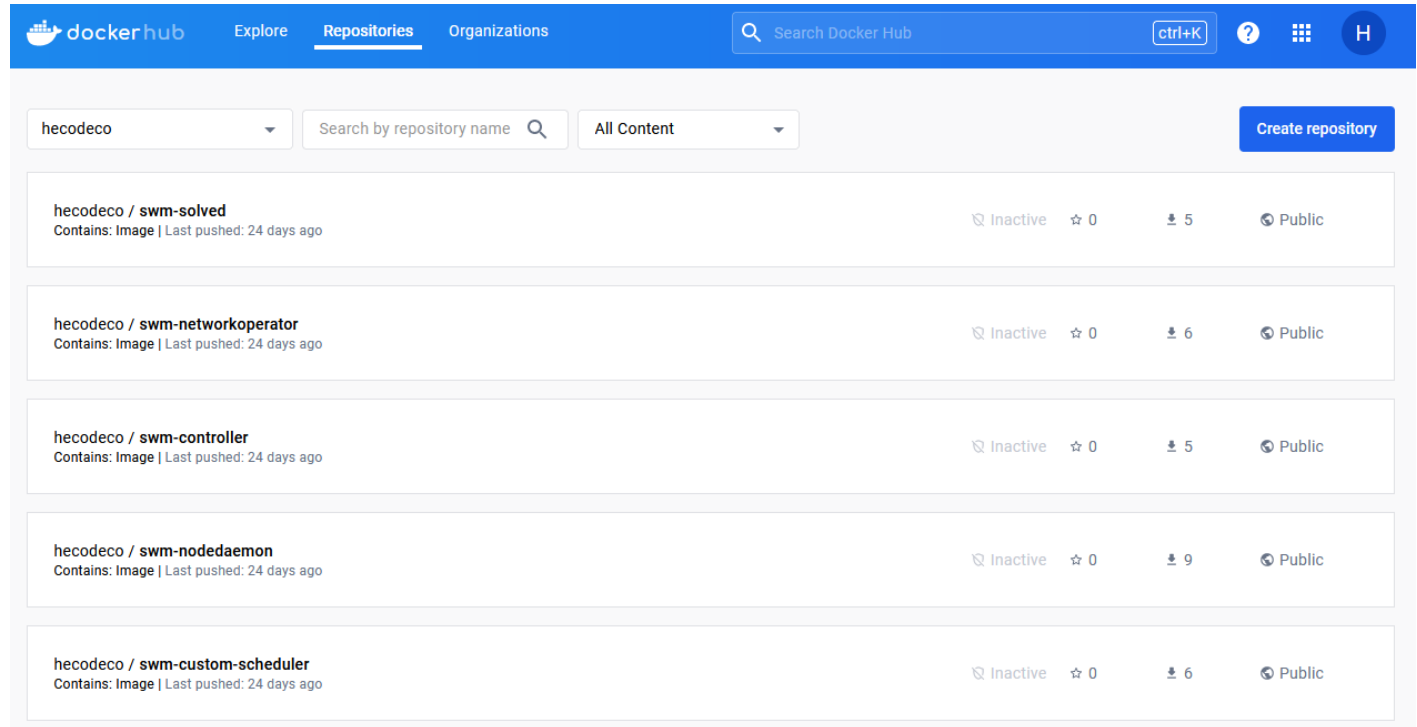
Cognitive, cross-layer and highly adaptive Edge-Cloud management framework

Subgroups and projects Shared projects Archived projects

- > E Experimentation Framework and Demonstrations
- > M Metadata Manager - MDM
- > N Network Management and Adaptation - NetMA
- > P Privacy-preserving Decentralised Learning and Context-awareness - PDLC
- > S Scheduling and Workload Migration - SWM
- > U Use-Cases
- A Automated Configuration Management - ACM

# CONTAINER AND PACKAGE REGISTRY

- [Public container](#) registry
  - Easy installation of released versions
  - Catalyze development efforts across teams
  - Packaging automation within CI/CD pipelines



The screenshot shows the Docker Hub interface for the 'hecodeco' organization. The page is titled 'Repos' and lists five repositories, all of which are 'Inactive'. Each repository entry includes the repository name, a description, the last push time, and statistics for stars, downloads, and public status.

Repository Name	Description	Last Pushed	Inactive	Stars	Downloads	Public
hecodeco / swm-solved	Contains: Image	24 days ago	Yes	0	5	Yes
hecodeco / swm-networkoperator	Contains: Image	24 days ago	Yes	0	6	Yes
hecodeco / swm-controller	Contains: Image	24 days ago	Yes	0	5	Yes
hecodeco / swm-nodedaemon	Contains: Image	24 days ago	Yes	0	9	Yes
hecodeco / swm-custom-scheduler	Contains: Image	24 days ago	Yes	0	6	Yes

# THANK YOU!

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Affiliated Entities

