



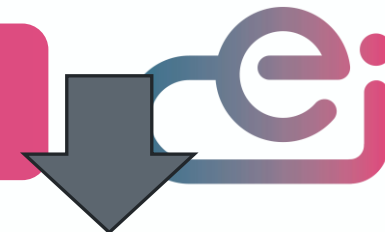
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COGNITIVE CLOUD CLUSTER

GOLBOO POURABDOLLAHIAN (IDC), UNLOCK-CEI COORDINATOR

5 September 2024

EU-CEI COMMUNITY



Cloud Computing

Next Generation IoT

META-Operating Systems

Cognitive Cloud

Swarm Intelligence

Open Source for Cloud Services

Software Technologies

& More

Initiatives



AI-enabled computing continuum from Cloud to Edge

- Highly innovation cloud management layer making the **best application of artificial intelligence** with **automatic adaptation to the computing resources** (i.e. connectivity, computing & storage)
- **Seamless, transparent and trustworthy integration of diverse computing and data** environments spanning from core cloud to edge, in an AI-enabled computing continuum.
- Automatic adaptation to the growing complexity of requirements while **achieving optimal use of resources, holistic security and data privacy and credibility**
- **Addressing Interoperability challenges** among computing and data platform providers

RIAs OVERVIEW



9

Research & Innovation Actions

Initiatives



108

Participants

36

Months

Sectors targeted by RIAs



31

Use-cases

COGNITIVE CLOUD CLUSTER USE-CASES



Agriculture



ML SysOps



Smart City



CODECO



COGNIFOLOG



CloudSkin



ML SysOps



Manufacturing



CODECO



Healthcare



COGNIFOLOG



ML SysOps



Energy and Utilities



ACES

Autopoietic
Cognitive
Edge-cloud
Services



AC³
AI, ML AND COGNITIVE CLOUD EDGE CONTINUUM MANAGEMENT



CODECO



**Transportation
and Logistics**



CODECO



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COGNITIVE CLOUD USE CASE OVERVIEW

EUCloudEdgeIoT- Task Force 5
May 2024

Check Cognitive Cloud use-case
Catalogue

<https://zenodo.org/records/11501546>

SYNERGIES WITH SWARM CLUSTER



- **Distributed Intelligence and Collective Learning:** providing sophisticated **learning algorithms** that allow swarm agents to **improve their behavior** based on global data insights.
- **Decision-Making in Decentralized Systems:** **aggregate data from various swarm agents**, analyze it in real-time, and feed back insights or new strategies to the swarm.
- **Resource optimization:** optimize resource allocation within a swarm by **analyzing usage patterns, predicting future needs**, and dynamically adjusting resource distribution across the swarm.
- **Real-Time Adaptation :** Swarm agents can quickly adapt to local conditions, while the cognitive cloud processes global data to update strategies and decision-making rules, **enabling the swarm to respond more effectively** to dynamic environments.



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 **Inside**
Industry Association


MARTEL
innovate

Trialog 

 **Trust-IT Services**
communicating to markets

VDI|VDE|IT



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THANK YOU!

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