HYPER-AI

Cognitive Computing Continuum Cluster

Slide title here

Hyper-Distributed Artificial Intelligence Platform for Network Resources Automation and Management Towards More Efficient Data Processing Applications

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Get to know the research initiatives about Cognitive Computing Continuum

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Project introduction

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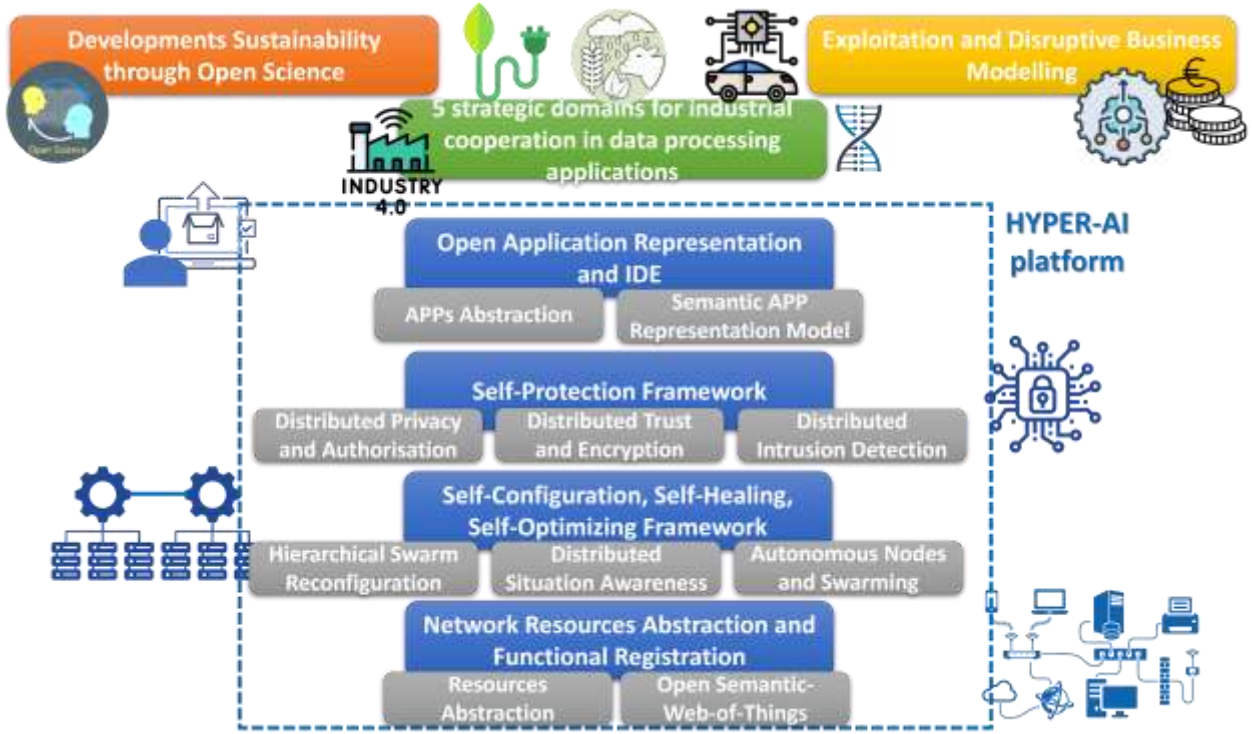
- Enabling seamless, intelligent, and **hyper-distributed management (optimizing energy, time and resources overall footprint) of computing-continuum resources for data-intensive applications**
- Facilitating **autonomous orchestration at different levels (central, cluster, pod)** between cloud, edge, and IoT infrastructures (computing continuum)
- Supporting **advanced DLT security across the continuum** to support hyper-distributed data processing
- Enhancing operational **interoperability** through vendor-agnostic connectors and standards-based semantic representations
- Empowering **5 use case applications** in disruptive industrial sectors through advanced AI and data-driven insights
- Driving innovation through **open-science measures**



Project use cases

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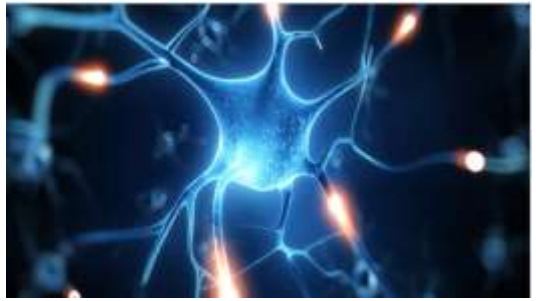
Industry 4.0 (Manufacturing): Remote AR-based production line assembly

Green Energy: Emergency Management in Nuclear Reactor

Mobility and Automotive: Synergetic City Mapping and Awareness leveraging idling EVs

Farming and Agriculture: Edge Orchestration for Nutrition and Irrigation management



Healthcare: Prediction of emergency fauna and flora originating pandemics

Project Impact

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- Improved European leadership in the global data economy:
  by improving IoT, edge, and cloud penetration through a strong consortium of stakeholders from multiple industries.

- Maximized social and economic benefits from wider and more effective use of data:
  The rise of cyber-physical systems, IoT, and AI has significantly intensified data collection, impacting various sectors like healthcare, smart communities, industry, and more, all seeking to efficiently benefit from this data.

- Reinforced Europe's ability to address urgent societal challenges like crisis management and clean energy:
  The European Commission emphasizes the need for significant investment in data technologies to support EU-wide common data spaces, and HYPER-AI's decentralized approach aligns perfectly with these societal challenges, as demonstrated by the COVID-19 crisis.

Project goals for the next semester

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- Define the overall **architecture** blueprint
- **Study the identified end-user and business requirements** and build on top of them
- **Study community-driven relevant solutions (e.g., K8s)** and build on top of them
- Start converging the developments **towards seamless prototyping and integration**
- **Build mutual synergies** (technical and/or communication) with sister (cluster) projects

HYPER-AI

Revolutionising the Cognitive Computing Continuum with AI and Automation

Thank you