

NEXUS FORUM 2025

INTELLIGENT ORCHESTRATION FOR MULTI-ROBOT FLEET

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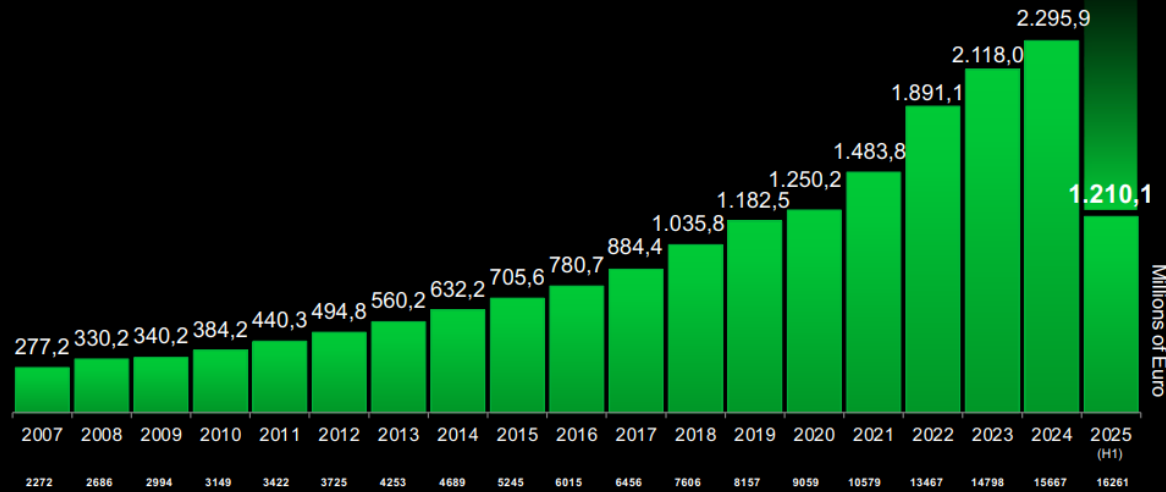
AGENDA

1. Reply at a Glance
2. Reply Corporate: our services
3. Reply PCEI-CIS Use Cases
4. Hyperconvergent Multi-domain orchestrator
5. Multi Robot Fleet Solution:
 - a) Workflow Overview
 - b) Autonomous Collaboration
 - c) Take Away
6. Contacts



REPLY AT A GLANCE

REVENUE & PEOPLE



WHERE WE ARE



REPLY SERVICES

PEOPLE

DIGITAL HUMANS

COPILOTS

WORKPLACES

MACHINES

ROBOTICS

AUTONOMOUS
THINGS

IOT & CONNECTED
PRODUCTS

DIGITAL EXPERIENCE

PRODUCT DESIGN
BRAND EXPERIENCE

DIGITAL MARKETING

IMMERSIVE
EXPERIENCES

ENTERPRISE PLATFORMS

ADVANCED
ANALYTICS

INDUSTRY SPECIFIC
PLATFORMS

APPLICATION SUITES
& CX PLATFORMS

ARTIFICIAL INTELLIGENCE

TECHNOLOGY FOUNDATIONS

COMPUTING

DATA

CYBERSECURITY

NETWORK

BUSINESS FOUNDATIONS

BUSINESS
ENGINEERING

OPERATIONAL
EXCELLENCE

RESILIENCE
AND RISK



REPLY IPCEI-CIS USE CASES

Our multi-domain orchestrator is a native Agentic AI platform which enables multiple innovative uses cases cross several markets. Here below we list just 3 macro-use cases.

INTELLIGENT USER INTERACTION AND COMMUNICATION

A greater number of connected devices (and therefore types) means both greater penetration into the customer base, high-quality content and data and higher likelihood of saving lives.

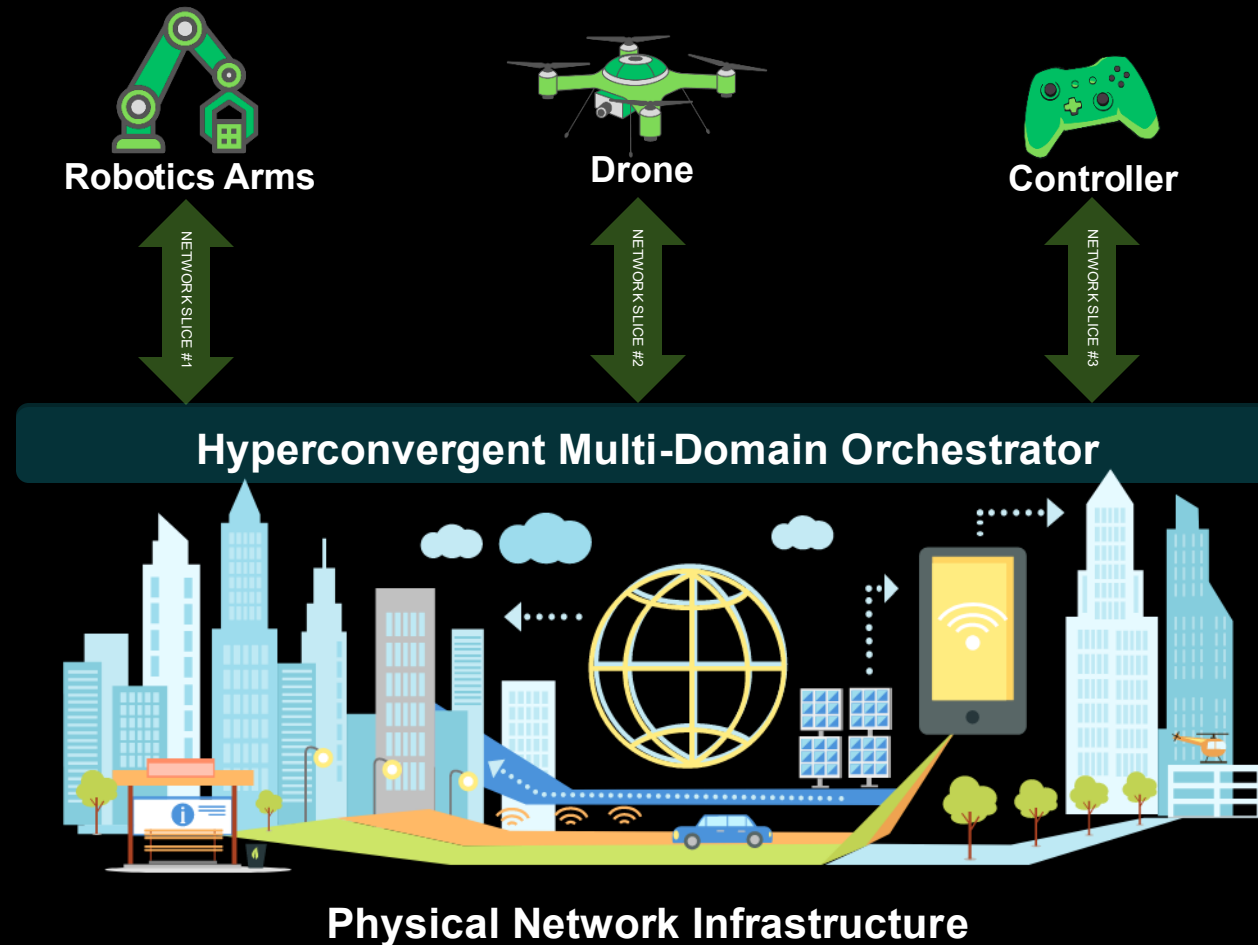
DYNAMIC AUTONOMOUS TASK ALLOCATION STRATEGIES FOR MULTIPLE-ROBOT SYSTEMS IN EDGE CLOUD

Validation of real-time adaptation of autonomous software – via AI Agents - executed on the vehicles and robots' edges against dynamic conditions.

SIMULATION AND TRAINING OF AUTONOMOUS VEHICLES IN EDGE CLOUD

Validate the ability to simulate and train AI-based autonomous models executed both in real vehicle's edge computing and in the virtual cloud-based modelling environment.

HYPERCONVERGENT MULTI-DOMAIN ORCHESTRATOR



MULTI ROBOTS FLEET



WORKFLOW HIGH LEVEL VIEW

USER

ONE INPUT IN NATURAL LANGUAGE



Once a new request is raised, **multiple components and layers are involved** in the deployment and execution of the required applications.

MULTI-DOMAIN ORCHESTRATOR

NETWORK ORCHESTRATION & APPLICATION DEPLOYMENT



The Orchestration Layer allows the deployment of applications on the most suitable edge site.

AI Agents take cover specific tasks such as translation into intents and Edge Site selection

COLLABORATION PLATFORM

MULTIPLE-ROBOT COLLABORATION TASK COORDINATION



Autonomous Core Layer allows the deployment of IoT application

Autonomous Vehicle Collaboration Layer manages robot actions and the collaboration within different robot fleets

AUTONOMOUS VEHICLE COLLABORATION

LAYER OVERVIEW AND BENEFITS

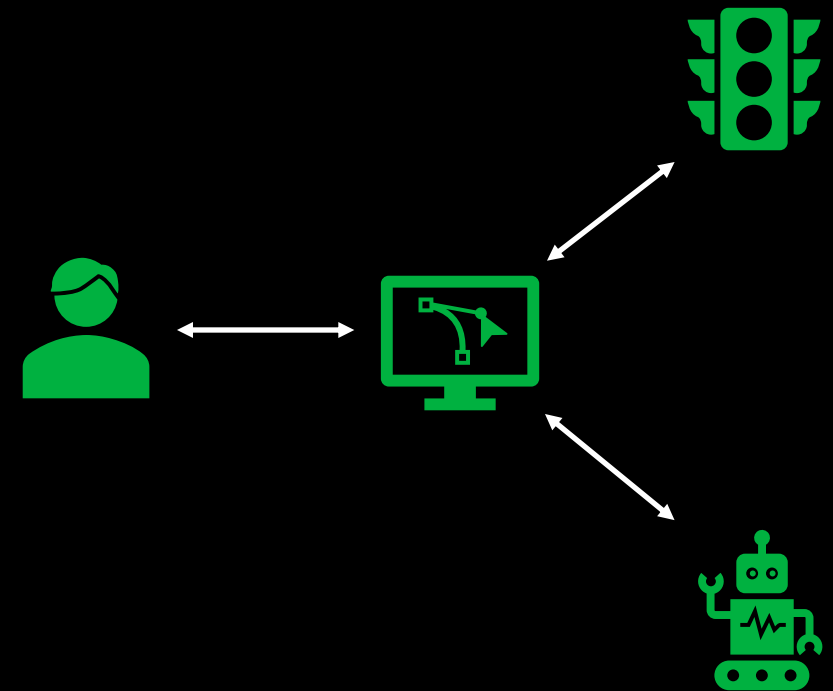
The Autonomous Vehicle Collaboration enables the management of multiple devices and fleets of robots.

A specific and innovative Dashboard allows to manage the system:

- **Human user** checks the system status and can plan tasks
- **Robotic AI agent** (integrated in the Dashboard) simplify the task planning. Using natural language it is sufficient to specify *what* needs to be done and *when*, and the platform will autonomously handle all the necessary coordination and execution steps.

This layer enables seamless integration of robots from any manufacturer through a dedicated adapter. This approach is very beneficial as it:

- eliminates vendor lock-in
- enhances flexibility in deployment
- allows organizations to leverage existing robotic assets



AUTONOMOUS VEHICLE COLLABORATION

MULTI ROBOT INTERACTION

When a task requires **coordination between two or more robots**, they do not communicate directly with each other. Interaction is managed centrally to make the collaboration smooth and handle any error scenarios.

Centralized management and monitoring of the robots' fleet represents an architecture that:

- simplifies integration
- reduces system complexity
- ensures consistent behavior across heterogeneous fleets
- enhances reliability and dynamic adjustment in real time.



TAKE AWAY

- **Scalability**
Easily adapts to different operational scales, from small deployments to large, complex environments.
- **Portability**
Applications and orchestration logic can be deployed across various hardware and software platforms.
- **Flexible Deployment Options**
Applications can be deployed either locally (on-premises) or remotely (cloud/edge), depending on the scenario.
- **Vendor-Agnostic Integration**
Seamless interoperability with robots and devices from any manufacturer, ensuring flexibility and future-proofing solution.
- **Real-Time Information Exchange**
The platform manages data flow and communication between devices in real time, enabling fast and coordinated responses.
- **Centralized but still Customizable Error Handling**
In case of faults or unexpected conditions those can be tailored based on a predefined set of actions, customized at central level from the user

OUR CONTACTS



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THANK YOU

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