

# 6G Architecture – Overview\*

## Hexa-X

João Rodrigues (Nokia)

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\* Please expect changes



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## Agenda

- What is Hexa-X
- Hexa-X Consortium
- 5G vs 6G
- Alignment with Standards
- Ecosystem Architecture Overview
- Extreme-Edge Integration

# What is Hexa-X



**will lay the foundation for  
the network of 2030 and develop  
long-term strategical roadmaps  
based on research outputs obtained  
within Hexa-X project as well as from  
other 6G projects**

- **Connecting the worlds**

- Physical
- Digital
- Biological

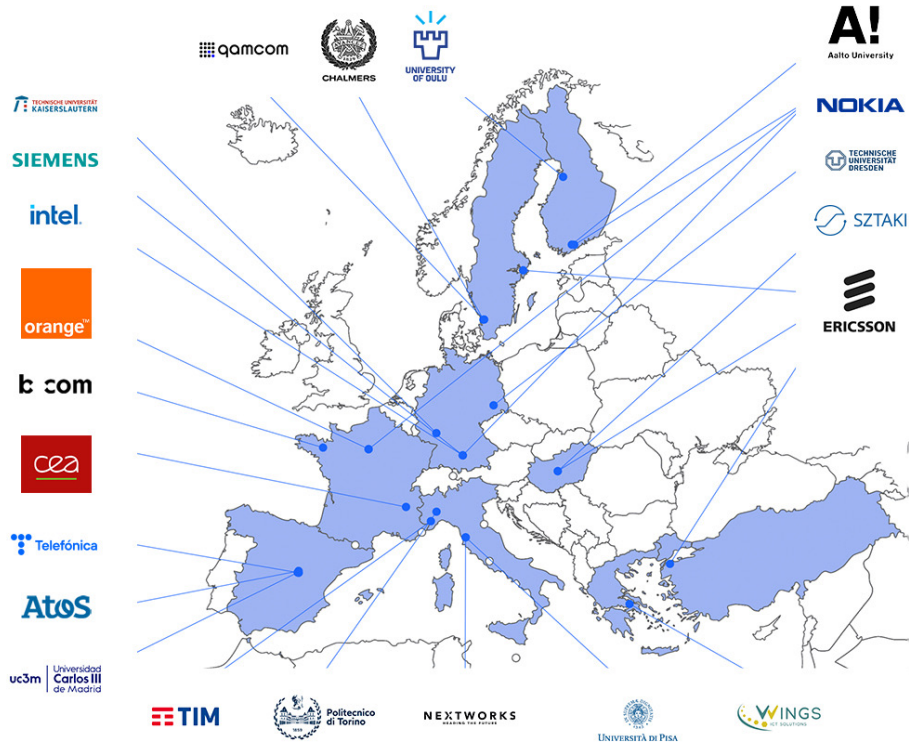
- **Management abstractions**

- Intent-based management
- MLOps – adaptation to varying circumstances
- Automatic composition of service instances

- **Multiple platforms**

- Support a variety of value networks
- Platform agnostic service delivery

# Hexa-X Consortium



# 5G vs 6G

Affordable

Deterministic

Programmable

Connected  
Intelligence

Sensing

Trustworthy

Sustainable



10 M/km<sup>2</sup>

1 ms

150 Tbp/s/km<sup>2</sup>

10 Gb/s

1 cm



6G

# 5G vs 6G



	5G	6G
<b>Type of Service</b>	Point to Point QoS Transport	Point-to-multipoint transport, compute services, sync services, AI services
<b>Type of Resources</b>	Communication	Communication + compute + sensing
<b>Architecture Scope</b>	Ran+CN	Terminal+RAN+CN
<b>Cloud Native</b>	Only CP in 5GC	E2E and cross-plane (User plane / Control plane / Management plane)
<b>Microservices</b>	No	Yes, E2E, all planes
<b>Resource Awareness</b>	Only air interface	Yes, all employed resources, including compute, transport, wireless
<b>Trustworthiness</b>	Trustworthy nodes	Trustworthy adaptive services/ network of networks
<b>AI/ML Integration</b>	Over-the-top	Natively Integrated
<b>Admission Control</b>	Access Control	Execution Control
<b>Device/Node Disaggregation</b>	CU/DU, IAB	Fully Flexible

# Alignment with Standards



## Standards from SDOs:



- NFV MANO
- MEC
- ZSM
- GANA
- ENI
- SEC



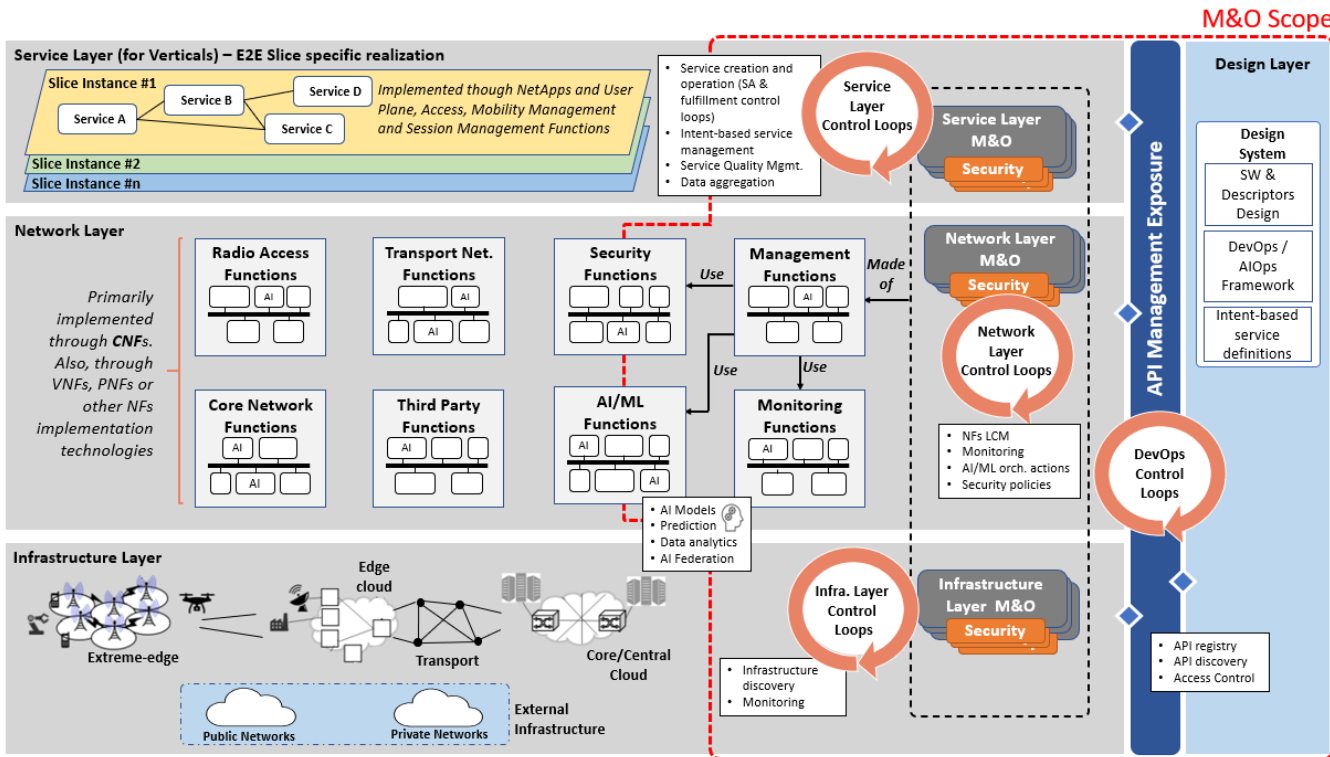
- SA2
- SA3
- SA5
- SA6



## Industry Associations:



# Ecosystem Architecture View



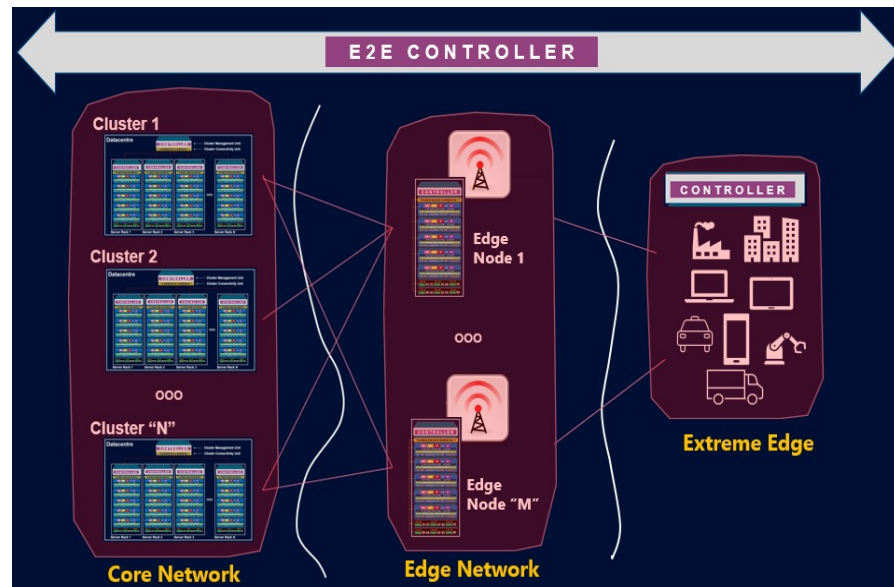


# Extreme Edge Integration



## Device-edge-cloud continuum management

- **Option 1 (federated lightweight controllers)**
  - Federated lightweight controllers directly installed on certain extreme-edge devices
- **Option 2 (“trusted” Management Units)**
  - Specific controllers installed on some edge nodes that would be specialised in certain sets of extreme-edge resources





**Anuket**