



Intent-driven NaTive AI architecturE supporting Compute-Network abstraction and Sensing at the Deep Edge

SNS Call-2 Project Webinar

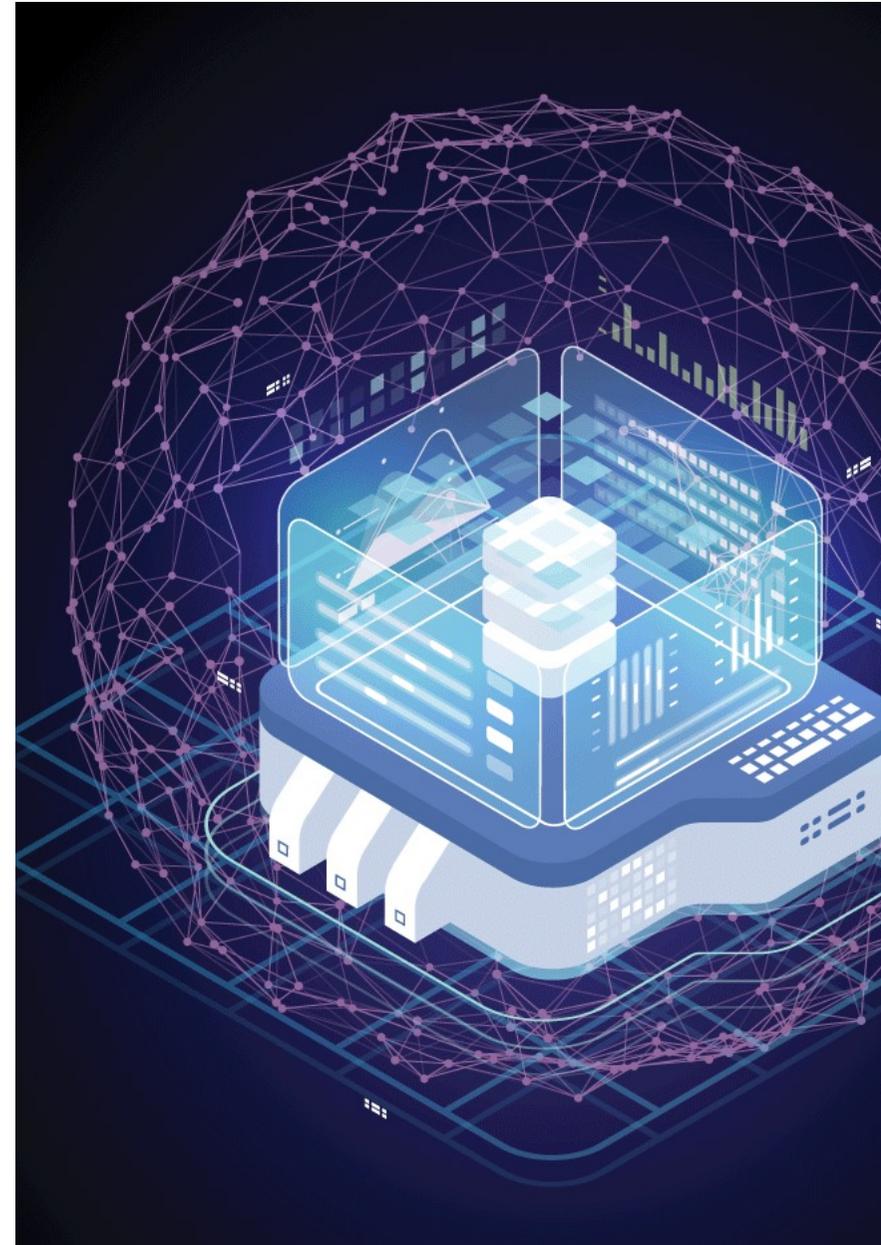
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binar



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Total budget: 4,248,308.75 Euros

EC funding: 3,999,819.75 Euros

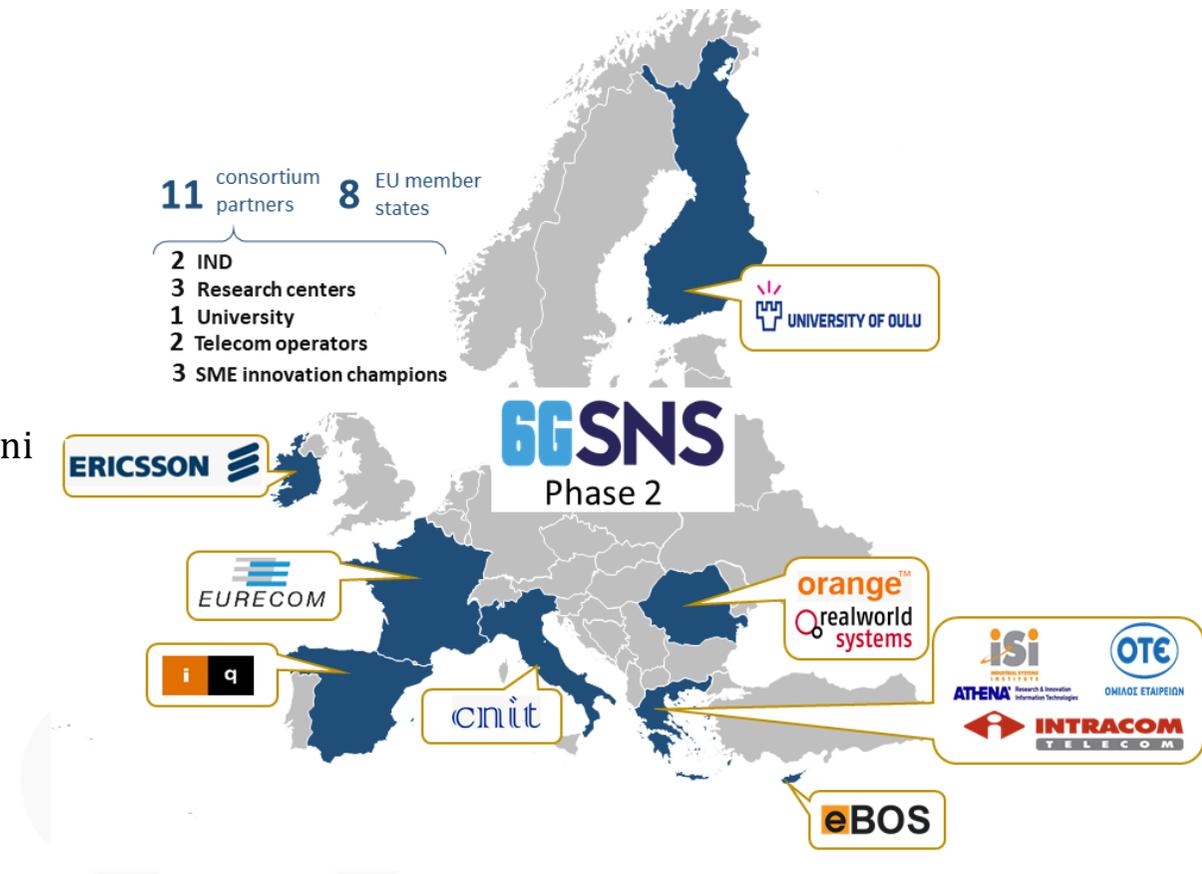
✓ **Project Coordinators:** Dr. Theodora Tsapikouni (ISI/ATH) & Prof. Christos Verikoukis (ISI/ATH)

✓ **Technical Manager:** Prof. Adlen Ksentini (EUR)

Consortium: 11 Partners – 8 Countries

Effort: 533 PMs

URL: www.6g-intense.eu

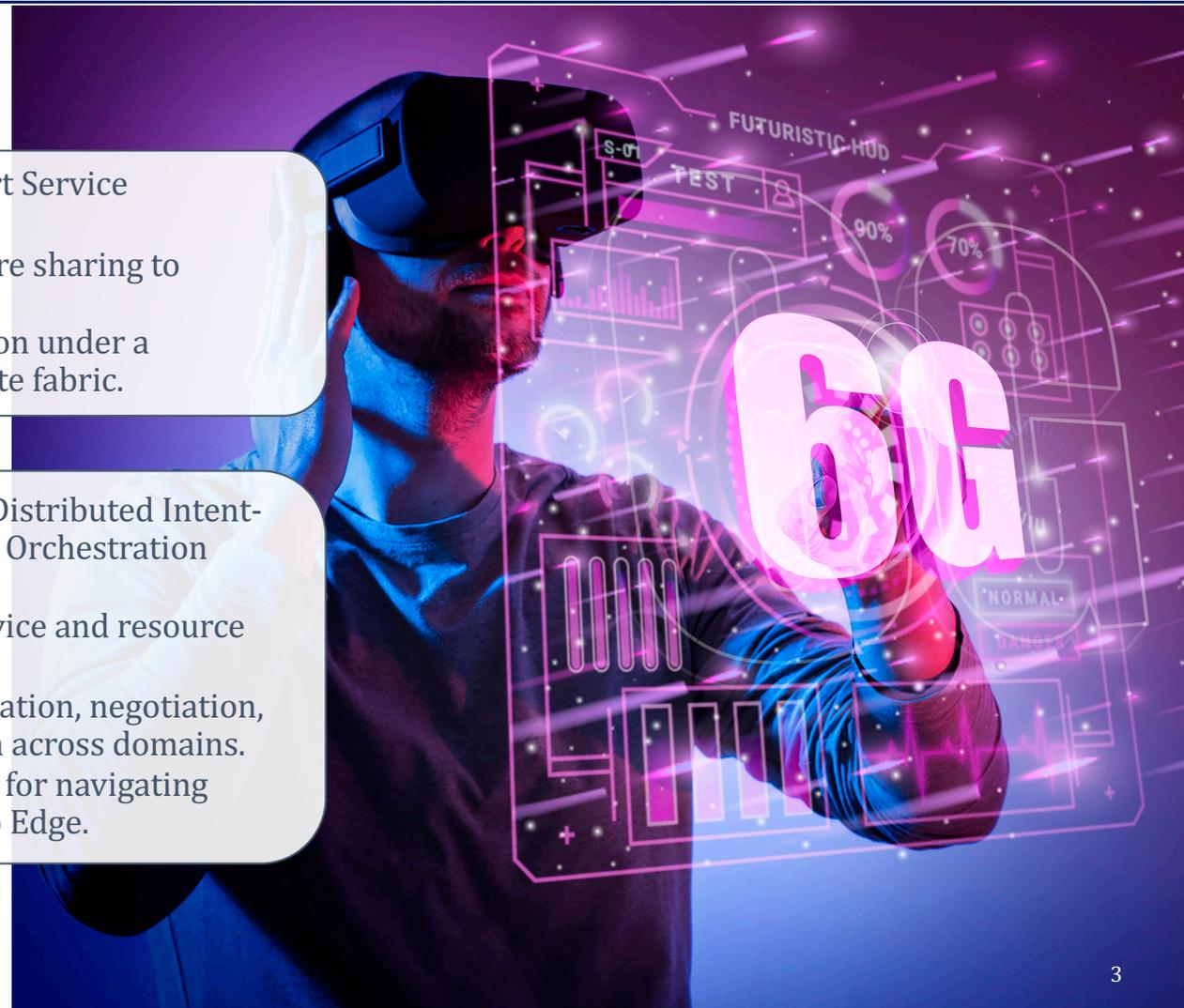


New 6G System Architecture

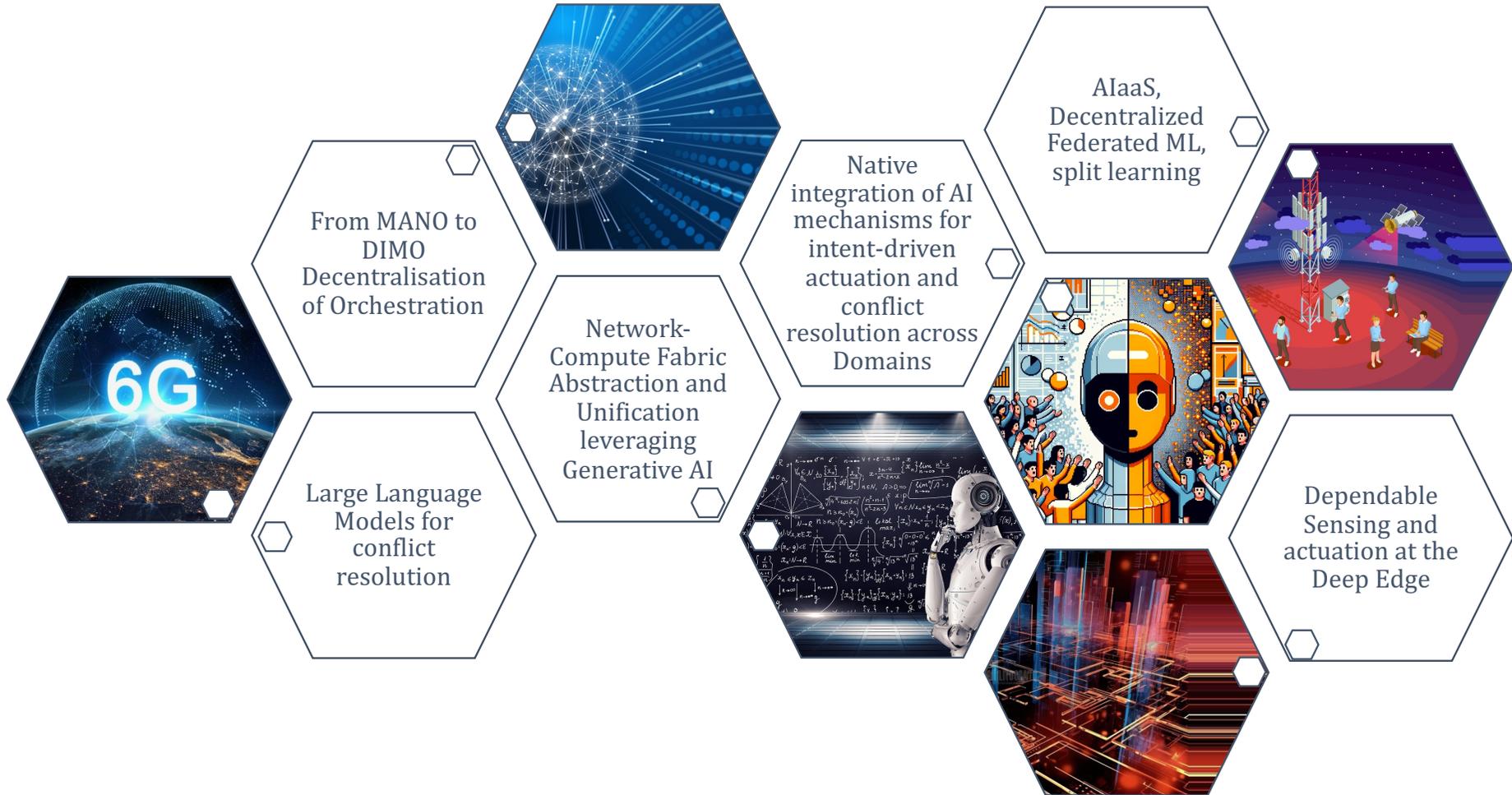
- Delivering “6G as a Smart Service Execution platform”.
- Sustainable infrastructure sharing to reduce costs.
- Encouraging collaboration under a unified Network-Compute fabric.

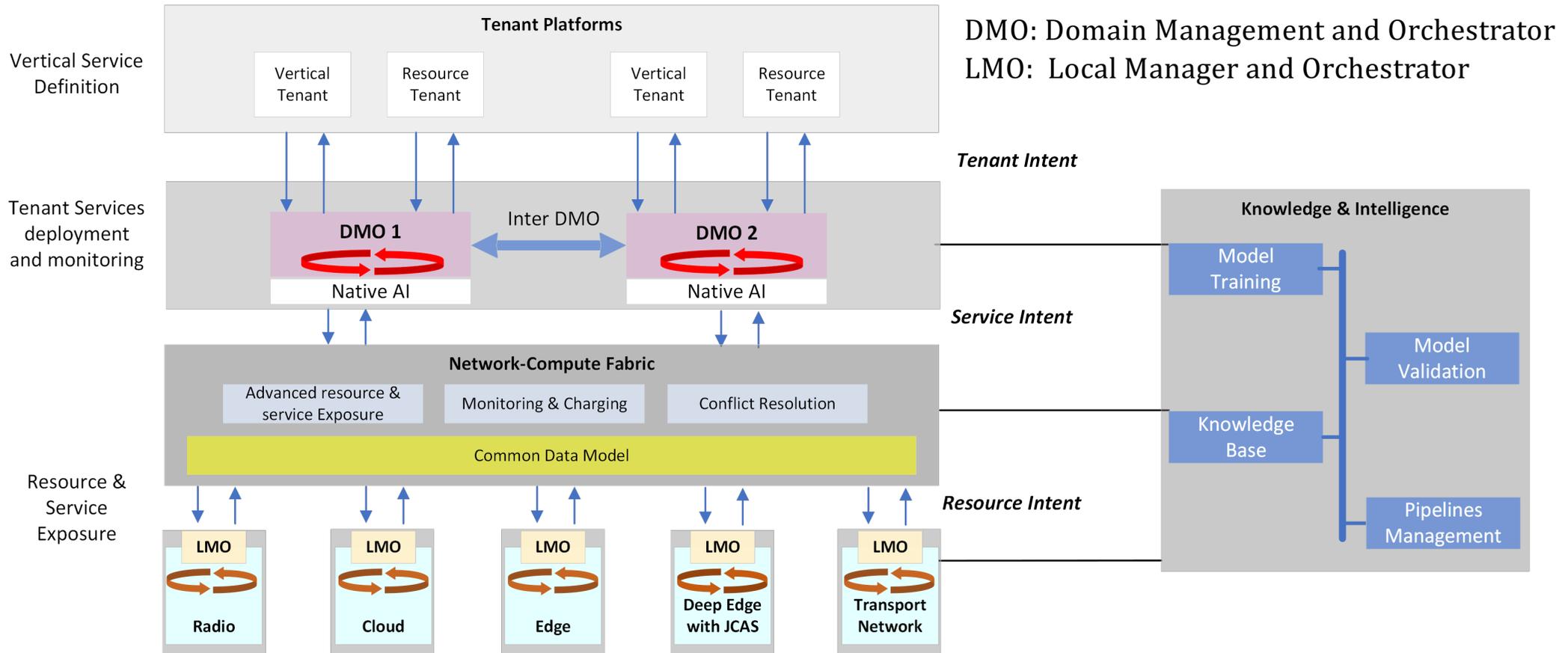
Key Contribution

- Novel Native AI toolkit, Distributed Intent-driven Management and Orchestration (DIMO).
- Separation between service and resource management.
- Facilitating intent declaration, negotiation, and decision automation across domains.
- Sensing as a key enabler for navigating complexities of the Deep Edge.



- 1 Offer a Distributed, Intent-driven Management & Orchestration plane (DIMO) for autonomously reconciled intent declarations in multi-stakeholder ecosystems
- 2 Deliver an intent-based Abstraction Framework for the 6G Network-Compute Fabric
- 3 Deliver a scalable Compute Interconnection solution based on SD-WAN for self-organized Service Mesh deployments
- 4 Deliver a concrete AI Native Toolkit, offering intent decomposition, actuation and reconciliation towards fully Autonomous Domains
- 5 Deliver a federated AI plane for multi-stakeholder 6G ecosystems, via knowledge optimization, synthesis and intent propagation mechanisms
- 6 Support privacy-preserving Joint Communication & Sensing for resilience and dependability at the Deep Edge
- 7 Dissemination, Communication, Exploitation and Standardisation





PoC #1: Distributed Continuum towards Pervasive Computing

Experiment 1.1: Pervasive Computing in a Distributed Continuum

- Lifecycle management of micro-service deployment as an Orchestration Continuum undertaken by the Network-Compute Fabric after appropriate training of its Generative AI models.
- JCS of the Deep Edge infrastructure (e.g., monitoring links and performance).



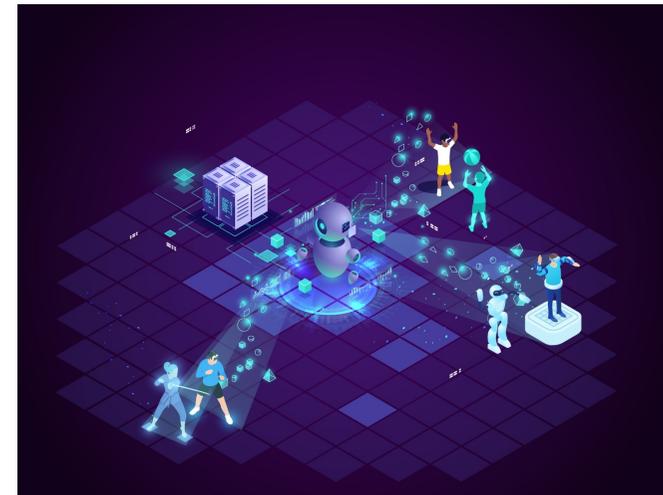
Experiment 1.2: Edge Intelligence and Compute Interconnection

- Demonstrate: SD-WAN usage for PoP interconnection, Dynamic resource integration to Network-Compute Fabric, SLA guarantee by intent monitoring, Edge intelligence for training distributed ML models.

PoC #2: Metaverse

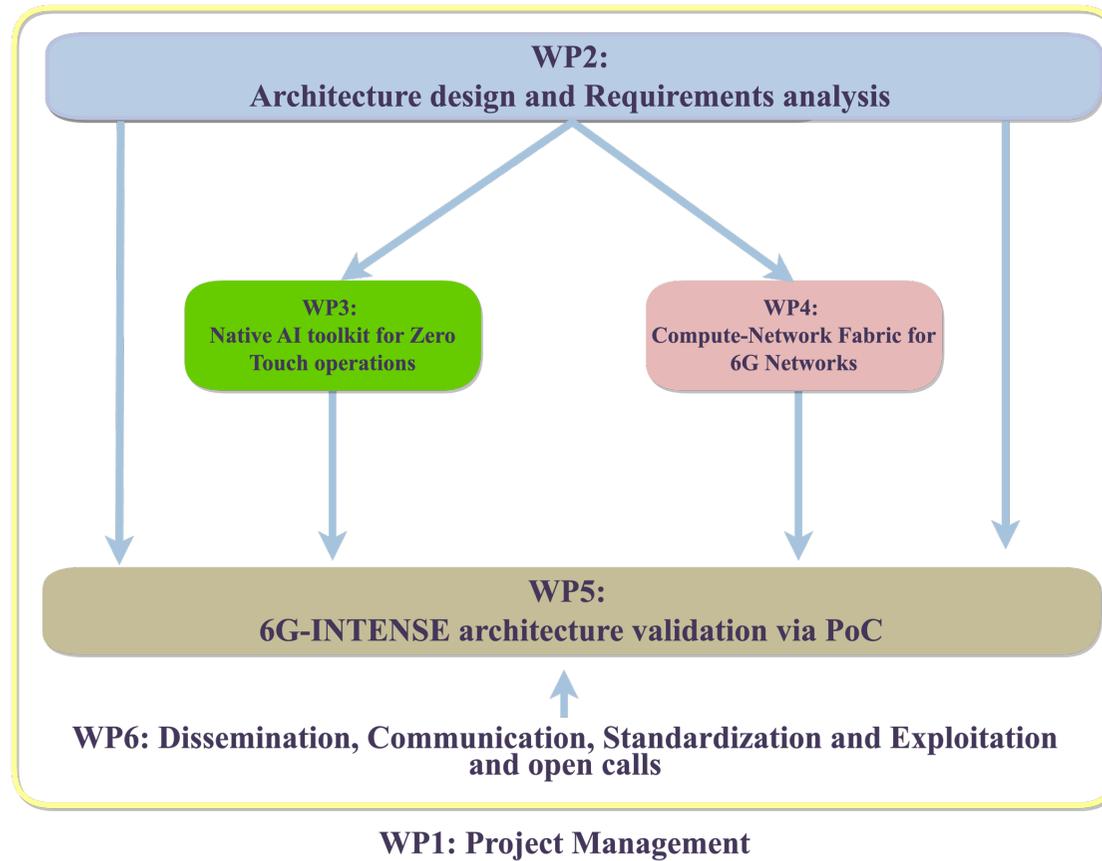
Experiment 2.1: Joint Communication and Sensing for Optimal User Tracking in the Metaverse

- Demonstrate the JCS functions that provide pervasive location awareness to be leveraged by Metaverse
- Explore trade-offs on sensing accuracy vs. energy efficiency at the Deep Edge



Experiment 2.2: Fully Autonomous Metaverse FCAPS, Sensing, and Continuum Abstraction

- Showcase how Native AI mechanisms drive intent (re-)negotiation at the tenant domain.
- Deliver the Orchestration Continuum vision at the Service domain.
- Demonstrate adaptation based on the inputs of a Sensing service that is part of the generalized Service Mesh.



Thank You!!!

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