6Gopticon

6G Optimization and Constrained Intelligence for End-to-end Network Operations Across Heterogeneous Segments

SNS Webinar Call 4/5 projects intro| 19 Oct. 2026



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Project Overview

Athanasios P. Charemis| UBI



6GOpticon

DURATION

36 months

1 Jun 2026 – 31 May 2029

BENEFICIARIES

9 partners

Six countries: EL(2),ES (2), IT(2), BG(1), CY (1), SL (1)
Coordinator: UBI

PROGRAMME

HORIZON EU

Funding Authority: SNS JU
Grant: HORIZON-JU-SNS-2025-STREAM-B-01-01
GA: 101292327

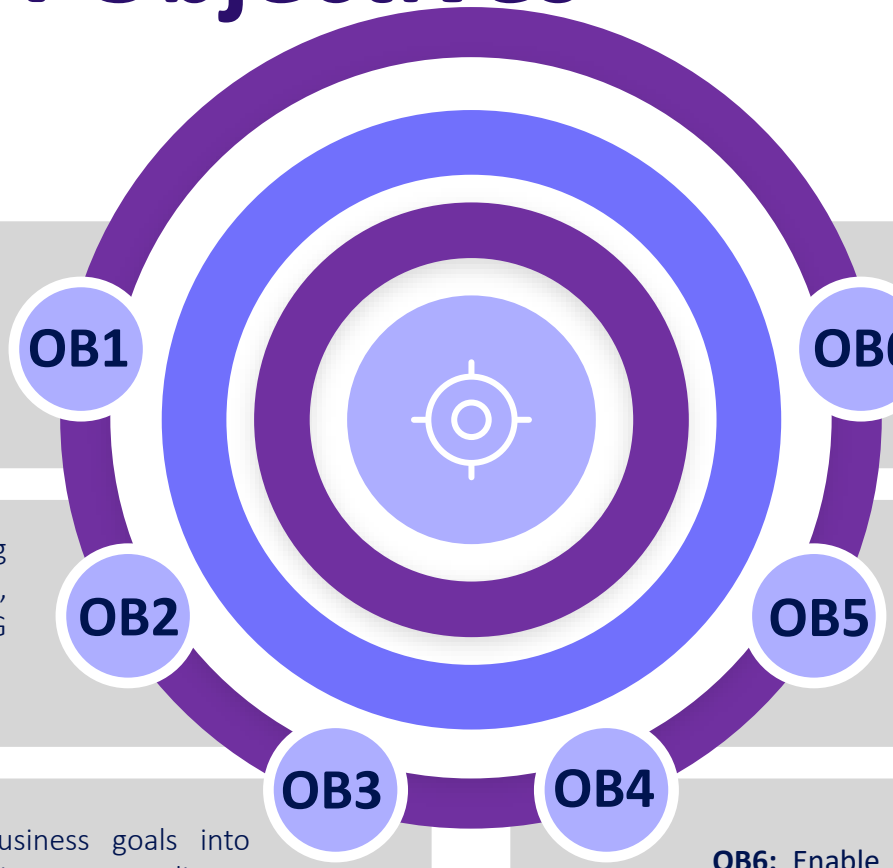
Summary

6GOPTICON envisions an open, modular, and highly extensible orchestration fabric that unifies services and infrastructure across O-RAN, core, transport, and edge. To enable operation under strict real-time, latency, energy, security, and multi-domain constraints, novel deep learning models will be developed that inherently incorporate these requirements during training and execution (potentially guided by closed-form formulas or physical laws), ensuring SLA compliance, conflict-free optimization, and operational robustness. In parallel, the project pioneers secure-by-design AI pipelines, leveraging trusted execution environments, encrypted computation, and explainable AI methods adapted for privacy-preserving contexts. Finally, by promoting energy-adaptive, hardware-aware AI deployment strategies and event-driven automation, 6G-OPTICON delivers a blueprint for sustainable, trustworthy, and intelligent 6G network orchestration.

Consortium

1	UBI	UBITECH Ltd	EL	Coordinator · WP1 leader
2	TID	TELEFONICA INNOVACION DIGITAL SL	ES	WP2 leader
3	TEI	ERICSSON TELECOMUNICAZIONI SPA	IT	WP3 leader
4	K3Y	K3Y	BG	WP4 leader
5	EBOS	EBOS TECHNOLOGIES LIMITED	CY	WP6 leader
6	UOP	PANEPISTIMIO PATRON	EL	WP5 leader
7	TEC	FUNDACION TECNALIA RESEARCH & INNOVATION	ES	Technical Partner
8	SSS	SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DIPERFEZIONAMENTO S ANNA	IT	Technical Partner
9	IJS	INSTITUT JOZEF STEFAN	SL	Technical Partner

6G-OPTICON Objectives



Develop a constraint-aware 6G orchestration platform integrating distributed IoT-edge-core controllers, Resource-as-a-Service federation, cloud-managed orchestration, SLA exposure, and Vertical Intelligence (VINT-L).

Develop constraint-aware, rule-based deep learning for SLA assurance, forecasting, conflict resolution, and resource optimisation across end-to-end 6G networks.

Develop hierarchical AI-driven translation of business goals into verifiable, domain-specific intents, ensuring continuous compliance through telemetry-driven closed loops and programmable APIs.

Enable agentic AI-driven zero-touch operations, converting infrastructure/service telemetry and VINT-L outputs into programmable, automated orchestration actions.

Develop security and trust mechanisms protecting 6G orchestration components, communications, AI interactions, and data integrity throughout training and inference.

OB6: Enable energy-efficient, hardware-aware 6G AI through self-optimising architectures, adaptive distributed training, real-time edge-cloud orchestration, and energy-accuracy bounds.

6G-OPTICON

...in a nutshell

AI-native orchestration for intelligent, secure and energy-efficient 6G networks

AI - Native Intelligence

Constraint-aware AI for intelligent network management

End–to–End Orchestration

- Across cloud,
- edge,
- core,
- transport
- O-RAN

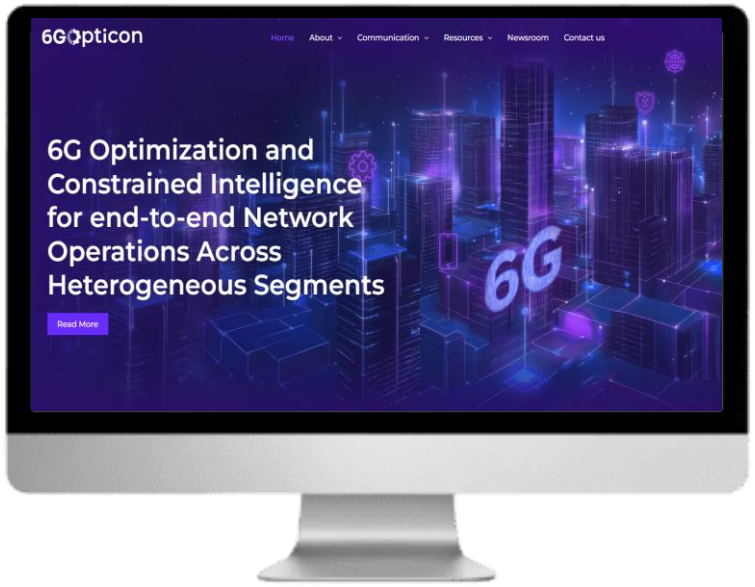
Zero-Touch Automation

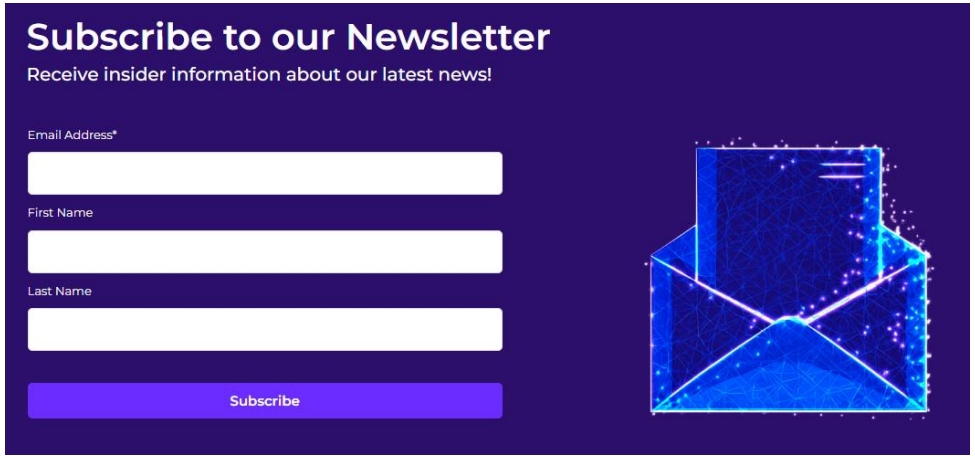
Towards autonomous and adaptive network operations

Trust & Sustainability

- Real Time
- Energy
- Security
- Latency
- Multi-domain

6G-OPTICON Channels





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THANK YOU

Athanasios P. Charemis| UBI

