Final eNewsletter

Distributed Artificial Intelligence-Driven Open & Programmable Architecture for 6G Networks

June 2026

Co-funded by the European Union

6GSNS

ADROIT6G project has received funding from the Smart Networks and Services Joint Undertaking (SNS JU) under the European Union's Horizon Europe research and innovation programme under Grand Agreement No 101095363.

Welcome to the 7th ADROIT6G's eNewsletter!

At the dawn of 2026, the ADROIT6G partners are proud to present the 6th edition of our eNewsletter, marking a new milestone in the project's journey towards shaping the foundations of next-generation 6G networks. Building upon the strong momentum and technical maturity achieved throughout 2025, this issue reflects a period of consolidation, integration, and forward-looking innovation across all core dimensions of the project.

During the past 6 months, ADROIT6G successfully completed its technical roadmap by validating the project's core architectural components, advanced distributed Artificial Intelligence frameworks, and AI-driven orchestration and management mechanisms across representative 6G Proofs of Concept. These achievements demonstrate the feasibility of a fully distributed, AI-native 6G architecture, where cloud-native network functions are dynamically deployed across the far-edge, edge and cloud continuum, enabling zero-touch operations, intelligent resource management, enhanced performance, and secure service delivery. Throughout the project, the consortium also produced a significant portfolio of scientific publications, white papers, and technical contributions, while actively participating in leading international conferences, workshops, industrial forums, and standardisation activities, helping shape Europe's vision for next-generation mobile networks and strengthening the European Smart Networks and Services ecosystem.

As ADROIT6G officially concluded on 30 June 2026, the project leaves behind a strong scientific and technological legacy for the European 6G landscape. As a Phase I project of the SNS JU, ADROIT6G has successfully translated the SNS 6G roadmap into concrete architectural innovations, AI-native networking principles, and validated technologies that will serve as building blocks for future SNS initiatives and 6G standardisation.

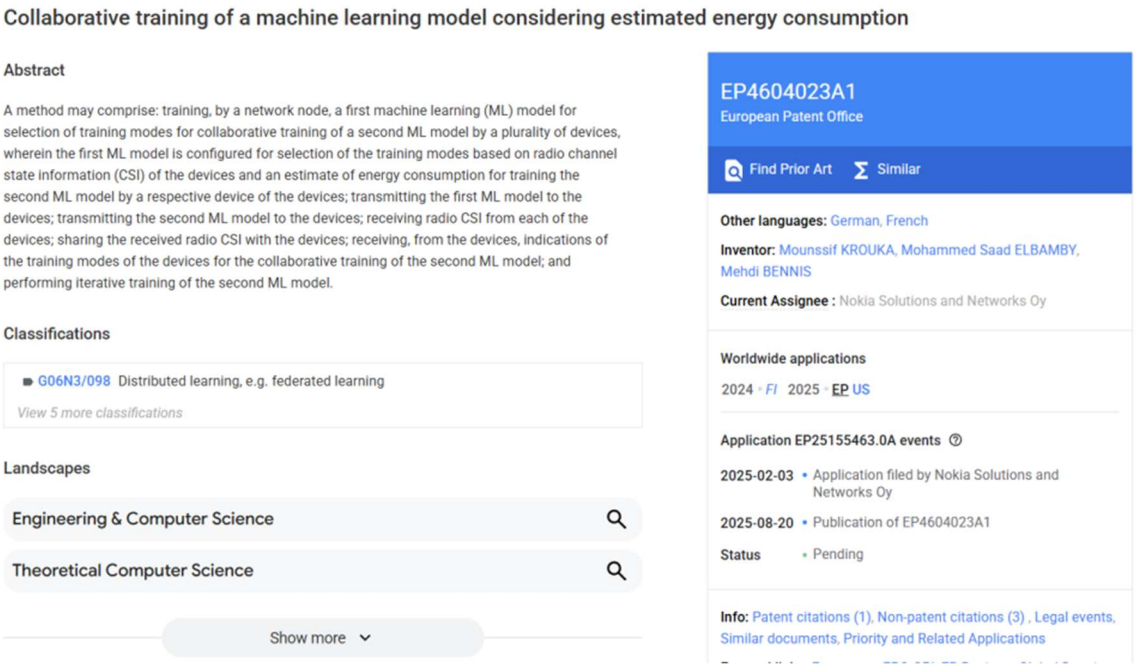
By demonstrating disruptive concepts such as distributed AI, cloud-native networking, integrated automation, and performance-oriented network intelligence, ADROIT6G has contributed to establishing the foundations of trustworthy, resilient, programmable, and sustainable 6G infrastructures capable of supporting the demanding digital services and applications of the next decade, while reinforcing Europe's leadership in global 6G research and innovation.

The 6th and final eNewsletter offers a snapshot ADROIT6G results toward the transition from foundational design to real-world Use Cases. Finally, the validation of ADROIT6G architecture and the integration of these technologies in realistic scenarios provides serious contributions and evidence that the transition to 6G will be both seamless and impactful, paving the way for future innovations that will reshape how we live, work, and interact.

For more information about the project, please visit our website **adroit6g.eu**

ADROIT6G's Patent Secured

We are delighted to share that ADROIT6G has been awarded the European patent **EP4604023A1**, entitled *"Collaborative training of a machine learning model considering estimated energy consumption."* This achievement marks an important milestone for the project, demonstrating that ADROIT6G is not only advancing the state of the art in 6G networking, but is doing so with sustainability and energy awareness at its core. This patent captures a fundamental pillar of our vision: future networks must go beyond speed and intelligence to also be energy-efficient and environmentally responsible.



At a high level, EP4604023A1 describes a collaborative learning mechanism in which multiple network nodes jointly train a machine learning model while estimating and reducing energy usage. By distributing intelligence across the network in an energy-aware manner, the approach balances performance, efficiency, and sustainability within a unified framework.

The granting of EP4604023A1 formally validates the originality and value of ADROIT6G's approach to collaborative, energy-aware machine learning in network operations. In practical terms, it highlights:

- **Sustainable AI**: The patented method enables distributed network elements to jointly train AI models while accounting for energy consumption, supporting smarter and greener 6G networks.

- **Recognition of innovation**: The European Patent Office has acknowledged the novelty of this solution, safeguarding a key piece of intellectual property.
- **Impact of EU-funded research**: This patent shows how European research investments can translate into concrete, high-impact innovations with relevance for future network standards.

We would also like to warmly acknowledge our partners at OULU for their exceptional dedication and contributions, which were instrumental in achieving this important milestone.

All information about ADROIT6G's activities during IEEE CAMD 2024 is accessible in our **News & Events** and on our **Linkedin** pages!

ADROIT6G Showcased at "Innovation to Impact: Deep Tech in Action"

ADROIT6G marked an important milestone by presenting its final results at the “Innovation to Impact: Deep Tech in Action 2026” event, held in Athens, Greece.

The event brought together key stakeholders from industry, academia, and public authorities to explore how cutting-edge technologies such as Artificial Intelligence (AI), 6G, and autonomous networks are transitioning from research into real-world impact. ADROIT6G was featured alongside other pioneering EU-funded projects, highlighting the collective progress of Europe’s deep tech ecosystem.

As part of the event programme, ADROIT6G contributed to discussions across three thematic pillars:

- Smart Networks, Smarter Applications
- Governing the Digital Future with AI
- Deploying Intelligence Anywhere

The event also showcased a series of live demonstrations developed within participating projects, presenting advanced innovations in AI-native networking, distributed intelligence, and next-generation connectivity solutions.

The “Innovation to Impact” event provided a valuable platform to communicate project outcomes to a broader audience, strengthen collaboration across the European innovation ecosystem, and reinforce the role of research in shaping the future of connectivity.

Through its participation, ADROIT6G highlighted its key achievements in advancing AI-driven, cloud-native, and zero-touch network architectures for 6G systems. The project’s results demonstrate how intelligent automation and distributed intelligence can enable scalable, efficient, and resilient future networks. ADROIT6G concludes this phase of its journey with a strong commitment to continuing innovation and contributing to the evolution of intelligent, AI-native 6G networks.”

More Event Information is available **here**.

Demo #1 (in Greek) is is available **here** and

Demo #2 is is available **here**

ADROIT6G at the 2026 EuCNC & 6G Summit on 6G, Connecting Intelligence

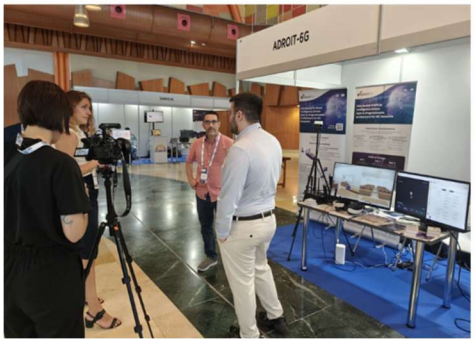
ADROIT6G took part in the EuCNC & 6G Summit 2026, held from 2–5 June in Málaga, Spain, one of Europe's leading events for next-generation communications research and innovation.The EuCNC & 6G Summit brings together key stakeholders from academia, industry, and policy to explore the latest developments in Beyond 5G and 6G technologies, including network architectures, AI-driven systems, experimental platforms, and emerging applications. The event attracts over 1,000 participants from more than 40 countries and features a comprehensive programme of technical sessions, workshops, exhibitions, and demonstrations. During the exhibition, ADROIT6G showcased its vision and ongoing work on a distributed, AI-driven, and cloud-native architecture for future 6G networks. The project focuses on enabling intelligent, zero-touch network management and orchestration across the edge–cloud continuum, supporting highly demanding applications and services.

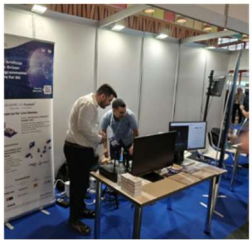
The presented material highlighted key innovations of ADROIT6G, including:

- Distributed Artificial Intelligence (AI) and Machine Learning (ML) for autonomous network optimisation
- Cloud-native and programmable network architectures spanning edge, cloud, and non-terrestrial environments
- Zero-touch automation for efficient and scalable network management

As part of the Smart Networks and Services Joint Undertaking (SNS JU) portfolio, ADROIT6G contributes to Europe's efforts in shaping the future 6G ecosystem through advanced research, experimentation, and collaboration.

Participation in EuCNC & 6G Summit 2026 provided an excellent opportunity to engage with the wider 6G community, exchange insights with peer projects, and strengthen collaboration across the European research landscape.





ADROIT6G remains committed to advancing innovative, AI-native, and programmable networking solutions that will underpin the next generation of connectivity.

ADROIT6G's PoCs

ADROIT6G highlights the innovation actively brought to life through a series of Proofs of Concept (PoCs), which validate and showcase the real-world potential of future 6G technologies and advanced capabilities.

Our PoCs managed to bridge the roadmap vision with the implementation, demonstrating how next-generation 6G connectivity can deliver a transformative impact across multiple domains. By moving beyond simulations and into practical experimentation, ADROIT6G managed to accelerate the path towards a fully connected, intelligent, and responsive digital ecosystem. More specifically, the project features four key PoCs:

- **PoC 1: Immersive Extended Reality (XR) Services:** Showcasing ultra-responsive, high-quality XR experiences enabled by 6G capabilities.
- **PoC 2: Industrial IoT (IIoT) inside factories:** Demonstrating how intelligent connectivity enhances automation, monitoring, and efficiency in industrial environments.
- **PoC 3: Industrial IoT (IIoT) across remote transport systems:** Demonstrating how integrated terrestrial and satellite networks ensures connectivity and undisturbed railway operation.
- **PoC 4: Collaborative Robotics (Cobots) on construction sites:** Enabling safe and efficient human-robot collaboration through reliable, low-latency communication.

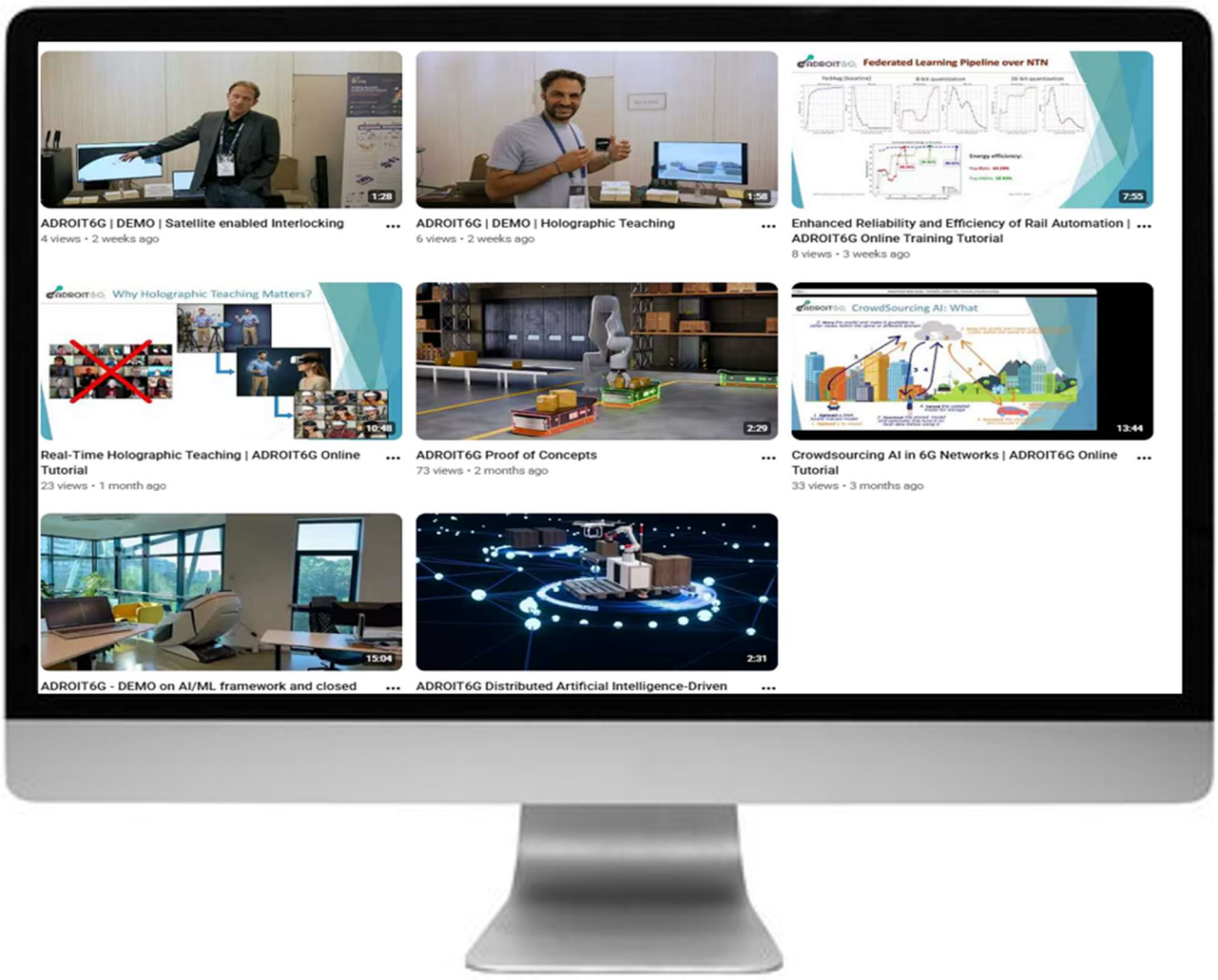
From immersive Extended Reality (XR) experiences to Industrial IoT and collaborative robotics, our PoCs demonstrate how next-generation networks will transform industries and society. More specifically, ADROIT6G during its lifetime, explored and integrated disruptive, best-of-breed technologies to produce a truly novel architecture and a complete system to address a radically new approach for a next-generation AI-enabled open architecture for future 6G networks. The design, implementation, testing, and usage of ADROIT6G proceed in parallel with validation in lab settings, and substantial feedback and redesign of platform components are expected as a better understanding of the challenges faced in integrating novel concepts and components, and their use in future-looking applications, emerges. Henceforth, new technologies and tools may succeed and be integrated into the design/development cycle of the project. ADROIT6G will be open to rapid changes and elicitation of new requirements stemming from the UCs in the PoCs.

The day concluded with a strong sense of momentum. Participants left with new knowledge, new connections, and fresh energy for advancing their work. The ADROIT6G consortium is proud to support this vibrant community of researchers,

helping to strengthen the bridge between fundamental research and the technologies that will shape the next generation of networks.

More info about the ADROIT6G PoCs **here.**

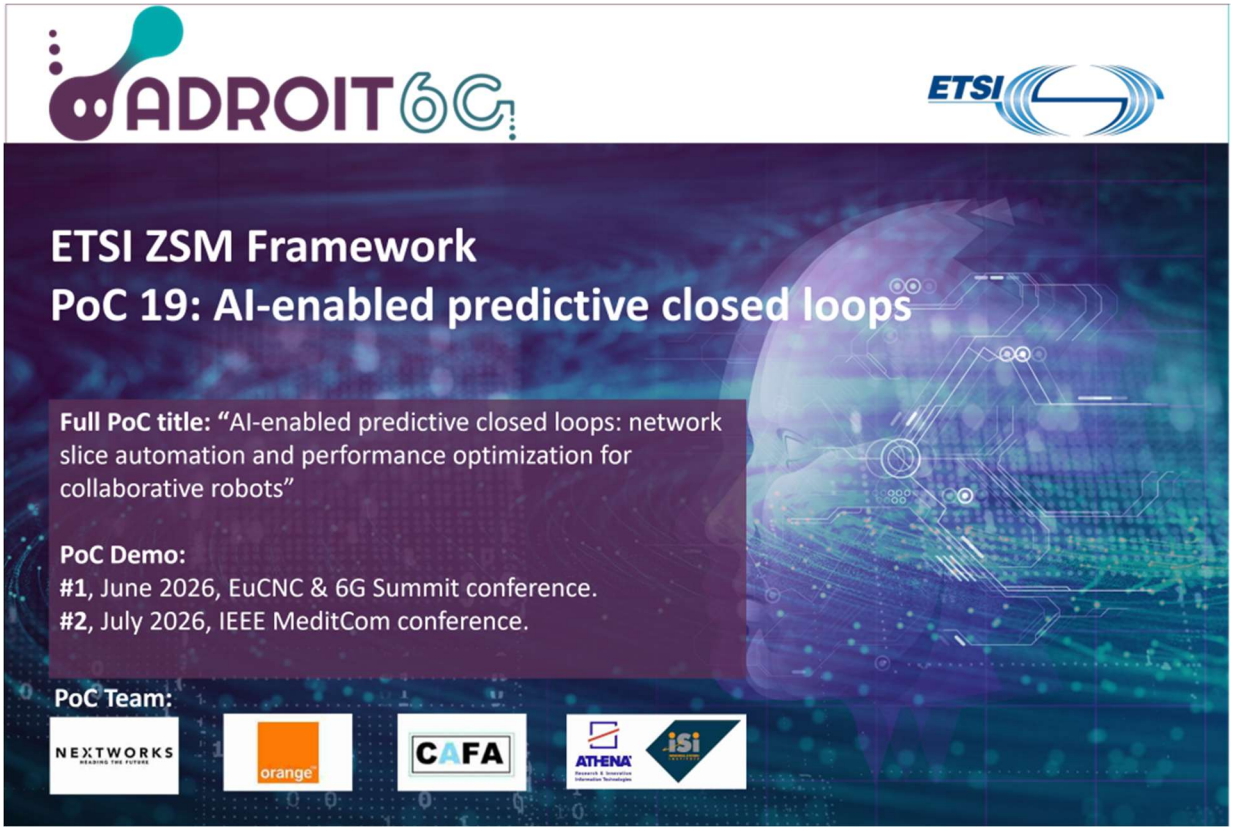
More info about the ADROIT6G PoCs Demonstration Videos **here.**



ADROIT6G PoC Accepted by ETSI ZSM

We are pleased to announce that the ADROIT6G project has successfully submitted and received acceptance for a Proof of Concept (PoC) within the ETSI Zero-touch network and Service Management (ZSM) framework.

The PoC, titled “AI-enabled predictive closed loops: network slice automation and performance optimization for collaborative robots”, represents a significant step forward in the application of AI-driven automation for next-generation networks.This initiative focuses on leveraging predictive closed-loop mechanisms to enhance network slicing automation and performance optimization, particularly in scenarios involving collaborative robots, where reliability, responsiveness, and adaptability are critical..



The concept and technical scope are publicly available on the ETSI ZSM wiki:

https://zsmwiki.etsi.org/index.php?title=PoC_19_AI-enabled_predictive_closed_loops.

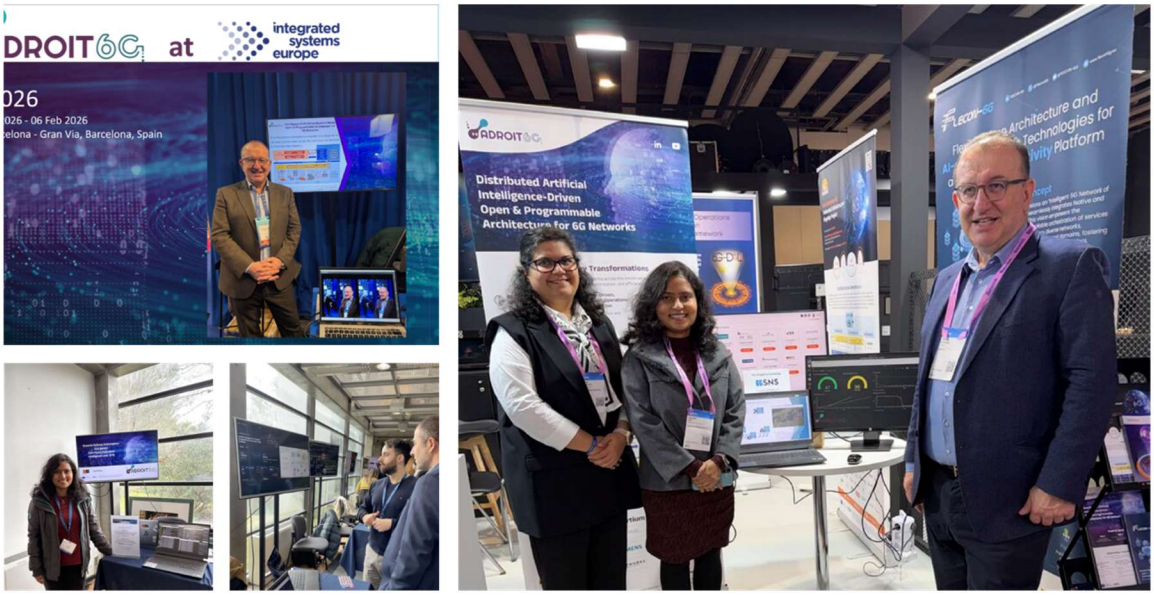
More info is available **here.**

ADROIT6G @ ETSI SNS4SNS

ADROIT6G successfully participated in the ETSI SNS4SNS event, held from 2–4 February 2026, where the project team presented two live demonstrations highlighting key advancements toward next-generation 6G systems.

The showcased demos, “Towards Railway Automation: SLA-Aware Zero-Touch Federated Intelligence over NTN” and “AI-Native Autoscaling and Zero-Touch Orchestration for Future Edge Networks,” demonstrated cutting-edge approaches to automation, intelligence, and orchestration in emerging network environments. These were presented by Swastika Roy and Dimitris Selis, respectively.

The SNS4SNS event provided a valuable platform for collaboration, knowledge exchange, and hands-on innovation among leading stakeholders in the 6G ecosystem. ADROIT6G extends its appreciation to ETSI and the broader SNS community for fostering meaningful dialogue and progress in the field.



ADROIT6G at ISE 2026

ADROIT6G actively participated at ISE 2026 – Integrated Systems Europe (ISE)! This global event brings together the brightest minds in audiovisual technology, systems integration, and next-generation digital solutions. At ISE 2026, ADROIT6G partners engaged with industry leaders, innovators, and visionaries to explore how emerging network technologies are reshaping connected environments. From immersive media

experiences to intelligent infrastructures, the convergence of AV and advanced connectivity is accelerating—and 6G is poised to play a pivotal role.

Our team continuously looks forward to exchanging ideas, discovering cutting-edge solutions, and showcasing how ADROIT6G is driving the evolution of ultra-reliable, low-latency, and intelligent 6G connectivity. Events like ISE provide a unique platform to collaborate across industries and turn bold technological visions into real-world impact.

ADROIT6G at MWC 2026

ADROIT6G proudly participated in MWC26 in Barcelona, showcasing our latest demo: “Zero-Touch Federated Intelligence over NTN towards Railway Automation.” At one of the world’s most influential connectivity events, we demonstrated how federated intelligence can operate seamlessly over Non-Terrestrial Networks (NTN) to support next-generation railway automation.

Participation in events such as plays a vital role in transforming ambitious 6G research into practical, real-world solutions. ADROIT6G looks forward to continued collaboration and contributions toward shaping the future of connectivity.A big thank you to everyone who visited our booths and engaged with our team. The journey toward intelligent, automated, and connected railways continues and ADROIT6G is proud to be part of it.

ADROIT6G Proof of Concept Interview Series

Although the ADROIT6G project has successfully reached its conclusion, its technical legacy continues to inspire the European 6G research community through the Proof of Concept (PoC) Interview Series. This initiative provides an in-depth look at the project's most representative demonstrations, showcasing how cutting-edge research has been transformed into practical solutions addressing the challenges of next-generation communication networks.

The interview series brings together the researchers and technology experts behind ADROIT6G's Proofs of Concept, offering valuable insights into their technical approaches, implementation experiences, and the impact of their work on future AI-native 6G systems.

Featured interviews include CAFA Tech, presenting its collaborative construction robotics PoC and demonstrating how intelligent connectivity can enhance autonomous construction environments; NOVA and ORO, showcasing their innovative work on Non-Terrestrial Networks (NTN) and Rail Automation, highlighting the role of next-generation connectivity in enabling resilient, automated railway operations; and ISI/ATHENA Research Center together with Nextworks, presenting their AI-driven Management and Orchestration framework, which explores intelligent automation, resource optimisation, and sustainable network operation across future 6G infrastructures.

Each interview examines the underlying technologies, the engineering challenges encountered, and the broader significance of the demonstrated solutions for the evolution of intelligent, trustworthy, and sustainable communication systems. ADROIT6G continues to support researchers, industry stakeholders, and the wider European 6G ecosystem well beyond the project's lifetime..

Stay tuned on the ADROIT6G PoCs for real-life 6G implications **here**!

Project's News and Events

ADROIT6G Showcased at "Innovation to Impact: Deep Tech in Action"
ADROIT6G's Final Event . Read more **here**.

ADROIT6G at the 2026 EuCNC & 6G Summit
ADROIT6G at the 2026 EuCNC & 6G Summit on 6G, Connecting Intelligence. Read more **here**.

What will 6G really enable? ADROIT6G video on its PoCs
What will 6G really enable? Read more **here**.

ADROIT6G PoC Accepted by ETSI ZSM
ADROIT6G's AI-enabled predictive closed loops PoC Accepted by ETSI ZSM. Read more **here.**

Tutorial on "AI-Native 6G Networks" Computer Science Department of Saint-Luis University, Madrid
Read more **here**.

Students visit at the University of Patras Labs (VR Demos)
ADROIT6G was showcased its VR Demo at UoP Labs. Read more **here**.

Project's News and Events

ADROIT6G at ETSI SNS4SNS
ADROIT6G partners showcased two demos at ETSI SNS4SNS. Read more **here**.

ADROIT6G at ISE2026
ADROIT-6G was presented in Integrated Systems Europe 2026. Read more **here**.

ADROIT6G hosted the 2nd Plenary Meeting of ETSI's OpenOP
Read more **here**.

ADROIT6G Secures Patent for Energy-Aware AI in 6G Networks
ADROIT6G Secures Patent for Energy-Aware AI in 6G Networks. Read more **here.**

ADROIT6G at IEEE GLOBECOM 2025
ADROIT6G participated in the IEEE Global Communications Conference. Read more **here**.

ADROIT6G at IEEE NFV-SDN 2025
ADROIT6G participated at IEEE NFV-SDN 2025, presenting testbed demos and results. Read more **here**.

Project's Scientific Publications

Please find below the latest papers submitted and accepted during the period 2024, that acknowledge of ADROIT6G project. For the complete list of research papers, please visit our dedicated webpage **here**.

Journal Publications

Title	Journal	Partner	Year
On the Performance Analysis of UE-VBS-Based Wireless Communications: Network Outages, Resource Utilization, and Optimization	IEEE Access	CYENS	2025
Enhancing 5G and 6G networks through a dynamic dual-stage machine learning heuristic framework for selecting UEs as UE-VBSs	Ad Hoc Networks	CYENS	2025
Access Point Selection and Localization for Cluster-Based Realization of a Device-to-Device Cell-Free 6G Communications Network	IET Communications	CYENS	2025
Deep State-Space Modeling of Channel Dynamics for CSI Prediction in LEO Non-Terrestrial Networks	IEEE Transactions of Vehicular Technology	ISI/ATH	2026
Toward Energy-Efficient AI: Learning Generic Assignment Skills with Unsupervised Reinforcement Learning for Network Slicing in Distributed 6G Networks	IEEE Communications	ISI/ATH, IQU	2026

Conference Publications

Title	Journal	Partner	Year
Deep Learning-Driven Two-Stage Distributed Radio Resource Allocation in 6G Cell-Free Communication Systems	4th ICPCCT 2025	CYENS, EBOS, ISI/ATH	2025
Quantitative Comparison of Traffic Management Schemes in a Converged Optical-Wireless 6G Network	IEEE ICTON 2025	IQU, ISI/ATH	2025
Energy-Efficient Edge-Domain Automation and Service Provision in 6G Networks by Deploying Offline Discovered Assignment Skills	IEEE ICC 2025	IQU, ISI/ATH	2025
Evaluating QoT-aware hybrid grooming schemes in dynamic C + L-band optical network	Journal of Optical Communications and Networking	IQU, ISI/ATH	2025

Project's Deliverables & White Papers

After the compilation of the successful Interim Review, ADROIT6G has released the 1st series of public technical deliverables, that include the core frameworks of ADROIT6G, a) the System Architecture, b) Distributed AI for Crowdsourcing and c) its AI-driven Management, Orchestration and Control Framework. For the complete list of the published deliverables, please visit our dedicated webpage **here**.

Deliverables		Lead Partner
D2.1	Requirements, use cases and system architecture - Initial	CAFA/ IQU
D2.2	System Architecture	IQU
D2.3	Requirements, use cases and system architecture - Final	IQU
D3.2	Distributed AI framework for CrowdSourcing AI - initial	CNIT
D3.3	Distributed AI framework for CrowdSourcing AI - final	CNIT
D4.1	AI-driven Management & Orchestration and Control frameworks - Initial	NWX
D4.2	AI-driven Management & Orchestration and Control frameworks – Final	NWX
D5.1	Reports on integration and testbeds deployment in lab settings - Initial	SIEMENS
D5.2	Reports on integration and testbeds deployment in lab settings - Final	SIEMENS
D5.3	ADROIT6G technology validation in lab environments - Initial	CYENS
D5.4	ADROIT6G technology validation in lab environments - Final	CYENS
D5.5	Performance evaluation and replication guidelines - Initial	IQU
D6.1	Project website and social media presence	eBOS
D6.2	Dissemination, communication, standardisation, exploitation, IPR, clustering – Initial	eBOS

Stay tuned on the updates of the developments of ADROIT6G for awareness of the recent developments in the 6G era.

Meet our ADROIT6G Partners

ISI/ATH (ATHINA-EREVNITIKO KENTRO KAINOTOMIAS STIS TECHNOLOGIES TIS PLIROFORIAS, TON EPIKOINONION KAI TIS GNOSIS)

CYENS (CYENS CENTRE OF EXCELLENCE)

CNIT (CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE TELECOMUNICAZION)

EURE (EURECOM GIE)

OULO (OULUN YLIOPISTO)

MLNX (MELLANOX TECHNOLOGIES LTD – MLNX)

NOVA (NOVA TELECOMMUNICATIONS SINGLE MEMBER SA)

SIEMENS (SIEMENS AKTIENGESELLSCHAFT)

ORO (ORANGE ROMANIA SA)

CAFA (CAFA TECH OU)

eBOS (EBOS TECHNOLOGIES LIMITED)

IQU (IQUADRAT INFORMATICA SL)

NXW (NEXTWORKS)

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