**AI-RAN Alliance Celebrates its First Anniversary at MWC 2025**

**AI-RAN Alliance Grows to 75 Members, Unveils Pioneering AI-RAN Technology Demos and AI-RAN Alliance-Endorsed Labs**

**BARCELONA, Spain – February 27, 2025 –** The [AI-RAN Alliance](https://ai-ran.org/) has rapidly grown to 75 members, spanning 17 countries across the world. Founded at Mobile World Congress (MWC) 2024, the Alliance unites 44 technology companies, 15 academic institutions, seven service providers, six industry associations, and three labs to accelerate AI-RAN (Artificial Intelligence-Radio Access Networks) development and ecosystem adoption. At MWC 2025, the Alliance will showcase ten cutting-edge demos that illustrate AI's transformative impact on wireless networks.

“We are thrilled by the remarkable growth of the AI-RAN Alliance,” said Alex Jinsung Choi, Chair of the AI-RAN Alliance and Principal Fellow of SoftBank Corp.'s Research Institute of Advanced Technology. “The collective effort of our members — from academia to industry leaders — is driving innovation at an unprecedented pace, enabling AI-RAN to supercharge 5G and O-RAN, while laying the foundation for AI-native 6G networks. At MWC 2025, our real-world demos will showcase how AI-native RAN technologies enhance network efficiency, unlock new revenue streams, and enable groundbreaking new AI services.”

**Driving Progress Through a Unified Global Effort**

The AI-RAN Alliance distinguishes itself from other industry organizations with its unique focus on innovations and benchmarks. Unlike traditional standards development organizations (SDOs) that prioritize standard-setting, the Alliance offers a trusted framework for validating and testing next-generation of AI-enabled technologies in the wireless domain. On the one hand, it encourages members to bring ideas and concepts without requiring intellectual property disclosures or any licensing terms. On the other hand, the Alliance enables members to contribute data, code and AI/ML algorithms for public use to foster a new age of rapid innovation in the wireless sector. By doing so, it sets a new platform for ideation, collaboration with trusted benchmarking processes to truly transform the future of wireless communication.

The AI-RAN Alliance is advancing practical frameworks, best practices, and reference implementations to enable seamless AI integration into RAN deployments. To facilitate this mission, the AI-RAN Alliance today announced its collaboration with Keysight, Northeastern University, Singapore University of Technology and Design (SUTD), and VIAVI Solutions to create four, distinct AI-RAN Alliance-endorsed labs, with more labs on the way.

The Alliance’s working groups focus on three key areas:

* AI-for-RAN: Exploring how AI can enhance performance, capabilities and efficiency of radio access networks, such as improving spectral efficiency and energy efficiency.
* AI-and-RAN: Integrating AI and RAN workloads on a common shared infrastructure to maximize utilization and enable new services such as edge AI inferencing.
* AI-on-RAN: Focusing on enabling the RAN to run AI and Gen-AI/LLM/VLMs/agentic AI applications by identifying the necessary network requirements. It benchmarks application performance on 5G and beyond and identifies needs for future networks.

In addition to these working groups, the AI-RAN Alliance is also launching two flagship initiatives:

* Data-for-AI: Focuses on the crucial role of data in AI development and deployment for RANs. This initiative aims to define and implement a structured approach to data management and the data collection pipeline from sources such as real-time systems and simulators, ensuring data availability for AI performance benchmarking and further research.
* Test Methodology: Developing practical testing methodologies to evaluate AI-RAN solutions. This initiative will establish a structured approach to testing and validating AI applications, ensuring alignment with expectations as the industry moves forward with AI-native network evolution.

**Pioneering the Future of AI RAN at MWC 2025**

At MWC 2025, the AI-RAN Alliance will unveil ten real-world demonstrations that exemplify how AI could optimize RAN performance, enhance energy efficiency, and enable new levels of automation and flexibility. These demonstrations, which you can visit at their respective booths, represent collaborative efforts among the group’s leading industry players, academia, and research institutions with the implementation of a series of new projects to commence throughout 2025.

Highlights include:

Demo 1: “Learned Air Interface with Online Learning”

* Description: This demo shows how AI-driven air interface design could enhance wireless performance, improve spectral efficiency, and integrate with existing RANs, making it a useful capability for future AI-RAN deployments.
* Associated Companies: DeepSig and NVIDIA
* Category: AI-for-RAN
* Location: [ARM Booth Hall 2 Stand 2I60](https://www.mwcbarcelona.com/maps?locationId=2I60)

Demo 2: “Realization of Deep Learning for Uplink Channel Estimation/Interpolation in Live RAN Testbed”

* Description: The demo showcases a deep learning approach for uplink channel estimation in a real-world over-the-air real-time RAN. The approach could enable network operators to reduce RAN TCO and optimize end-user experience.
* Associated Companies: Fujitsu, NVIDIA, and SoftBank
* Category: AI-for-RAN
* Location: [ARM Booth Hall 2 Stand 2I60](https://www.mwcbarcelona.com/maps?locationId=2I60)

Demo 3: “AI-based PUSCH Channel Estimation”

* Description: Using an AI-powered uplink (UL) channel estimation (CE), this demo showcases how the uplink throughput could be improved by over 30% in 5G and future 6G networks. We evaluate this novel solution in a real-time commercial testbed with a Samsung-developed AI CE algorithm running on a state-of-the-art [NVIDIA GH200](https://www.nvidia.com/en-us/data-center/grace-hopper-superchip/) Grace Hopper Superchip-accelerated server(vDU), Keysight Propsim Channel Emulator, and a Samsung commercial UE. Compared to traditional approaches, the Samsung-developed AI algorithm leverages the multi-dimensional nature of the received demodulation reference signal to jointly estimate the channel, enhancing channel estimation quality, especially in low-SNR scenarios. This approach could improve PUSCH performance, allowing for a better user experience and a coverage extension for operators.
* Associated Companies: Keysight, NVIDIA and Samsung
* Category: AI-for-RAN
* Location: [Keysight Booth Hall 5 - 5F41](https://www.mwcbarcelona.com/maps?locationId=5F41)

Demo 4: “AI/ML Optimized Higher-Order Modulations with a Neuromorphic Receiver”

* Description: Samsung, NVIDIA and VIAVI will highlight the transformative potential of AI for RAN. Samsung will showcase AI/ML-based higher-order modulations to deliver improved performance over square QAMs. VIAVI will showcase energy-efficient neuromorphic receivers that replace several signal-processing blocks — channel estimation, equalization, and symbol de-mapping — with a single neural network, optimized for AI-based modulations. NVIDIA will feature its high-performance GPUs for training and validation.
* Associated Companies: NVIDIA, Samsung, and VIAVI
* Category: AI-for-RAN
* Location: [VIAVI Booth Hall 5 Stand 5A18](https://www.mwcbarcelona.com/maps?locationId=5A18)

Demo 5: “AI-based 5G Beamforming for Mobility-Aware Interference Mitigation and Power Saving”

* Description: This demo is for AI-powered beamforming and energy-efficient RAN control in 5G networks. By leveraging realistic mobility data and hierarchical reinforcement learning, it showcases how AI could enhance interference management, optimize power use, and improve network efficiency in real-time mobility scenarios.
* Associated Companies: Singapore University of Technology and Design (SUTD), VIAVI, and Yonsei University
* Category: AI-for-RAN
* Location: [VIAVI Booth Hall 5 Stand 5A18](https://www.mwcbarcelona.com/maps?locationId=5A18) | [ARM Booth Hall 2 Stand 2I60](https://www.mwcbarcelona.com/maps?locationId=2I60)

Demo 6: “AI-based Spectrum Sensing in the RAN”

* Description: This demo highlights the potential of AI-enhanced RAN sensing for dynamic spectrum sharing, showing how AI could enable smarter interference avoidance, improved spectral efficiency, and adaptive radio resource management in real-world 5G deployments.
* Associated Companies: Northeastern University Open6G
* Category: AI-for-RAN
* Location: [Northeastern University Booth Hall 6 Stand 6D1](https://www.mwcbarcelona.com/exhibitors/30621-northeastern-university)

Demo 7: “AI-RAN Orchestration”

* Description: This demo showcases AI-driven RAN orchestration, highlighting how AI and RAN could coexist on a shared infrastructure while maintaining high performance, efficiency, and quality of service.
* Associated Companies: Keysight and Northeastern University Open6G
* Category: AI-and-RAN
* Location: [Keysight Booth Hall 5 Stand 5F41](https://www.mwcbarcelona.com/maps?locationId=5F41)

Demo 8: “AI-Driven Spectrum Sensing for Dynamic & Privacy-preserving AI Model Partitioning over 5G Network”

* Description: This demo highlights adaptive AI-driven ML model partitioning for privacy-focused image processing over 5G networks, addressing the inefficiencies of fixed model partitioning in dynamic wireless environments.
* Associated Companies: Keysight, Singapore University of Technology and Design (SUTD), LITE-ON\*, and NeuroRAN\*
* Category: AI-on-RAN
* Location [ARM Booth Hall 2 Stand 2I60](https://www.mwcbarcelona.com/maps?locationId=2I60)| [Keysight Booth Hall 5 Stand 5F41](https://www.mwcbarcelona.com/maps?locationId=5F41) | [LITE-ON\* Booth Hall 6 Stand 6F38](https://www.mwcbarcelona.com/exhibitors/30475-lite-on-technology-corporation)

Demo 9: “Integrated Sensing and Communications (ISAC)”

* Description: This demo highlights the use of integrated sensing and communications (ISAC) over existing 5G networks. By repurposing a commercial 5G waveform as a radar signal, it can detect and track unconnected objects — such as pedestrians — without relying on cameras or RF tags. Potential commercial applications include occupancy sensing, drone detection, and perimeter security.
* Associated Companies: Northeastern University and Tiami Networks
* Category: AI-on-RAN
* Location: [ARM Booth Hall 2 Stand 2I60](https://www.mwcbarcelona.com/maps?locationId=2I60)

Demo 10: “AI-on-RAN Object Detection”

* Description: This demo showcases a powerful, cost-effective solution for deploying AI workloads on Private 5G networks, making them more accessible for industries requiring real-time processing, scalability, and low latency.
* Associated Companies: Arm, Effnet AB\*, Phluido\*, and Tannera\*
* Category: AI-on-RAN
* Location: [ARM Booth Hall 2 Stand 2I60](https://www.mwcbarcelona.com/maps?locationId=2I60)

**Leadership on Display at MWC 2025**

Alex Jinsung Choi, Chair of the AI-RAN Alliance, along with Alliance founding members NVIDIA and Samsung, will join an expert panel at MWC 2025 on Wednesday, March 5, from 14:30 to 15:15 at the Marconi Stage, Hall 6. The panel, [AI-Driven RAN Automation: Transforming Networks for a Smarter, More Efficient Future](https://www.mwcbarcelona.com/agenda/sessions/5131-ai-driven-ran-automation-transforming-networks-for-a-smarter-more-efficient-future), will explore how AI-enabled RAN automation enhances network performance, optimizes resource management, and supports diverse RAN architectures. Watch the panel to see Choi share the Alliance’s milestones, insights on AI-native RAN’s future, and opportunities for global collaboration to drive telecom innovation.

\*Not AI-RAN Alliance members

**About the AI-RAN Alliance**

The AI-RAN Alliance is a collaborative consortium focused on enabling the evolution and advancement of AI integration into RAN. Established in 2024, the Alliance strives to promote innovation, establish best practices, and drive the development of AI technologies that enhance the performance, efficiency, and flexibility of RAN systems used in telecommunications. For more information, visit: [https://ai-ran.org](https://ai-ran.org/)/