MiFuture News

Industry news, papers and events related to 6G C MIMO

March 2026

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MiFuture News: Monthly Updates on 6G and MIMO Technologies

MiFuture News is a monthly publication of the MiFuture project, complementing the MiFuture Newsletter, which will be published every six months. While the Newsletter includes internal project updates, MiFuture News features articles and information from external sources freely available on the internet.

This publication aims to gather the most interesting industry news, relevant technical papers, and upcoming events related to 6G and MIMO technologies to share with supervisors and PhD students within the project.

If you come across any interesting news, please share it with us for inclusion in the next issue.

Nvidia teams with global telecom leaders for 6G development

March 09 - AI behemoth and global operators and infrastructure providers team to build next-generation mobile infrastructure to advance AI-native 6G innovation based on open and trusted software-defined wireless platforms.

China’s Next Industrial Bet: Quantum Computing, 6G-and the Quiet Power of “Future Materials”

March 09 - China is doubling down on what it calls “future industries”—a strategic group of technologies including quantum computing, embodied AI, brain-computer interfaces, and 6G communications. At the 2026 Two Sessions political meetings, Beijing’s Government Work Report highlighted these sectors for the third consecutive year, signaling sustained national focus.

Huawei Dr. Wen Tong: Agentic Core Networks Shape 6G, Unlocking New Business Frontiers

March 04 - At MWC Barcelona 26, Dr. Wen Tong, Huawei Wireless CTO, delivered a keynote speech on 6G core network. He introduced Agentic Core Networks as the revolutionary 6G-oriented AI core network driven by agentic AI, and explained that the architecture seamlessly integrates application creation with network customization to deliver intent-as-a-service, empowering operators to explore new business models and drive growth in the 6G era.

Africa’s 6G Future: The Two Complimentary Technologies That Will Reap the Greatest Rewards

March 09 - In Africa’s 6G future, the convergence of fully realized extended reality (XR) and real-time holographic communication will form two complementary pillars of an intelligent, immersive infrastructure capable of unlocking transformative economic and social value across the continent.

The 6G Network Is the Future of AI

Feb. 26 - The commercial launch of 5G in 2019 initiated a structural shift in wireless connectivity that is now the baseline for the next decade. Early deployments emphasized broad coverage and improved speeds, with additional capabilities introduced as networks scaled and architectures modernized. 5G standards define how networks are designed, operated, and monetized, and they set the technical and operational foundation for 6G, which is expected to emerge in late 2029 and early 2030.

ZTE Launches GigaMIMO: AI-Native Wireless Empowers Human-Agent Synergy

March 06 - ZTE Corporation (0763.HK/000063.SZ), a global leading provider of integrated information and communication technology solutions, officially unveiled the 6G Vision for Human-Agent Synergy at MWC Barcelona 2026. ZTE has established a forward-looking 6G vision zone under the theme "Human-Agent Future". Through immersive interactions between humans and robots, ZTE presented a systematic roadmap and future outlook for 6G evolution to a global audience.

T-Mobile and Deutsche Telekom Launch Joint 6G Innovation Hub to Advance AI-Native Networks

Feb. 28 - T-Mobile (NASDAQ: TMUS) and Deutsche Telekom today announced the launch of a joint 6G Innovation Hub, anchored by T-Mobile's Innovation Lab in Bellevue, Washington, US, and T-Labs in Berlin, Germany, to collaboratively design and develop 6G as a fully AI-native system. This transatlantic initiative strengthens the companies' long-standing technology partnership and accelerates the evolution of connectivity, sensing and compute to support the next generation of Physical AI applications.

Samsung Electronics and KT Corporation Verify X-MIMO Technology in 7 GHz Band for 6G Development

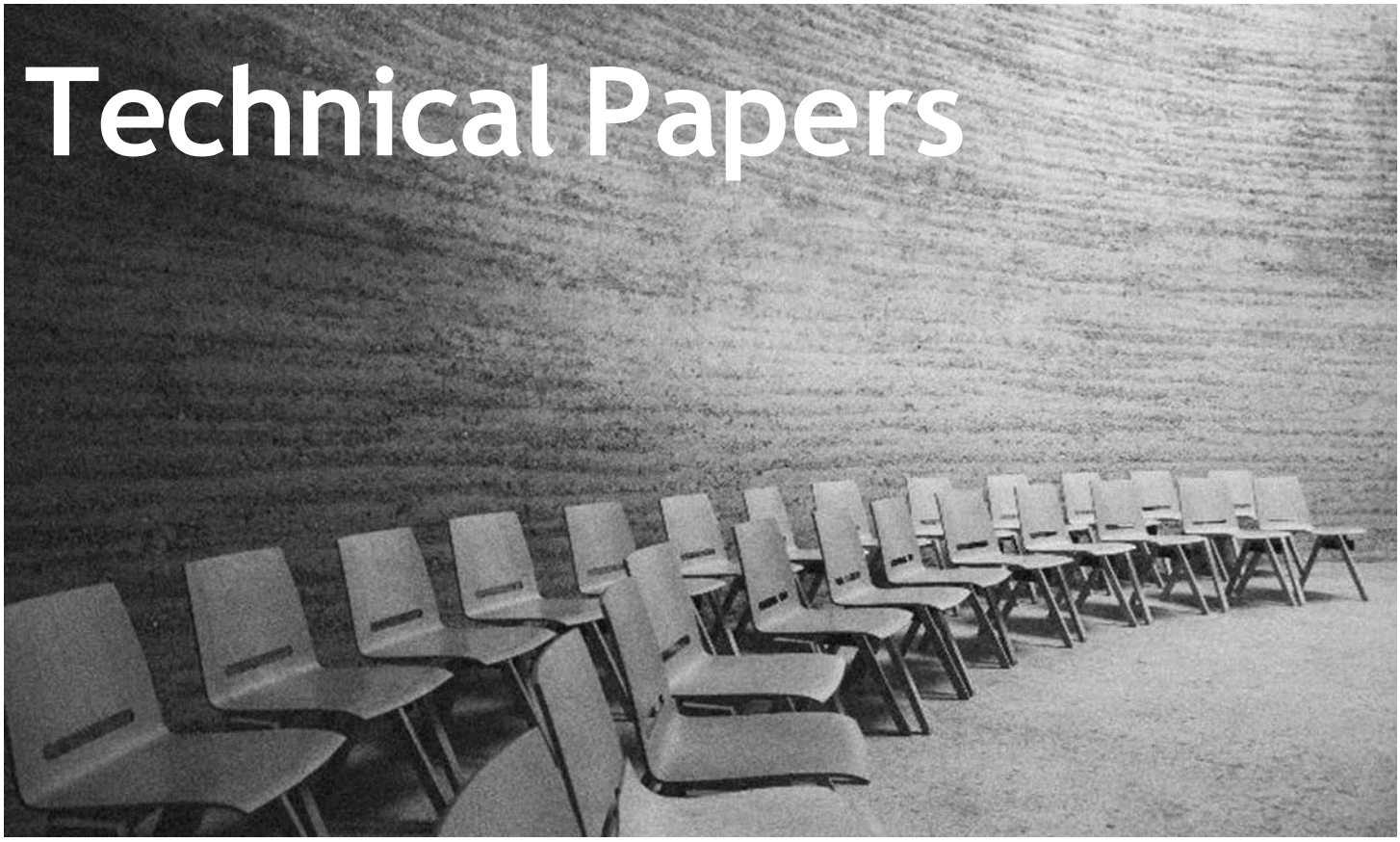
Feb. 20 - Samsung Electronics today announced it has reached a significant milestone in 6G development, successfully verifying eXtreme multiple-input multiple-output (X-MIMO) technology in the 7 GHz band — a key candidate frequency for future 6G networks — with KT Corporation (KT) and Keysight Technologies.

Turkcell advancing AI capabilities, accelerating 5G evolution and autonomous network technologies, and pioneering next-generation networks

March 09 - Türkiye's leading telecommunications and technology company and global information and communications technology leader Huawei have signed three significant Memorandums of Understanding (MoU) at the Mobile World Congress (MWC) 2026 held in Barcelona, Spain. Through these agreements, the parties further strengthened their long-term strategic collaboration to shape the future of telecommunications.

6G Lab Launched by MediaTek and Singapore University of Technology and Design

March 02 - MediaTek and the Singapore University of Technology and Design (SUTD) held a signing ceremony to mark the launch of a joint 6G research laboratory, with a total committed investment of over S$34 million to accelerate the development of 6G technologies.



On AI Verification in Open RAN

Soundrarajan, Rahul; Fiandrino, Claudio; Polese, Michele; D'Oro, Salvatore; Bonati, Leonardo; Melodia, Tommaso

Open RAN introduces a flexible, cloud-based architecture for the Radio Access Network (RAN), enabling Artificial Intelligence (AI)/Machine Learning (ML)-driven automation across heterogeneous, multi-vendor deploy- ments. While EXplainable Artificial Intelligence (XAI) helps mitigate the opacity of AI models, explainability alone does not guarantee reliable network operations. In this article, we propose a lightweight verification approach based on interpretable models to validate the behavior of Deep Reinforcement Learning (DRL) agents for RAN slicing and scheduling in Open RAN. Specifically, we use Decision Tree (DT)-based verifiers to perform near- real-time consistency checks at runtime, which would be otherwise unfeasible with computationally expensive state- of-the-art verifiers. We analyze the landscape of XAI and AI verification, propose a scalable architectural integration, and demonstrate feasibility with a DT-based slice-verifier. We also outline future challenges to ensure trustworthy AI adoption in Open RAN.

A First Look at Operational RAN Updates and Their Impact on Carrier Traffic Demands and Prediction

Boiano, Antonio; Chukhno, Nadezhda; Smoreda, Zbigniew; Redondi, Alessandro Enrico Cesare; Fiore, Marco, IMDEA NETWORKS

This paper analyzes the dynamics of Radio Access Network (RAN) updates in a large nationwide infrastructure with over 500,000 carriers. RANs are regularly upgraded to handle increasing traffic, evolving technologies, and stricter performance requirements, yet their deployment dynamics and impact on data-driven network management have received little attention. Using a network-side perspective, the study examines the types and frequency of RAN updates, their effects on key performance indicators—particularly traffic volume—and their consequences for machine learning applications such as traffic prediction. The results show that RAN updates occur frequently, even every few days in medium-sized cities, and can significantly affect carrier

traffic patterns, reducing the accuracy of ML forecasting models.

Accelerating Emergency Location and Response in 5G and Beyond Networks

Scalingi, Alessio; Giustiniano, Domenico; Pigato, Francesco, IMDEA NETWOEKS

This paper addresses the challenge of accurately locating emergency callers, particularly as most emergency calls now originate from mobile devices. Current solutions such as Advanced Mobile Location (AML) and Network-Initiated Location Request (NILR) improve positioning accuracy but often face delays and inconsistent implementation across countries. The authors propose a new approach that uses early signaling data and Radio Access Network (RAN)-level analytics to provide faster positioning information without adding overhead to the user device. A proof-of-concept implemented with OpenAirInterface demonstrates the feasibility of the method. The results suggest that RAN-aware positioning can complement existing systems, offering a scalable and standards-compliant solution for emergency services in 5G and future networks.

A Longitudinal Study of 5G NSA/SA Infrastructure and User Adoption from an MNO Perspective

Boiano, Antonio; Pirri, Máximo; Madariaga, Diego; Chukhno, Nadezhda; Ziemlicki, Cezary; Smoreda, Zbigniew; Redondi, Alessandro Enrico Cesare; Fiore, Marco, IMDEA NETWORKS

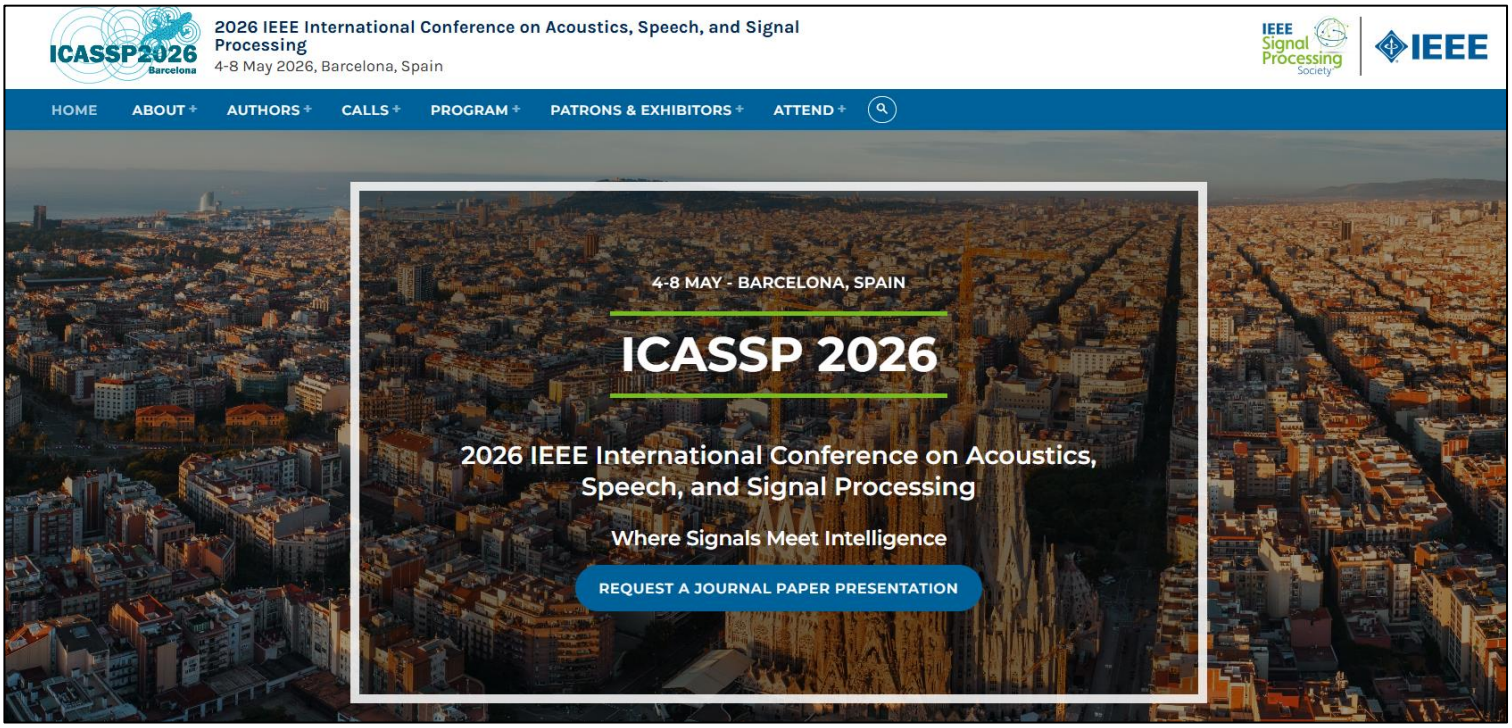
This paper examines the rollout and usage of Orange's nationwide 5G network in France. Using longitudinal data, it analyzes more than five years of infrastructure deployment and two years of traffic demand to understand how the operator has planned and implemented its 5G radio access network. The study also evaluates the recent introduction of a commercial 5G Standalone (SA) service and its adoption by users. By mid-2025, the network has achieved broad coverage of populated areas and the operator has begun adding capacity layers. However, the results show that user adoption has not kept pace with infrastructure expansion, leaving much of the available 5G capacity—especially SA—largely underutilized.

A Unified Hybrid Terminal for Augmented Positioning

Pigato, Francesco; Santaromita, Giuseppe; Otim, Timothy; Lejardi, Jon; Giustiniano, Domenico, IMDEA NETWORKS

Emerging positioning sources, such as 5G Terrestrial Networks (TN), Non-Terrestrial Networks (NTN), are becoming increasingly accessible. Combined with existing systems such as GNSS and Low Earth Orbit (LEO) technologies, they promise enhanced navigation performance, robustness, and reliability while providing communication capabilities. This convergence enables continuous and ubiquitous navigation and unlocks new applications and services. This paper presents the specification and design activities of a hybrid terminal that integrates these positioning technologies, highlighting preliminary results obtained with its 5G TN link.


Events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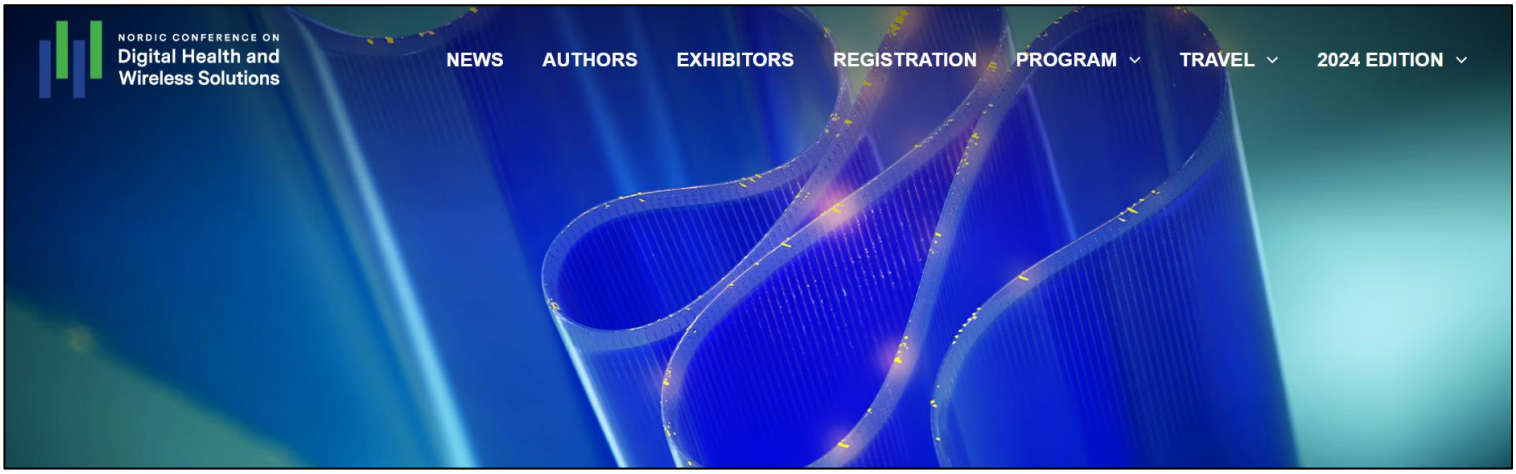
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