MiFuture News

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

March 2025

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.

Industry news

Searching for 6G at MWC

March, 9 - Is 6G currently the silent generation? MWC exhibits low on 6G demos and noise.

Mobile operators brace for bigger, faster headaches with 6G

February, 19 - Mobile operators are pushing for consensus on the key components of next-gen 6G networks, warning that a new radio interface could add complexity – though they acknowledge it would also allow for higher data rates.

Will Satellites Replace Cell Towers in Mobile Networks?

March, 6 - The mobile communications landscape is undergoing a profound transformation, driven by rapid advancements in satellite technology. Traditionally, terrestrial cell towers have been the backbone of mobile networks, providing coverage in urban, suburban, and even some rural areas. However, with the rise of satellite-based connectivity, a pressing question emerges: Will satellites replace cell towers in mobile networks?

Get ready for the ultra-fast 6G mobile network!

March, 4 - The new 6G mobile network could enable data transfers at speeds of up to one terabyte per second, so expectations are very high.

ZTE launches the industry's first intelligent 400GE base station router to advance 5G-A/6G converged transport networks

March, 4 - ZTE Corporation launched the industry's first intelligent 400GE base station router, the ZXCTN 6120H-SE, at its "Ultra-Efficient Mobile Network" exhibition area during MWC Barcelona 2025.

Mobile networks can be a catalyst driving innovation beyond telecoms

February, 19 - By enabling more efficient systems and unlocking new possibilities, mobile networks are critical for change, shaping the future of industries while also presenting new challenges and opportunities.

The open network journey to the future

March, 7 - How Open RAN nearly got *too* open, and how to build the networks of the future.

MWC: WBA says 6G should be inclusive from the get-go

March, 4 - MOBILE WORLD CONGRESS, BARCELONA – Like a lot of folks, the Wireless Broadband Alliance (WBA) would like to avoid making the same old mistakes when it comes to 6G.

4G vs 5G vs 6G: Which phone is right for you?

March, 7 - International Telecommunications Union sets goal of rolling out final 6G standards.

Mobile Experts Releases Cost per GB Forecast for 6G

February, 9 - Mobile Experts published a new report this week, titled "Cost per GB Forecast for 6G". Available for immediate download, this report spells out the fundamental economic rationale for sweeping strategic changes in the mobile/wireless market.

Advancing AI-RAN at Mobile World Congress 2025

March, 3 - With AI in all its many forms set to be big topics at MWC - leading operators and vendors have shared plans for the AI-RAN early on at the event. TMN learns how Nokia is exploring running its RAN on GPUs, but isn't committing yet.

AI-driven 6G networks: The future of telecommunications

February, 12 - AI-native 6G networks will redefine connectivity, integrating AI for seamless optimization, security, and efficiency in mobile communications.

ETSI launches new group on Multiple Access Techniques for 6G networks

February, 9 - ETSI has announced the establishment of a new Industry Specification Group (ISG) focused on Multiple Access Techniques (MAT) for 6G mobile systems. The group aims to build industry consensus on multiple access techniques, based on 3GPP specifications.

Technical Papers

Artificial Intelligence in 6G Wireless Networks: Opportunities, Applications, and Challenges

Abdulraqeb Alhammadi, Ibraheem Shayea, Ayman A. El-Saleh, Marwan Hadri Bin Azmi, Zool Hilmi Ismail, Lida Kouhalvandi, Sawan Ali Saad, International Journal of Intelligent Systems, Volume 2024, Article ID 8845070

This paper explores the growing role of artificial intelligence (AI) in wireless networks, driven by the increasing demand for smart, automated, and adaptive systems. AI techniques, such as machine and deep learning, are transforming wireless technologies by enabling intelligent decision-making, automation, predictive analytics, and optimization. The study provides a comprehensive review of AI applications in wireless networks, highlighting their potential to enhance performance and efficiency. Additionally, it discusses unsolved research challenges and future trends, offering insights and solutions for advancing AI-enabled wireless communication. This work serves as a valuable resource for researchers seeking to explore cutting-edge AI-driven network designs.

Optimizing data transmission in 6G software defined networks using deep reinforcement learning for next generation of virtual environments

Khaled Mohamed Naguib, Ibrahim Ismail Ibrahim, Mahmoud Mohamed Elmessalawy & Ahmed Mostafa Abdelhaleem, scientific reports

This paper explores data transmission challenges in Virtual Reality (VR) and how 6G technologies can enhance performance by addressing high bandwidth and low latency demands. It highlights the role of Software-Defined Networking (SDN) and resource slicing in optimizing VR transmission. Deep Reinforcement Learning (DRL) is integrated to dynamically manage network resources, minimizing latency and maximizing data rates. The proposed VR-based SDN model improves centralized resource administration in 6G networks. Comparative results demonstrate that DRL-based strategies significantly enhance resource management, increase achievable data rates, and reduce latency, making them a promising solution for efficient VR video transmission in future networks.

Autonomous services and unified networking experience technology (UNEXT)

Vilho Räisänen, NOKIA BELL LABS

Automation is becoming increasingly important as the complexity of communication networks continues to grow and serve an expanding range of value networks. These developments are driving the trend toward greater autonomy of networks, powered by evolving AI/ML paradigms. Autonomous services are a fundamental building block for advanced network autonomy, whether in traditional hierarchical or emerging decentralized architectures. In this white paper, we describe the unified network experience technology (UNEXT) approach.

Going the extra mile with BEAD intelligence: Assessing the incumbent advantage

NOKIA BELL LABS

This paper examines the impact of broadband expansion programs like BEAD on underserved U.S. communities, focusing on greenfield vs. brownfield deployments. Greenfield areas, with no prior service, offer equal cost opportunities for all providers, while brownfield areas, where unserved locations mix with served ones, give incumbents a cost advantage. States must balance competition and cost efficiency, as relying solely on incumbents may increase subsidies. Using techno-economic modeling in North Carolina, the study analyzes deployment costs and identifies counties where competition between new entrants and incumbents can optimize broadband expansion, ensuring affordable universal coverage with minimal state expenditure.

White Paper on Inclusive Autonomous Vehicles

CAP GEMINI

This White Paper explores the inclusive development of autonomous vehicles (AVs), emphasizing their potential to transform mobility for all, especially vulnerable groups such as the elderly, people with disabilities, and those at risk of digital exclusion. Beyond technology, AVs present social opportunities but also challenges in accessibility and public acceptance. The paper, developed with industry and social stakeholders, highlights user-friendly design, integration with conventional vehicles, and social impact as key factors. It aims to guide a sustainable, equitable AV deployment, ensuring safe, accessible mobility for all. Special thanks are extended to organizations like the Spanish Red Cross and Fundación ONCE.

Events

International Workshop on

Resilient 6G Networks (WResNet

6G)

24 March 2025

IEEE 6G Summit

Dresden 2025

★

May 14–15, 2025 in Dresden, Germany

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6G Summit

Discover the future of mobile networks at the 6G Summit, where industry stakeholders gather to envision the next generation of connectivity.

Industry stakeholders are already talking about the next generation mobile networks, known as **6G**, and what this might look like. Many research and white papers have already been published by reputable organisations—from vendors and CSPs to standards bodies and universities—that discuss the potential 6G technologies represent. Partnering with **ATIS** and **Next G Alliance** provides access to valuable insights in the USA and data on global telecommunications.

IEEE INTERNATIONAL CONFERENCE ON MACHINE LEARNING FOR COMMUNICATION AND NETWORKING

26–29 May 2025
Barcelona, Spain

ieee-icmlcn.org

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Welcome to 2025 EuCNC & 6G Summit

3-6 June | Poznan, Poland

Towards the 6G World

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6G and Future Technologies conference

17 - 18 June 2025 | London, UK

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