MiFuture News

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

September 2025

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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.

Empowering next-generation user experiences and services at scale with 6G

Sept. 05 - The convergence of advanced wireless, AI, XR and computing technologies is transforming how we interact with the digital world, enabling more intuitive and immersive experiences and services. 6G is the wireless innovation platform for the next decade and beyond, and it's being designed to meet evolving connectivity and computing needs, aimed to deliver unparalleled user experiences.

6G Line-Of-Sight Repeaters, Dots, And Reflections

Sept. 04 - 6G will open the door to ultra-reliable, low-latency communications, extended broadband, and machine communications, but its rapid signal attenuation places some sharp limits on where and how it can be used, and requires some expensive options to overcome those limitations.

6G Integrated Sensing Drives Network Transformation for MNOs, says ABI Research

Sept. 04 - Integrated Sensing and Communications (ISAC) is a key concept being developed for 6G, which transforms cellular networks into radars and allows them to both sense their environment and communicate information about it.

A Tiny 6G Chip Could Make Your Wireless Network 500x Faster

Sept. 04 - Researchers claim a new chip blasts open speed capabilities for a future 6G network.
The ultrabroadband 6G chip can reach speeds over 100 Gbps—10 times faster than the theoretical high-end of 5G, and 500 times faster than its average speed.
The new chip, which is also relatively small, can handle a wider range of frequencies and has real-time reconfigurability.

Scientists develop the world's first 6G chip, capable of 100 Gbps speeds

Sept. 01 - Sixth generation, or 6G, wireless technology is one step closer to reality with news that Chinese researchers have unveiled the world's first "all-frequency" 6G chip. The chip is capable of delivering mobile internet speeds exceeding 100 gigabits per second (Gbps) and was developed by a team led by scientists from

Peking University and the City University of Hong Kong.

Jhalawar Scientist Develops Hybrid Material For Future 6G Technology

Sep. 04 - Countries around the world are competing to increase internet speed. After 4G, 5G is now expanding rapidly. Scientists have already started research on 6G, which is expected to become a reality by 2030. Experts said that 6G will make the internet not only faster but also 100 times more efficient than 5G.

What is China doing to realize the dream of 6G technology?

Sept. 02 - The development of 6G technology is not only a race of technology, but also a race of economic power and global influence. China, with a long-term strategic vision, is actively investing and researching to become a leading country in 6G technology.

A code for the future: Scientists develop a faster and more reliable solution for 6G networks

Sept. 03 - Researchers at Skoltech have presented new generalized LDPC codes (Generalized Low-Density Parity-Check Codes, GLDPC)—a practical solution that operates faster than modern solutions from the 5G standard while maintaining the original reliability of data transmission. Such codes are particularly important for designing next-generation wireless systems, where minimizing latency and ensuring reliable communication are among the key technological challenges.

Why 6G Will Be the First Truly Thinking Network

Aug. 05 - The promise of 6G isn't just more bandwidth or lower latency, it's decision-making. Not on the device, but deep inside the network. As the telecom industry looks ahead to the next generation of mobile systems, a new paradigm is emerging: the AI-powered Radio Access Network, or AI.

IMC to focus on connecting communities, 5G & 6G: Jyotiraditya Scindia

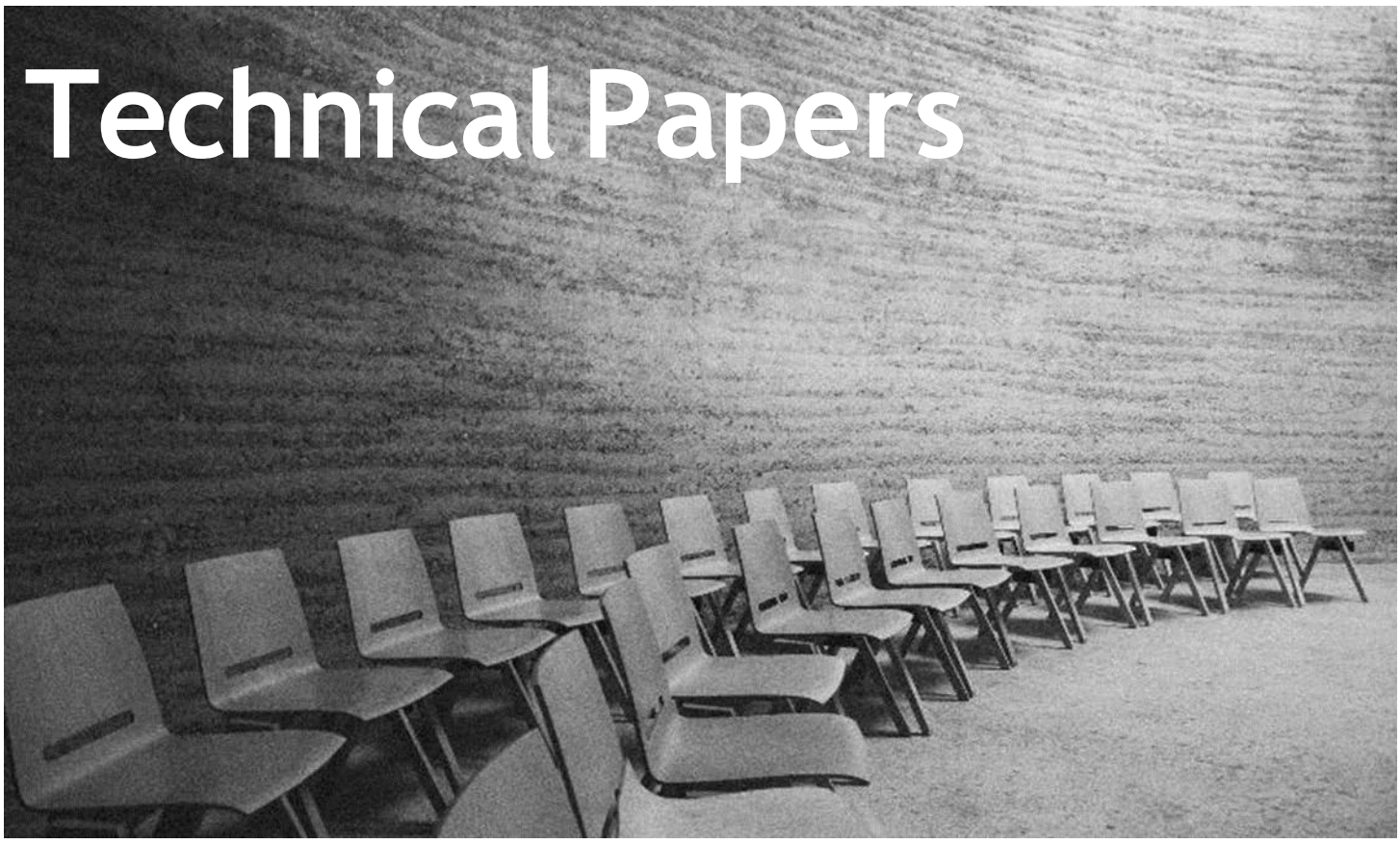
Sept. 01 - India Mobile Congress 2025 is set to highlight 5G and 6G advancements. The event will explore connecting farmers, MSMEs, and students. Telecom Minister Jyotiraditya Scindia launched the AI-powered IMC 2025 app. The event anticipates 1.5 lakh attendees from 115 nations. IMC 2025 aims to foster innovation and transformation. It aligns with the Prime Minister's vision of Aatmanirbharta by 2047.

Internet from the "Sceye": Solar Drones Aim for 6G

Aug. 01 - These high-altitude platform systems (HAPS) float above weather patterns and commercial air traffic, using powerful solar arrays and advanced lithium-sulfur batteries to run continuously, even through the night. They can hold position in high winds and carry heavy payloads, making them ideal for stable, long-range internet, environmental monitoring, and wildfire detection.

When will 6G mobile networks be commercialized worldwide?

Sept. 05 - According to the cycle, each new generation of mobile networks is usually deployed after 10 years. If the development of 6G mobile networks follows this cycle, we may experience the first commercial 6G networks around 2030.



6G Technology Overview

One 6G

6G aims to meet the demands of mobile networking beyond 2030, addressing diverse and often conflicting requirements such as ultra-high data rates, massive device connectivity, wide coverage, extremely low latency, flexibility, and energy efficiency for sustainable growth. It is expected to surpass 5G by achieving, for example, tenfold lower latency and hundredfold higher data rates, while enabling unprecedented use cases that combine multiple extreme requirements. This white paper outlines ten key enabling technologies shaping 6G: terahertz frequencies, next-generation MIMO, integrated sensing, non-terrestrial networks, AI, programmable infrastructures, sustainability, and others, providing context, challenges, and state-of-the-art insights for each.

New Developments and Advances in 5G and Non-Terrestrial Networks

5G Americas

The satellite industry in partnership with the 3GPP ecosystem has the ability to achieve ubiquitous seamless connectivity around the globe by complementing the coverage of 4G, 5G, and beyond terrestrial networks. The technological advances in the space and satellite communications industry and their integration with terrestrial telecommunications networks will play a significant role in shaping the future of connectivity. The Total Addressable Market for telecommunications revenues via wholesale satellite partnerships is expected to exceed US$28 billion by 2030.

Transforming Industries with Integrated Sensing and Communication

5G Americas

This report examines how Integrated Sensing and Communication (ISAC) will transform mobile networks by enabling them to both communicate and sense their surroundings. Using shared radio signals, ISAC supports object detection, motion tracking, and spatial awareness without direct device connectivity. Key findings highlight ISAC's dual-purpose efficiency, broad applications in safety, healthcare, transport, and smart cities, and new monetization models such as "Sensing as a Service." Challenges include waveform design, interference management, and edge AI integration. Standardization is underway within 3GPP, starting in 5G-Advanced, positioning ISAC as a cornerstone for 6G, digital twins, and context-aware services.

5G-Advanced Overview

5G Americas

The 5G-Advanced Overview report analyzes 3GPP Releases 18–20, charting the evolution toward 6G. It highlights how 5G-Advanced integrates AI into RAN and core networks, enabling zero-touch automation, predictive maintenance, and major gains in fault detection. Energy efficiency advances, such as cell sleep modes and ambient IoT, promise up to 56% savings and battery-free devices. Enhanced latency frameworks support XR, industrial automation, and IoT scalability, while advanced MIMO and non-terrestrial networks expand coverage and achieve uplink speeds above 500 Mbps. Together, these innovations position 5G-Advanced as a transformative enabler for digital twins, private networks, and AI-driven automation.

6G Position Paper

XG Mobile Promotion Forum

With the advancement of next-generation mobile networks, 6G is expected to drive new innovations and bring about transformations in society, industry, and individual lives. This position paper aims to organize the key technical issues that need to be addressed with 6G, considering the direction of Japan's future development and anticipated societal challenges. It seeks to deepen mutual understanding among industry, academia, and government, and to broadly communicate Japan's 6G concept both domestically and internationally. Through this effort, the goal is to promote sustainable growth and innovation, and to accelerate discussions and initiatives toward the realization of next-generation mobile networks.

Recommendations for Base Station Antennas

NGMN

The procurement, testing and deployment of base station antennas – a critical component in the delivery of mobile communications – will be simpler for operators and suppliers thanks to new guidance for the creation of a 'common language' to describe the technology.

For the first time, the mobile industry has been provided with a single document that sets shared rules for describing passive, active and hybrid base station systems, thanks to the latest release of the NGMN Alliance's 'Recommendations for Base Station Antennas' publication. This represents an important step forward as the industry moves towards hybrid antenna systems, which combine active and passive technologies to deliver mobile communications solutions, such as 5G, in a more versatile and efficient way.


Events


Fierce Network Presents:
Open RAN Summit
September 16-17, 2025 | Free Virtual Event

IEEE CSCN

IEEE Conference on Standards for Communications and Networking
15–17 September 2025 // Bologna, Italy

IEEE ComSoc IEEE Communications Society

IEEE

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Tutorial at IEEE PES ISGT Europe 2025
20 October 2025 · Malta

6G for Smart Grid Transformation

Enabling Technologies, Resilience & Cross-Energy Synergies

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IEEE Future Networks™ WORLD FORUM • 2025

IEEE Future Networks World Forum
10–12 November 2025 // Bangalore, India

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