MiFuture News

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

April 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.

NVIDIA and Telecom Industry Leaders to Develop AI-Native Wireless Networks for 6G

March, 18 - T-Mobile, MITRE, Cisco, ODC and Booz Allen Hamilton to Collaborate on Development of AI-Native Network Stack for 6G on NVIDIA AI Aerial Platform.

What do operators want from 6G?

April - TelecomTV's Guy Daniels introduces the second report in our new series on "Defining 6G networks", where we present comprehensive coverage and analysis of the 6G visions and requirements of the telecom industry's major stakeholders. In this preview programme, we sample some of the highlights from this report, which focuses on what network operators want from 6G.

Telecom firms scrambling to develop 6G

March, 13 - Chinese telecom companies are scrambling to deepen the research and development of 6G, as the world enters a crucial window of opportunity to identify potential technologies and formulate key standards for the next-generation wireless technology.

MWC 2025: AI-powered 6G takes center stage, signaling telecom's intelligent future

March, 13 - As MWC 2025 concluded, Far EasTone's EVP of Network Technologies & Operations, Jason Kuo, outlined key telecom trends, emphasizing that 6G is taking clearer shape, with AI emerging as a core pillar of next-generation networks. Kuo, who has been...

What Apple wants from 6G

April, 7 - Apple's interest in helping to shape the 6G standards should come as no surprise, especially given the recent advances it has made with its in-house modem design efforts. What may be more surprising is the extent to which the notoriously secretive company is willing to become involved.

Integrated Sensing and Communication (ISAC) for 6G networks

February, 26 - BubbleRAN and Taiwan's Industrial Technology Research Institute (ITRI) are thrilled to announce their collaboration to demonstrate Integrated Sensing and Communication (ISAC), a foundational technology for 6G networks, at Mobile World Congress (MWC) 2025 in Barcelona.

At current profit level, 6G may be delayed, telecom association warns

March, 11 - Lt. Gen. (retd.) S.P. Kochhar, the director general of the Cellular Operators Association of India, warned that 6G deployments may be delayed if telecom operators' profits didn't increase.

Top telecom sector execs split over 6G – report

February, 18 - Is the telecom sector doing enough to prepare for 6G? Top industry executives are split over this question, according to the results of a survey conducted in January with the members of the DSP Leaders Council and published in our latest free-to-download industry report.

It's Time To Rethink 6G

February, 10 -Is the worldwide race to keep expanding mobile bandwidth a fool's errand? Could maximum data speeds—on mobile devices, at home, at work—be approaching "fast enough" for most people for most purposes.

6G Revolutionizing Connectivity for a Sustainable Future

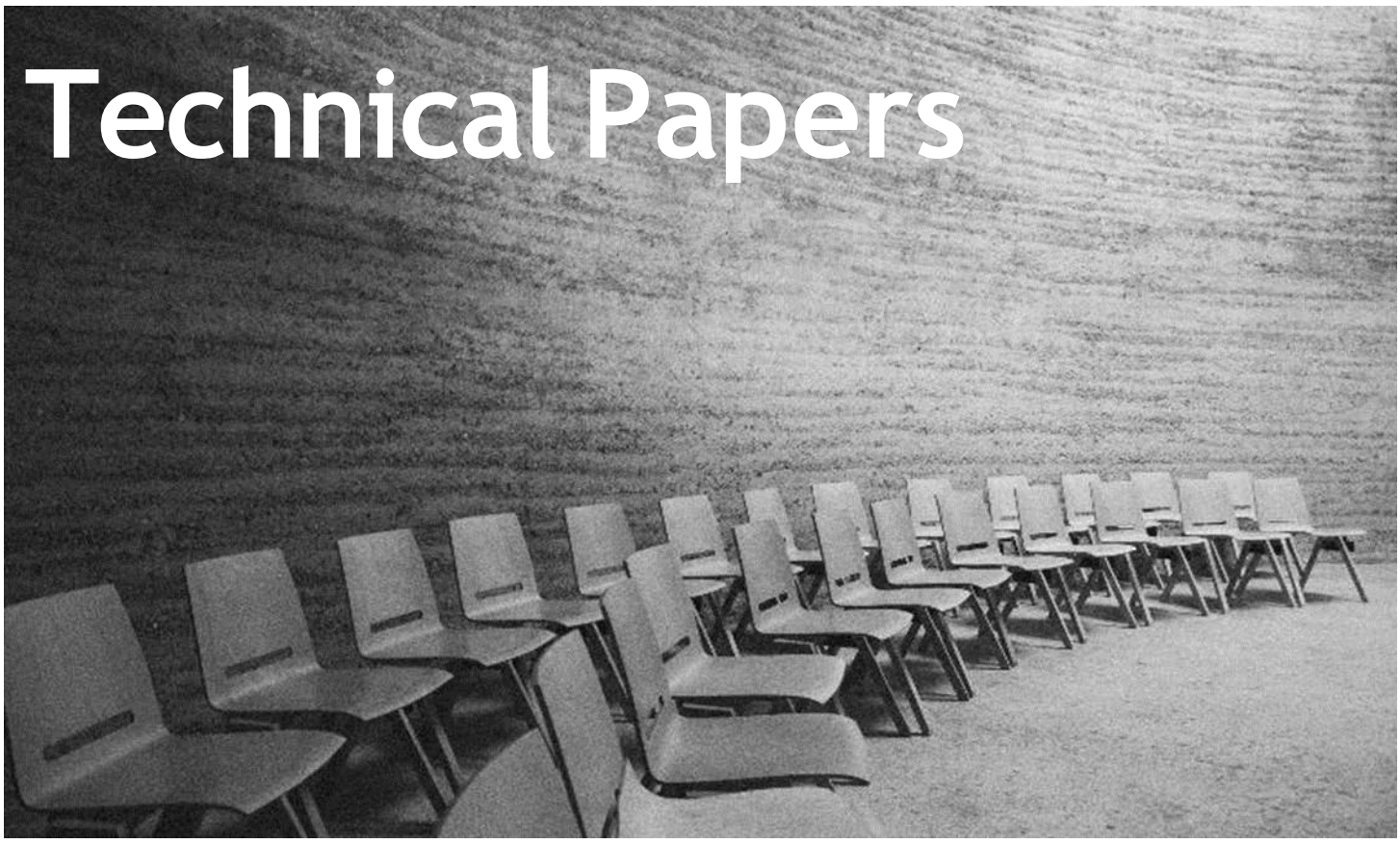
March, 6 - As the world becomes increasingly digital, the emergence of 6G technology is set to revolutionize global connectivity. While 5G continues its rollout, research and development of 6G networks are already in progress, with a vision not only to enhance communication speeds but also to create a sustainable, efficient, and inclusive digital ecosystem. Beyond delivering ultra-fast internet and mobile experiences, 6G promises to redefine industries, societies, and global solutions to challenges like climate change.

KDDI, Samsung team up on AI-enhanced 6G RAN

March, 11 - Despite multiple ongoing challenges related to the efficiency and optimisation of existing 5G and 4G cellular networks, telecom sector companies are increasingly focusing R&D resources on next-generation wireless network architectures that could help telcos to achieve challenging optimisation goals in the 6G era: With that in mind, Japan's KDDI and South Korea's Samsung have agreed to jointly research some particular ways in which AI could enable the deployment of innovative next-generation mobile networks.

ETSI Intros NFV Architecture for Telco Cloud and 6G Evolution

April, 8 - ETSI announced the publication of two documents, a White Paper "NFV evolution: Towards the Telco Cloud" and a Group Report.



NFV evolution: Towards the Telco Cloud

ETSI

This paper discusses the evolution of Network Functions Virtualisation (NFV) and its Management and Orchestration (MANO) framework, which have revolutionized telecom network deployment and operations, especially in 5G. With advancements in cloud-native technologies, automation, and AI, NFV is evolving to support future needs like 6G. Key design principles guiding this evolution include simplification, scalability, modularity, and enhanced automation. The white paper proposes a platform-oriented Telco Cloud framework to integrate virtualization, orchestration, and management more effectively. It also highlights emerging enablers such as declarative APIs, GitOps, digital twins, and AI, which are crucial for enabling more flexible and efficient telecom networks.

Network Functions Virtualisation (NFV) Release 6; Architecture; Report on architectural support for NFV evolution

ETSI

This report studies and describes the architectural changes related to the NFV architectural framework, to support new trends in NFV-based Telco Cloud evolution, such as new types of virtualisation technologies, heterogenous infrastructure or hyper-distributed edge deployment, computing and network convergence. Starting with a study on future trends related to NFV-based Telco Cloud evolution and their respective architectural targets applied to the NFV architectural framework, key architectural principles are identified for deriving potential architectural changes to the current NFV architectural framework. Resolutions to fulfil the architectural targets of future trends by the proposed NFV architectural changes are also analysed. At the end, recommendations for the normative work of architectural framework for Telco Cloud are delivered considering the future trends.

Final design of enabling technologies for 6G devices and infrastructure

6G SNS

This report updates earlier classifications and performance indicators of sixth-generation (6G) devices, incorporating the impact of new use cases and sensing capabilities. The corresponding analysis provides a framework for addressing the diverse application needs of 6G, emphasizing energy neutrality, reliability, and sustainability as core principles. Key 6G technological enablers, from devices to infrastructure, are proposed and/or investigated, including microwave/millimeter/sub-THz transceivers, system-on-chip (SoC) designs, and innovative communication protocols. This includes advances in the exploitation of novel frequency bands, reflective intelligent surfaces (RIS), hardware impairment mitigation approaches, artificial intelligence (AI) accelerators, security, smart energy management, scalable signal processing and AI capabilities, sustainable Internet of Things (IoT) device architecture/manufacturing practices, lightweight and energy-aware operation and communication protocols, and wireless charging. The results reflect a holistic approach to 6G development, combining advances in hardware, device design, and system integration, including novel prototypes and proofs of concepts, to address critical challenges in operation, connectivity, and sustainability.

Final architectural framework and analysis

6G SNS

This is the third public deliverable from Hexa-X-II project work package 3 – “Final architectural framework and analysis”. This deliverable finalizes the data driven architecture to power new services, both for communication and for beyond communications. In addition, the deliverable describes new means for a modular cloud-native network to improve flexibility and reduce signalling, as well as enablers for new access and flexible topologies for improved reliability. The architecture inherently uses AI, both for orchestration and as a service, and incorporates NTN for enabling ubiquitous coverage..

Final Results of 6G Radio Key Enablers

6G SNS

This report provides final results on selected key enablers for 6G radio design, developed within HexaX-II work package 4: “Radio Evolution and Innovation”. The report begins with an overview of holistic radio design and corresponding enablers. Subsequent technical studies cover a range of topics in channel modelling, radio architecture and deployment for communication and sensing, model and datadriven transmission schemes and signal processing algorithms, spectrum access, and radio trustworthiness. Evaluation results are obtained through simulation frameworks and proof-of-concept platforms. This analysis provides inputs for the second iteration towards the end-to-end 6G system design in the Hexa-X-II project.

Final Design on 6G Smart Network Management Framework

6G SNS

This document presents the design and implementation of the 6G Smart Network Management Framework within the Hexa-X-II project. It outlines architectural Management and Orchestration (M&O) solutions, functionalities, systems, and algorithms developed as part of the framework. The deliverable includes detailed implementation insights, both for individual components and integrated workflows, along with evaluation results. It also highlights how the framework aligns with the overall project goals, including interactions between Work Package 6 and others, contributions to dissemination, standardization, Key Exploitable Results, project use cases, and impacts on Key Performance and Value Indicators (KPIs and KVIs), guided by the Advisory Group's recommendations.


Events


IEEE 6G Summit
Dresden 2025
May 14–15, 2025 in Dresden, Germany
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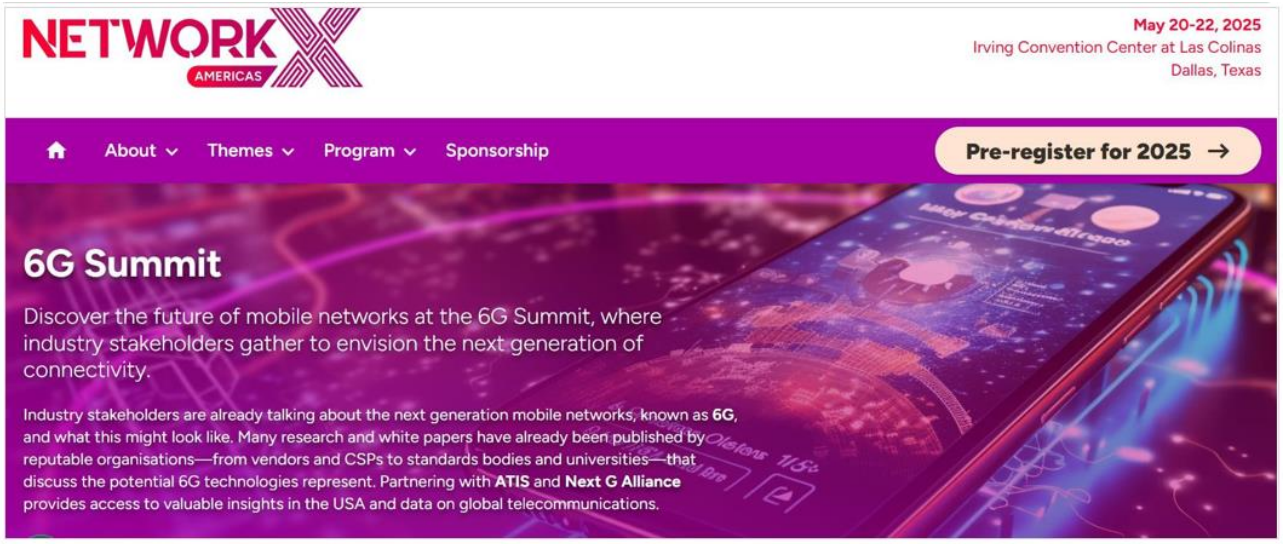
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6G Summit
Discover the future of mobile networks at the 6G Summit, where industry stakeholders gather to envision the next generation of connectivity.
Industry stakeholders are already talking about the next generation mobile networks, known as 6G, 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.


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