



6GTandem

A Dual-frequency Distributed MIMO Approach for Future 6G Applications

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Factsheet 02: SNS JU

What is SNS JU? The Smart Networks and Services Joint Undertaking (SNS JU) is a Public-Private Partnership acting as a pivotal initiative within the European Union. SNS JU was designed to drive forward the research, innovation, and deployment of advanced network technologies, specifically focusing on 5G and future 6G networks and services. Launched under the Horizon Europe framework, SNS JU was set up in 2021 representing a strategic collaboration between the European Commission, industry stakeholders, research institutions, and other relevant entities. The aim of this partnership is to step up the digital and green transition, while also ensuring Europe's leadership in the global digital economy through the de-

velopment of next-generation communication infrastructures.

SNS JU's mission is rooted in addressing the rapidly evolving demands of the digital landscape. With the exponential growth of data traffic, the proliferation of connected devices, and the emergence of new applications requiring ultra-reliable and low-latency communications, there is a pressing need for networks that are not only faster but also smarter and more efficient. To this end, SNS JU focuses on several key objectives: promoting research and innovation, facilitating the deployment and adoption of advanced network technologies, contributing to global standardization efforts, and fostering

a robust ecosystem of partners across various sectors. It's two main missions are:

- Fostering Europe's technology sovereignty in 6G by implementing the related research and innovation (R&I) programme leading to the conception and standardisation around 2025. It encourages preparation for early market adoption of 6G technologies by the end of the decade.
- Boosting 5G deployment in Europe in view of developing digital lead markets and enabling the digital and green transition of the economy and society.

Objectives of SNS JU: Recognizing that technological advancements must be translated into real-world applications, the initiative works to facilitate the rollout of 5G networks across Europe, while simultaneously preparing for the introduction of 6G. This involves addressing regulatory and infrastructural challenges, supporting pilot projects and large-scale trials, and promoting best practices for network deployment. Therefore, the following general objectives are set to be achieved within SNS JU:

- Foster Europe's technological leadership in future smart networks and services.
- Align strategic roadmaps of a wider range of industrial players.
- Advance European technological and scientific excellence to support European leadership to shape and master 6G systems by 2030.
- Strengthen the deployment of digital infrastructure.
- Prepare the European smart networks and services supply industry for opportunities emerging from the development of vertical markets for 5G and 6G.
- Facilitate digital innovation by 2030 meeting European market needs and public policy requirements.
- Support the alignment of future smart networks and services with Union policy objectives.

Partners and Projects: Partnerships are central to the success of SNS JU, and the initiative boasts a wide range of collaborators. Industry giants such as Nokia, Ericsson, and Siemens are actively involved, bringing their expertise and resources to bear on the development of next-generation network technologies. Research institutions such as the Fraunhofer Society and the European Organization for Nuclear Research (CERN) contribute cutting-edge research and innovation capabilities. Additionally, SNS JU collaborates with numerous SMEs and startups, which

play a crucial role in driving agile and innovative solutions within the broader ecosystem.

Research and innovation form the backbone of SNS JU's activities. The initiative seeks to push the boundaries of what is possible with current network technologies, laying the groundwork for the next generation of connectivity solutions. This involves funding and supporting a wide array of research projects that explore cutting-edge areas such as network architecture, spectrum management, artificial intelligence for network optimization, and cybersecurity. By

investigating in these areas, SNS JU aims to accelerate the development of technologies that will underpin 6G networks, anticipated to be commercialized in the 2030s. The SNS JU funds projects that shape a solid research and innovation (R&I) roadmap and deployment agenda by engaging a critical mass of European stakeholders and facilitating international cooperation on various 6G initiatives. As of yet, 63 R&I projects have been launched within SNS JU with a combined funding of 382 million €.

TECHNIKON



KU LEUVEN



CHALMERS
UNIVERSITY OF TECHNOLOGY

liu LINKÖPING
UNIVERSITY



HUBER-SUHNER



Consortium
9 Partners
5 Countries



Budget
€ 5,3 Million
95,97% EU-funded



Duration
42 Months
01/2023 - 06/2026



The 6GTandem project has received funding from the Smart Networks and Services Joint Undertaking (SNS JU) under the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101096302.



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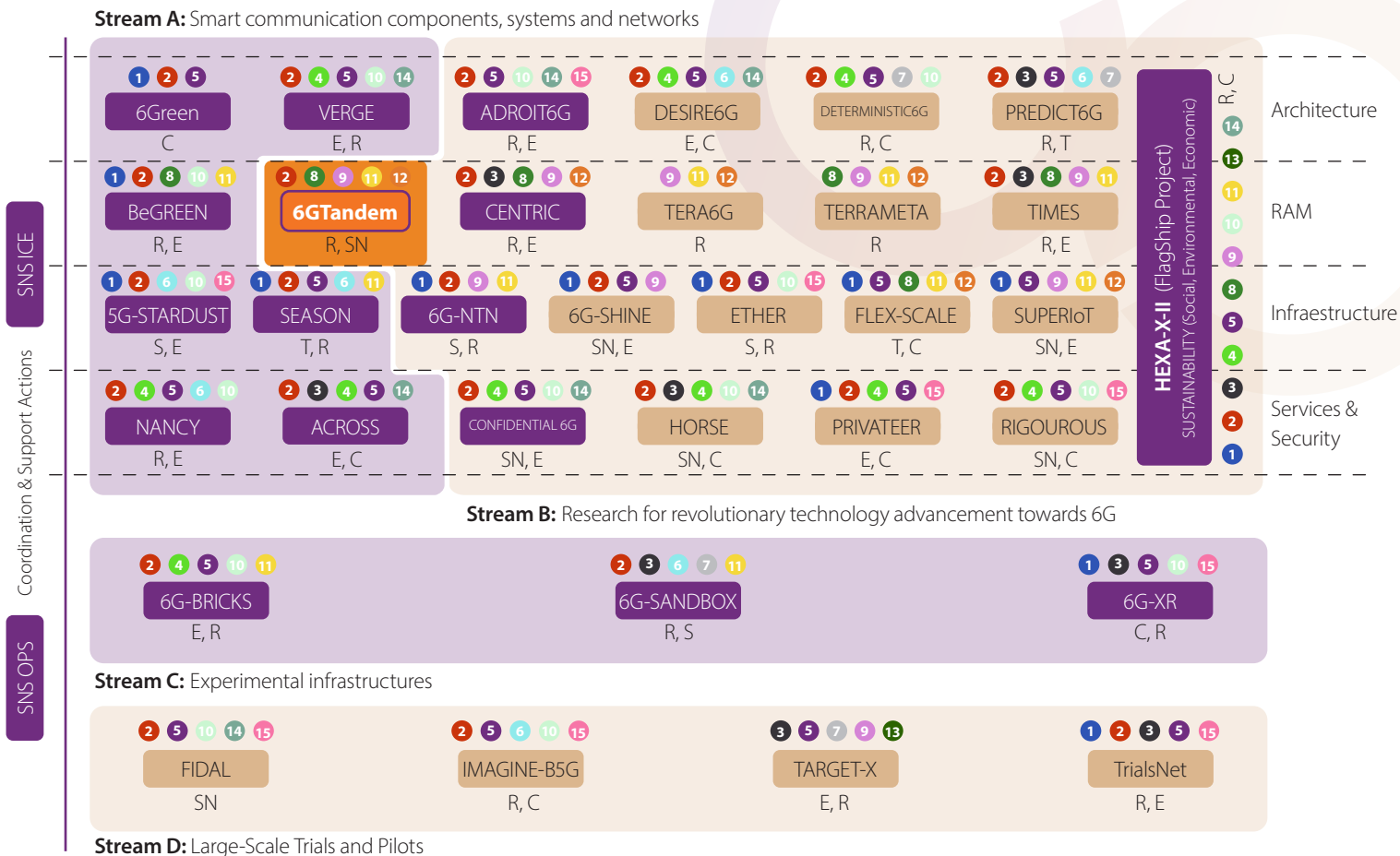


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Reference Figure (SNS Technical Board)

Overview of SNS call 1 Projects



Enablers / Technology Domains

- 1 Energy Efficiency Technology
- 2 AI/ML
- 3 Digital Twins
- 4 Security/Privacy
- 5 Management & Orchestration
- 6 Open/Disaggregated
- 7 Time Sensitive Networking (TSN)
- 8 Integrated Sensing & Communication (ISAC/JCAS)
- 9 High-frequency Technologies (THz, mmW, etc.)
- 10 Computing Technologies (Edge, Fog, offloading, etc.)
- 11 Hardware (Antennas, Devices, etc.)
- 12 Micro-Electronics/Photonics
- 13 Virtualization
- 14 Cloud Native
- 15 Network Slicing

Network Domains

- SN. Subnetworks
- R. RAM
- T. Transport/Optical
- E. (Extreme) Edge
- C. Core
- S. Satellite/NTN

In summary, the Smart Networks and Services Joint Undertaking represents a strategic and comprehensive effort by the European Union to lead the global race in advanced network technologies. Through its focus on research and innovation, deployment and adoption, standardization, and ecosystem building, SNS JU aims to ensure that Europe remains

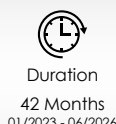
at the forefront of the digital revolution. With its wide array of projects and partnerships, SNS JU is well-positioned to drive forward the development and deployment of 5G and future 6G networks, unlocking new opportunities and benefits for industries and societies across Europe and beyond.



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