



6GTandem

Unlock new potential of wireless network

A dual-frequency distributed MIMO approach for future 6G applications

Message from the Coordinator

The intention of this newsletter is to open a new communication channel to provide news on the project progress and to discuss ongoing topics relevant to 6GTandem. This newsletter is directed towards internal and external project partners, stakeholders and all other interested bodies. For more detailed information about the project, we invite you to visit our project website, which is constantly updated with the latest project related news: horizon-6gtandem.eu.

The project has successfully started with a face-to-face kick-off meeting in January 2023 in Vienna/Austria. The event was coordinated by Technikon, with the main purpose of verifying plans and matching team members with first activities and to build the foundation for further collaboration. Hence, part of the agenda was the introduction of all the partners involved and their roles in the project. In addition, the work packages, including technical discussions and the planning of the next steps, took place. Since the kick-off, the consortium has been meeting virtually on a regular basis and face-to-face in April in Lund for a WP2 workshop. All members are working relentlessly towards achieving the project objectives in this challenging and interesting topic.



horizon-6gtandem.eu



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Budget

€ 5.3 Million

€ 5.1 Million EU-funded



Consortium

9 Partners

5 countries



Duration

42 Months

01/2023 - 06/2026

Main project information

Our goal is to advance dual-frequency distributed MIMO networks, which have the potential to offer ultra-high reliability and high-resolution position information in a sustainable manner. This, in turn, can create positive change within European society. Specifically, our project will focus on advancing the combined low-frequency and sub-THz distributed MIMO system to enable new applications that require an unprecedented combination of performance factors. To achieve

this, we will co-design novel dual-frequency operation and a new, highly integrated, and distributed radio transceiver architecture, with the aim of achieving superior value in terms of energy, service availability, and cost of deployment. By combining our expertise in wireless communication systems with innovative hardware solutions, we aim to push the boundaries of what's possible and unlock the new potential of dual-frequency operation.

Project status after four months

Within the 6GTandem project, we have implemented a method to categorize the work completed to date using a combination of top-down and bottom-up approaches. The top-down approach involved conducting research to identify potential use-cases that could benefit from the capabilities of dual frequency D-MIMO deployment.

As a result of this effort, we have created a list of use-case clusters. The identified clusters of use-cases (AR/VR/XR, positioning/tracking, ultra-reliable low latency communi-

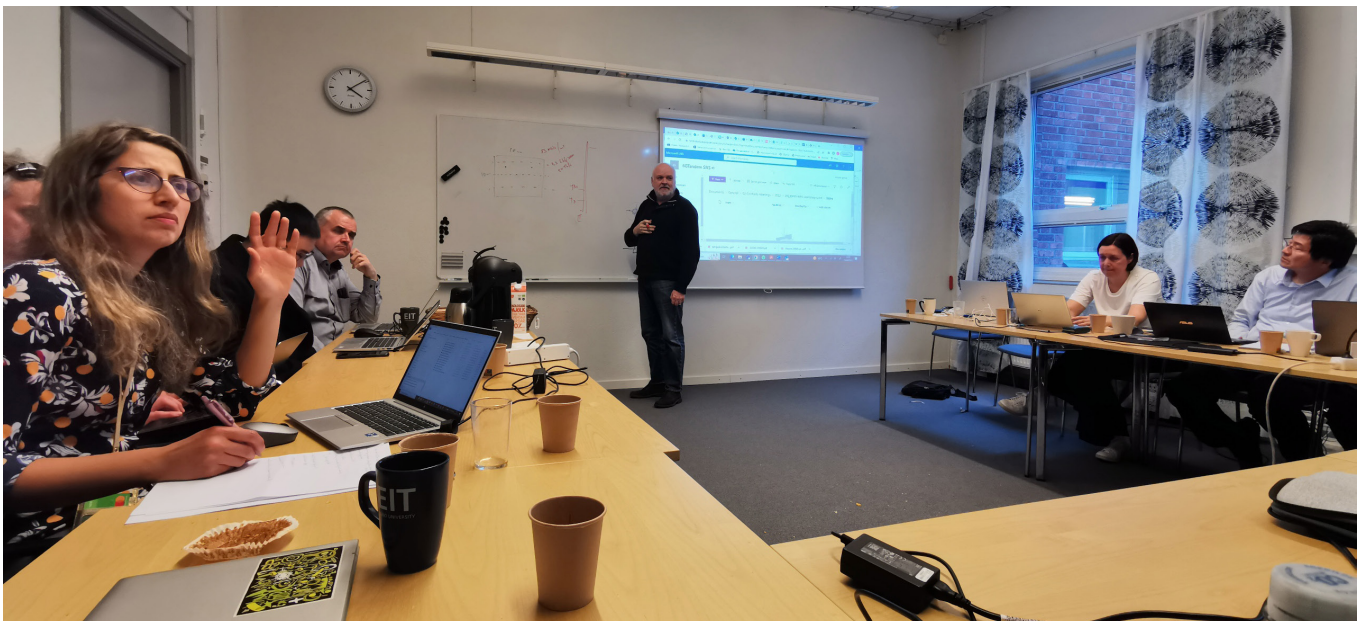
cations (URLLC), and high throughput communication) together with use-case suggestions and preliminary KPI tables are drafted. In the bottom-up approach, the fiber link budget is combined with the over the air link budget.

At this point, we are matching the outcomes of the two approaches to set the system requirements. This, in turn, enables us to determine the hardware/packaging requirement, the density of radio units in a fixed length of the fiber, and also the radio unit (RU) capabilities.

Lund Meeting

On April 19, 2023, the 6GTandem project partners met in Lund/Sweden for a work package 2 workshop, which was hosted by Lund University. The group actively discussed use-cases and reviewed the status of assigned tasks and defined

further action points. The participants' productive discussions led to an agreement on the next steps and respective responsibilities towards achieving the project objectives. To get more information's about the workshop in Lund click [here](#).





Past Events

Kick Off -Meeting

25th – 26th January 2023
@ Vienna/Austria

ETSI/EC/6G-IA Workshop

8th February 2023
@ Sophia Antipolis/France

Keynote at WSA/SCC

2nd March 2023
@ Braunschweig/Germany

SNS Lunchtime Webinar

6th March 2023
@ Online

WP2 technical meeting

19th April 2023
@ Lund/Sweden



Upcoming Events

Technical meeting

30th – 31st May 2023
@ Gothenburg/Sweden

EuCNC & 6G Summig

6th – 9th June 2023
@ Gothenburg/Sweden

All past and upcoming events can be found on the 6GTandem official webpage:
horizon-6gtandem.eu/events

The 6GTandem Consortium

The 6GTandem consortium consists of 9 partners from 5 different countries (Austria, Sweden, Belgium, Germany and Switzerland). It consists of a well-balanced mixture between academic and industrial players, from large

semiconductor to small SMEs. The team comprises a diversified competencies pool with the knowledge and capability to tackle and resolve upcoming challenges.

