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Towards an AI-Native User-Centric Air Interface for 6G Networks

https://centric-sns.eu/

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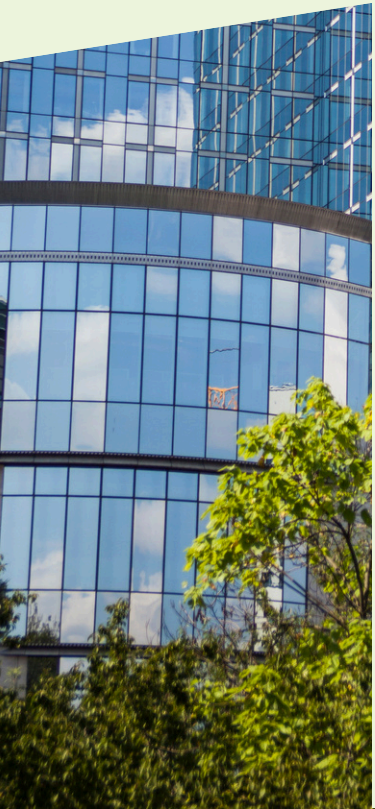
6GSNS



CONTACT DETAILS

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Project key objectives

1) Waveforms

2) Transceivers

3) Communication protocols

4) Novel end-to-end hardware co-design solutions for energy-efficient AI-native transceivers

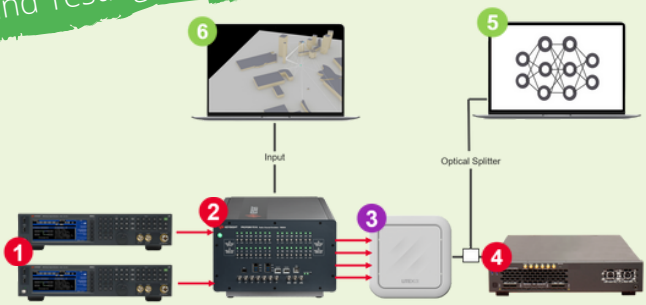
To develop AI methods for the discovery of novel/ customized and efficient/ lightweight

5) Training and monitoring environments as enablers for AI-AI deployments

6) To validate user-centric AI-AI solutions in a lab-setting

7) To demonstrate and disseminate AI-AI concepts

ORAN Testbed for Developing and Testing 6G Neural Receiver



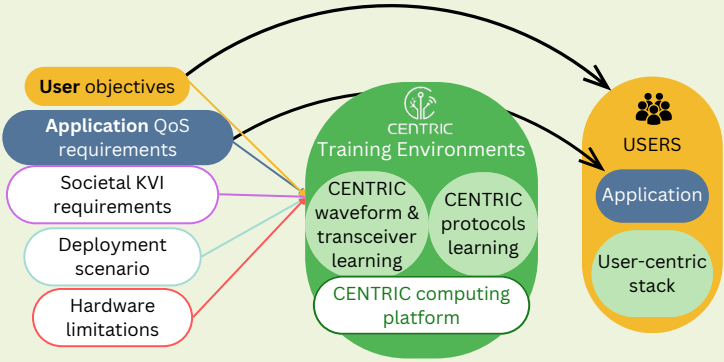
1. Uplink Signal Generation (Keysight N5182B MXG)
2. Channel Emulation (Keysight PROPSIM)
3. Commercial O-RU (LiteOn)
4. O-DU Emulator (Keysight U5040A)
5. 6G Neural Receiver (NVIDIA Sionna)
6. Ray Tracer (NVIDIA Sionna)

KEYSIGHT

NVIDIA

CENTRIC positions the AI-AI as the essential fabric of future wireless connectivity systems, for benefit of public and private mobile network operators, by enabling highly customizable communications systems responding to distinct service and application requirements as well as personalized needs of end users: e.g., a university campus is unlikely to have the same connectivity requirements as an indoor smart factory. As humanity ventures into the future, new and radically different communication needs will emerge.

The CENTRIC process for enabling an AI-native Air Interface



CENTRIC advocates for a novel approach for designing the future 6G networks, whereby the application's requirements define the starting point for establishing the application specific underlying communications protocol stack.

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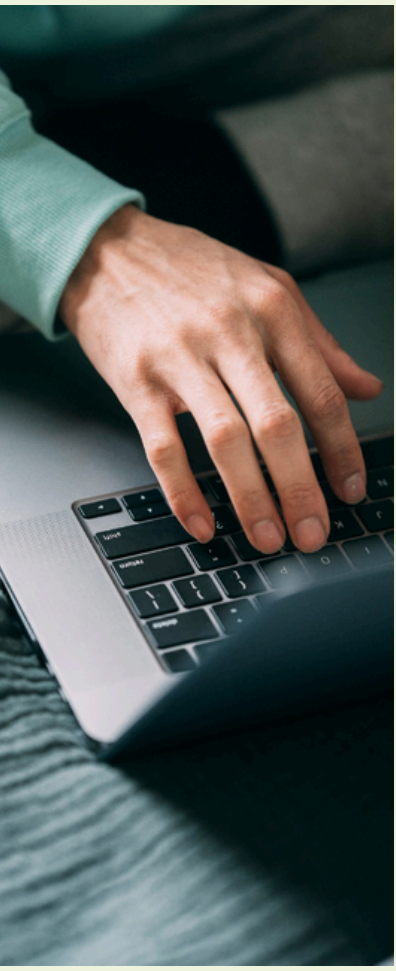
CENTRIC develops methods to automatically establish connectivity solutions that dynamically adapt to the continuously changing telecommunications landscape, caused by emerging and demanding new applications and use cases.

Private wireless networks will be key to the success of the future networks, but 6G standard won't be optimal in all cases. However, the CENTRIC's AI-based Air Interface can be trained and customized optimally for each individual deployment.



CENTRIC

KEY NUMBERS

13
Consortium Partners

8
Countries

€6.8M
Total Budget

30
Months

10
Join Undertaking Partnerships

CENTRIC

CONSORTIUM PARTNERS

"We believe that AI-AI-powered radios will provide, fast, effective, and affordable ways of ensuring wireless connectivity services in an increasingly complex world."

EURESCOM

Consiglio Nazionale delle Ricerche

AALBORG UNIVERSITY

cnit

interdigital

Synthara

UNIVERSITY OF OULU

KEYSIGHT

NOKIA

NOKIA BELL LABS

NVIDIA

SEQUANS

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