CENTRIC leverages AI techniques through a top-down, modular approach to wireless connectivity that puts the users' communication needs and environmental constraints at the center of the network stack design, yielding the **AI-enabled Air-Interface (AI-AI)**.

CENTRIC

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

https://centric-sns.eu/

CENTRIC

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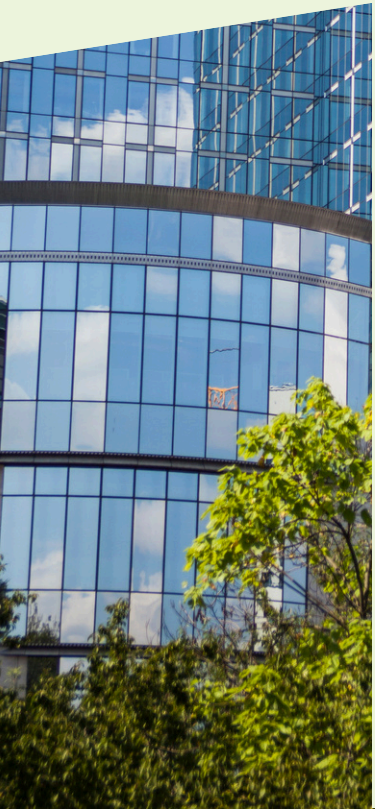
Grant Agreement Number 101096379

Co-funded by the European Union

6GSNS



CONTACT DETAILS

contact@centric-sns.eu

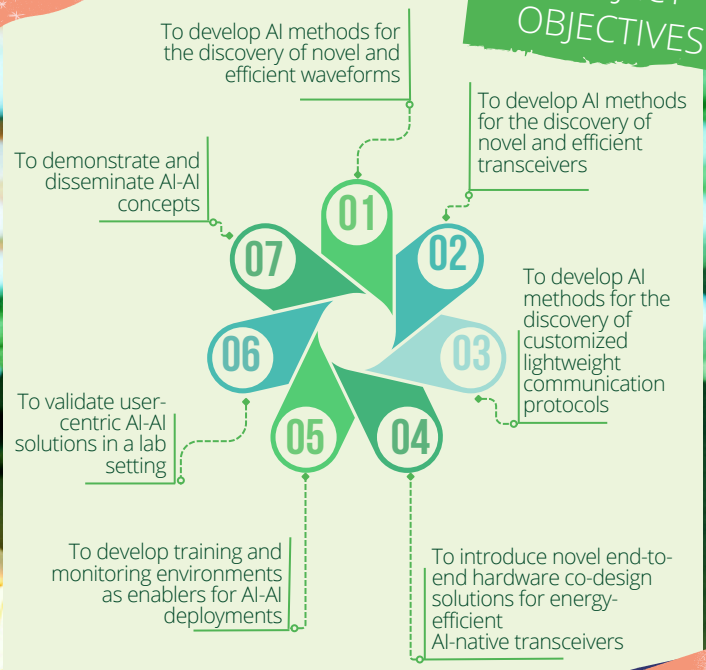
https://centric-sns.eu/

@centric-project

@project_centric

@centricproject

PROJECT OBJECTIVES

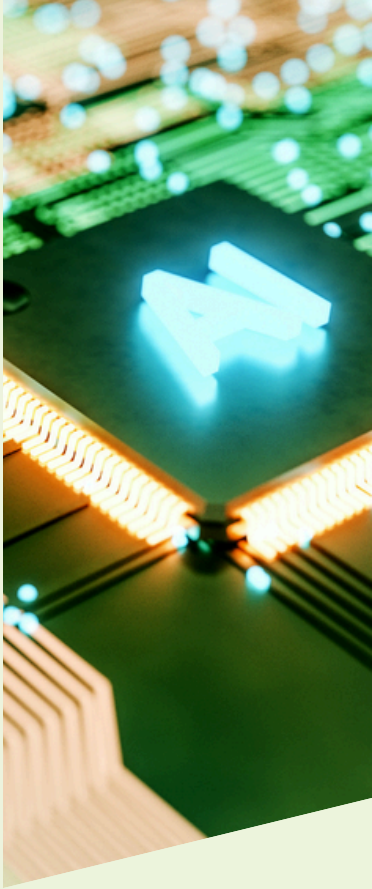


PROJECT CHALLENGES

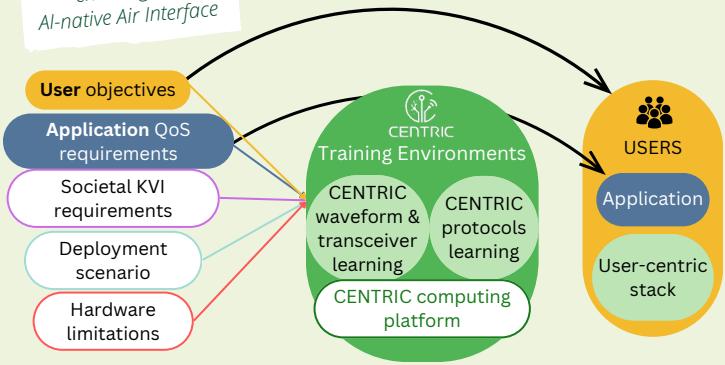
8

- How to leverage the wealth of data in the PHY layer to design a 6g waveform?
- How to realize pratical MU-mMIMO transceivers through an E2E user-tailored PHY layer?
- How to explore application-optimized MAC protocols?
- How to incorporate energy efficiency targets into L1, L2 & RRM algorithms?
- How to keep EMF under control in novel network architectures and telecom paradigms?
- How to train and monitore the performance of AI telecom models?
- How to integrate of AI processing with hardware components?
- How to validate and test frameworks for AI-native communication technologies?

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.

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.

New applications and use-cases are continuously emerging in the telecom industry, while current wireless networks struggle to support their increasingly stringent requirements. CENTRIC develops methods to automatically produce connectivity solutions that dynamically adapt to this ever-changing landscape.

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

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KING'S College LONDON

Coordinator
Dr.-Ing. Halid Hrasnica, Eurecom GmbH

Technical Manager
Assoc. Prof., Ramoni Aodegun, Aalborg Universitet