



CELTIC-NEXT



Proposers Brokerage Day

25th September 2026,

IMEC

in Leuven, Belgium

Pitch of the Project Proposal

AURA



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AURA

Ambient Ubiquitous Resilient AI Distributed healthcare intelligence

The ambition

Demonstrate that healthcare intelligence can operate collaboratively across personal devices, telecommunications infrastructure and clinical systems while keeping raw sensitive data local, designed for privacy and ready for 6G.

The innovation

Combine protected health embeddings, distributed AI and Federated Digital Twins within a common architecture, integrating a pathway towards AI-native 6G capabilities.

Why participate?

Help develop and validate a shared architecture for trusted healthcare AI, creating opportunities for technology companies, telecom operators and care providers.

Organisation Profile



Teleker

An SME developing telehealth and ambient assisted living technologies, operating in Spain and serving homecare providers and hospitals.

We lead ROBIN, a Celtic Next project on robotic assistance for people with high-cost diseases. 24 partners from Spain, France, Portugal, Finland, Latvia, Türkiye and South Korea.

Our contribution to AURA

Personal Health Edge integration, ambient sensing and healthcare application expertise, connecting technology development with validation in everyday care environments.

Proposal Introduction (1)

A Distributed Healthcare Intelligence Fabric

Research question: Can healthcare AI learn and operate across distributed environments while preserving useful health information and protecting personal identity?

Four interconnected innovations

- **Protected health representations:** Local AI encoders transform sensitive signals into health embeddings, with measurable privacy–utility trade-offs.
- **Privacy-preserving distributed AI:** Federated learning, differential privacy and trusted execution environments support collaborative intelligence.
- **Federated Digital Twins:** Personal, edge and clinical twins exchange protected knowledge to support individual adaptation and collaborative modelling.
- **AI-native network integration:** Telecom edge infrastructure hosts intelligence, with experiments exploring future 6G capabilities such as in-network AI, ISAC and precise positioning.

Guiding principle: Move intelligence, not data.

Proposal Introduction (2)

What AURA will demonstrate

- **Privacy with utility:** Retain useful predictive information while testing protection against reconstruction and re-identification attacks.
- **Collaborative intelligence:** Validate distributed AI and knowledge exchange between personal, edge and clinical Digital Twins.
- **Network evolution:** Demonstrate operation on current 5G/edge infrastructure and assess portability to selected AI-native capabilities on 6G testbeds.
- **Real-world relevance:** Evaluate safety, usability, acceptance and quality-of-life benefits through pilots

Proposed duration - 36 months

M1–12: Architecture, evaluation baselines, privacy requirements and local encoders.

M13–24: Distributed AI, Federated Digital Twins and telecom edge integration.

M24–36: Multi-site validation, 6G experiments and exploitation road

Expected impact

Enable proactive, personalised care and establish a foundation for trusted healthcare intelligence services across device, network and clinical environments.

Partners



Existing consortium and countries

Partners from Spain, Finland, Portugal and Turkey

Expertise sought

- **AI and privacy specialists:** Health embeddings, federated learning and privacy–utility evaluation.
- **Digital Twin developers:** Knowledge exchange across personal, edge and clinical models.
- **Hardware manufacturers:** AI hardware and chips, sensors, telecommunications.
- **Telecom operators and edge providers:** Trusted infrastructure, distributed AI orchestration and service delivery.
- **6G research centres:** Testbeds for in-network AI, ISAC, positioning and network slicing.
- **Sensing and embedded technology companies:** Multimodal sensing and efficient Personal Health Edge processing.
- **Care and clinical organisations:** Pilot deployment, outcome evaluation and adoption pathways.
- **Compliance:** EU AI Act. Certifications.

Contact Info

For more information and for interest to participate please contact:

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Presentation is available via:



Join the Consortium Building Sessions

**28. September
from 16:00-17:00 CET**

Connection details:
Via

www.celticnext.eu/new-ideas

