

An introduction to CELTIC-NEXT, the Eureka ICT cluster for a secure, trusted, and sustainable digital society



The **ICT** Eureka cluster for **next-generation communications** is celebrating **22** years of successful innovative projects!



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Who is CELTIC-NEXT?



www.celticnext.eu



CELTIC-NEXT is the world industry-driven ECP* ICT not-for-profit **cluster** involving all the major ICT** industry players, service providers, many SMEs, and research institutions & academia to enable a secure, trusted, and sustainable digital society.**

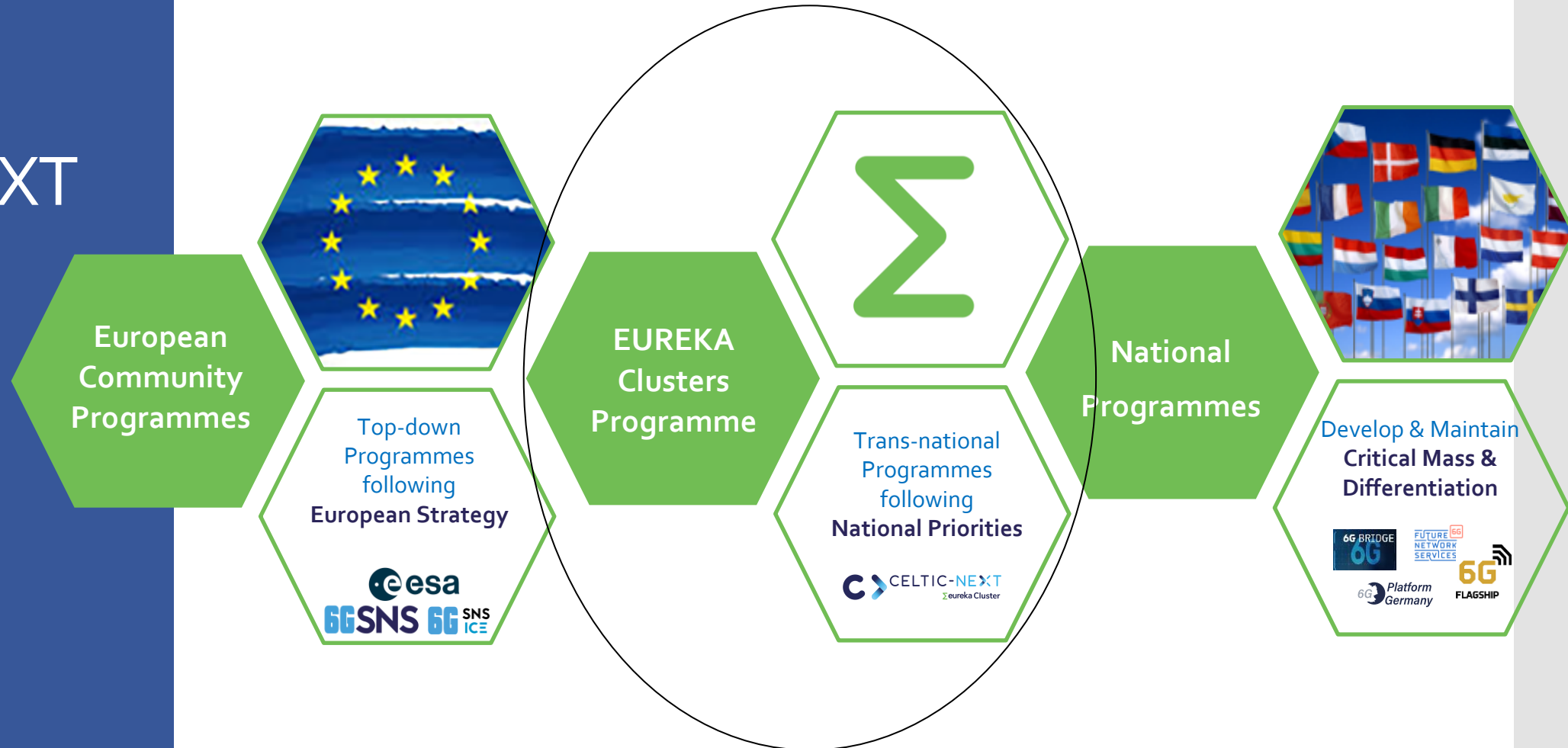
*Eureka Clusters Program, launched on 17/6/2021, CELTIC-NEXT was launched earlier in 2003

*Eureka Clusters Program, launched on 17/6/2021

** Information & Communications Technologies

*** Research, Development & Innovation

CELTIC-NEXT in the European Funding Landscape



CELTIC-NEXT's
SRIA 2026-2032
sets out
a comprehensive
roadmap for
EUREKA
Countries'
leadership in ICT,
beyond 6G itself,
expanding to
vertical industry
sectors.

The CELTIC-NEXT SRIA 2026–2032 builds on CELTIC-NEXT's holistic, bottom-up approach, considering the European 6G Vision (6G-IA), the SNS-JU SRIA, and vendor perspectives, in a topical and, over time, TRL & MRL-staged manner.

Key messages:

- AI-native networks must be designed from inception. Networks shall use AI, but also provide services to other industries' AI applications, in a mutually beneficial collaboration.
- Sustainability and energy efficiency must be both system intrinsic properties and societal enablers.
- Beyond communication services (sensing, positioning, computing) will define 6G, supporting the always increasing convergence of digital, physical and biological worlds.
- Eureka Countries' sovereignty in ICT value chains is critical.
- Societal responsibility (ethics, privacy, inclusion, trust) must be embedded.

CELTIC-NEXT Perspectives for 2026-2032

- End-to-End Connectivity and Networks
- Digital Transformation of Vertical Sectors
- Advanced ICT Technologies
- Sustainability and Societal Impact
- Innovation Ecosystem

Zooming on Advanced ICT Technologies

- Spectrum and Wireless Technologies:
 - Exploration and harmonisation of new spectrum bands, including sub-THz and optical frequencies.
 - Development of advanced radio technologies for ultra-high capacity and reliability.
- AI-Native Networks:
 - Integration of AI and machine learning at every layer of the network stack for adaptive, self-optimising systems.
 - Research into explainable and trustworthy AI in network management and orchestration.
- Network Architecture and Edge Computing:
 - Design of decentralised, cloud-native architectures with seamless edge-to-core integration.
 - Support for ultra-dense networks and multi-access edge computing.
- Security, Privacy, and Trust:
 - Development of end-to-end security frameworks, zero-trust models, and quantum-resistant cryptography.
 - Privacy-preserving mechanisms for data and AI-driven applications.
- Sustainability and Energy Efficiency:
 - Innovative approaches to reduce network energy consumption and enable circular economy principles.
 - Research into the combination of materials, hardware, and software for green communications.
- Integration with Vertical Industries:
 - Tailored solutions for sectors such as healthcare, manufacturing, transportation, and agriculture.
 - Co-design of network capabilities with industry-specific requirements.



Thank you for your attention!

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CELTIC-NEXT Video Channel

