



CELTIC-NEXT

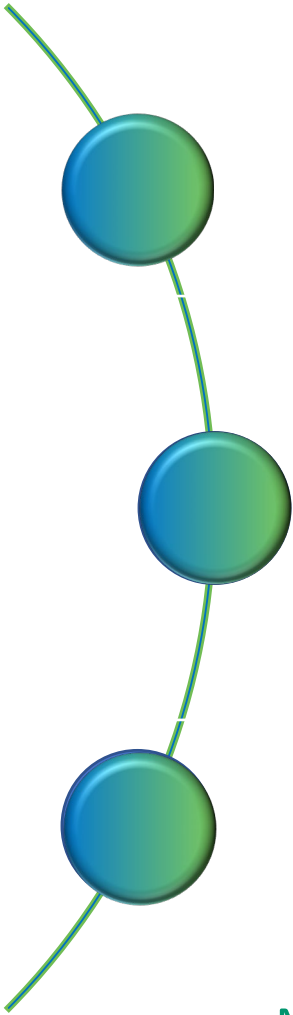
Σeureka Cluster

Autumn Call 2024, Proposers' Brokerage Day, 18 Sept 2024

Xavier Priem, CELTIC-NEXT Director



Eureka



The world's biggest public network - over 45 countries also including Canada, Chile, Israel, Singapore, South Africa and South Korea

International RD&I collaboration enables Eureka countries to tackle global challenge and increase competitiveness

A transnational network facilitating the coordination of national priorities on innovation and providing access to national funding

More on: www.eurekanetwork.org/

Since 1985:

- 48.4+ billion euro public private investment
- 7,000+ R&D projects
- 35,000+ organisations supported



CELTIC-NEXT in the European innovation landscape





Clusters

- Industry -led communities consisting of leading companies, knowledge institutes and end-user organisations
- Strategic technology areas
- Market-oriented, aiming to solve economic, technological and societal challenges



Who is CELTIC-NEXT?



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 secured, 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

- **The ICT Cluster** under the umbrella of EUREKA
- Focused on **Next-Generation Communications for the Digital Society**
- **A flexible and agile community of over 1150 private and public organisations**, among prominent industry players, small & medium-sized enterprises and academic/research institutions
- **The organiser of regular calls for projects, twice a year**, in Spring and Autumn; and larger Flagship Calls
- **Financed through public and private funding** through transnational RD&I cooperation
- **Open to any organisation willing to contribute to the industry-driven European and beyond ICT research programme**



Who is CELTIC-NEXT?

CELTIC-NEXT Mission & Vision

The mission of CELTIC-NEXT is to:

- Foster our Eureka collaborative RD&I program for the ICT community
- Accelerate the deployment and uptake of advanced ICT services
- Employ the new network concepts of 5G and beyond, and lead to the innovation ownership and implementation of 6G in Eureka countries

Because It is crucial to consolidate the position of :

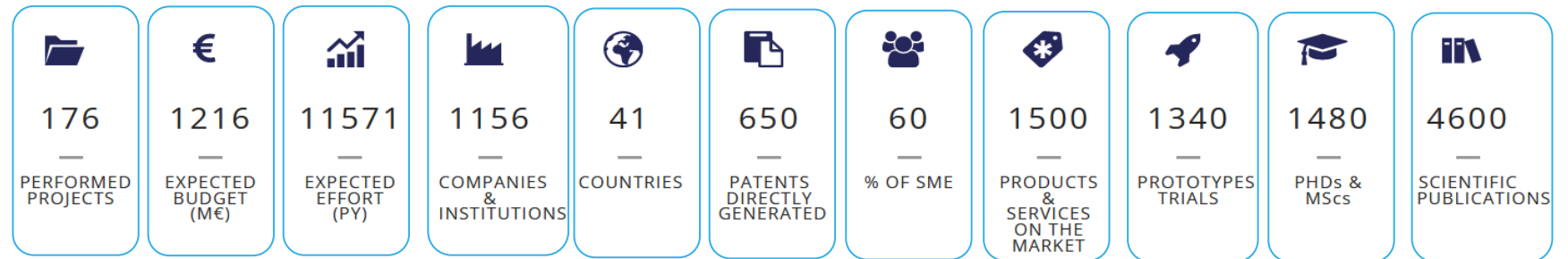
- Eureka manufacturers and service providers
- Eureka countries sovereignty

The strong ambition of CELTIC-NEXT is, therefore, to:

- Assist Eureka National Authorities, Eureka Industry, and Eureka Societies
- Make them access to societal benefits, competitive advantages, commercial returns of being at the forefront of the new digital era for the society

Who is CELTIC-NEXT?

Since its launch in 2003, CELTIC has achieved:



CELTIC-NEXT is open to all entities willing to align their business targets with their national public priorities, by running common RD&I*** projects to advance the development and uptake of advanced ICT solutions, thus accelerating their own Time-To-Market.



What CELTIC-NEXT does ...

CELTIC-NEXT manages an international Quality Label that enables international consortia to apply more successfully to National Funding schemes and assemble them to fund international cooperative innovation.

- CELTIC Bottom-up calls
- CELTIC Flagship projects & open calls
- EUREKA ECP Joint Calls



CELTIC-NEXT
Eureka Cluster

Next-generation Communications for a secured, trusted, and sustainable digital society

Beyond 5G & 6G, Connectivity, Networks & Telco Cloud, AI and more...

Personal Services, FinTech, eHealth, Smart Home, Smart Cities, Automotive Telecom, Public Safety, Smart Enterprise & Factory, IoT

SUBMIT YOUR PROPOSAL
www.celticnext.eu



CELTIC-NEXT
Eureka Cluster

SPRING CALL 2023
Open for submission

Follow us on Social Media & Subscribe to our Newsletter to not miss out on any updates!

Key dates

- Proposers Brokerage Day: 17 March 2023 in Paris
- Deadline for Proposals: 24 May 2023
- Labels Notification: June 2023



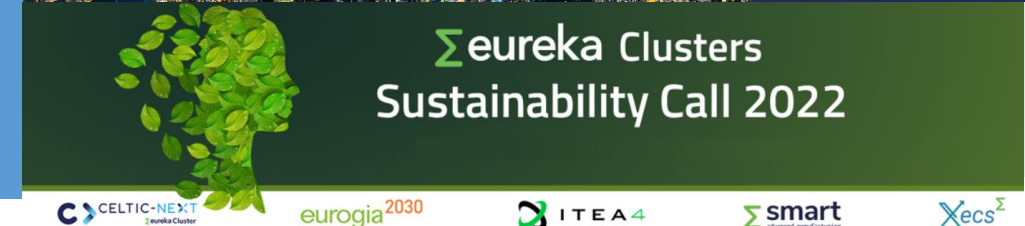
CELTIC-NEXT
Eureka Cluster

SPRING CALL 2023
PROPOSERS
BROKERAGE DAY

Friday 17th of March 2023
Bpifrance Le Hub, Paris

Key dates

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Eureka Clusters
Sustainability Call 2022

CELTIC-NEXT Eureka Cluster | **eurogia 2030** | **ITEA 4** | **smart** | **Xecs**

CELTIC's Community



with over 1150 community members across 41 countries (Europe & beyond)

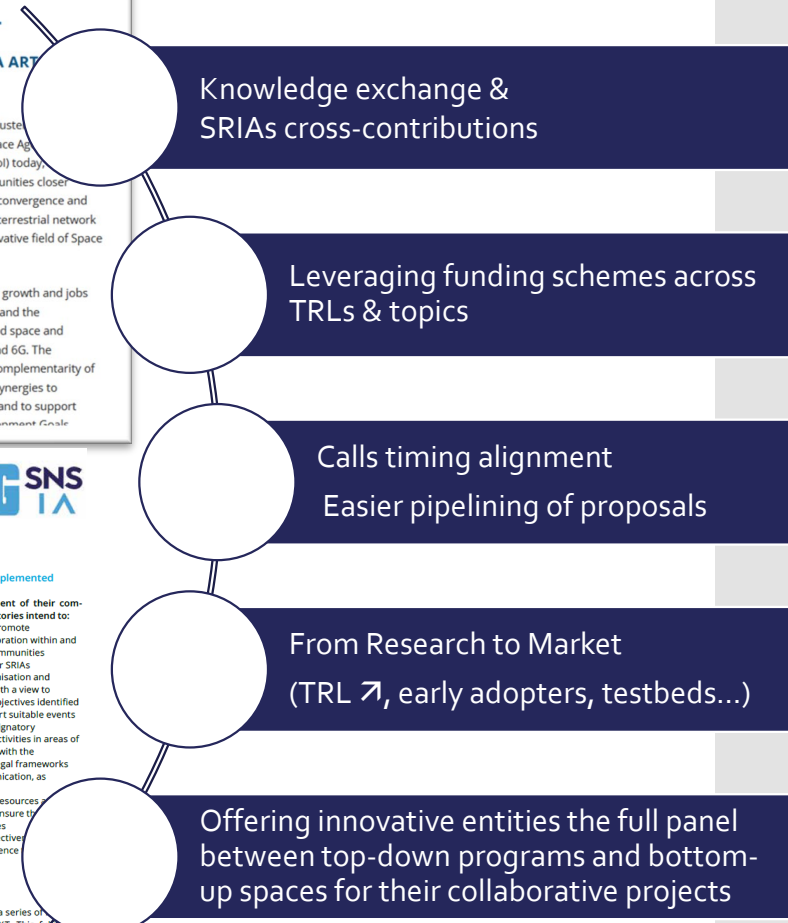
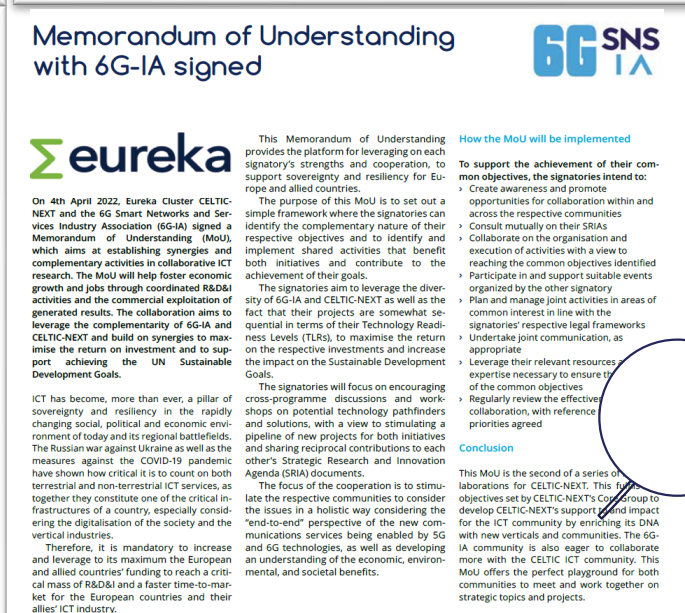
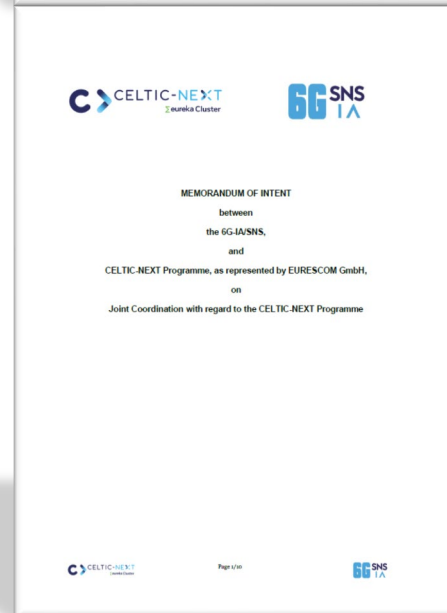
CELTIC's Community builds its Mission, Vision & Roadmap



CELTIC-NEXT in the European Funding Landscape

EUREKA-CELTIC & European Space Agency MoI Signed (Nov. 2021)

EUREKA-CELTIC & 6G-IA SNS MoU Signed (Apr. 2022)



CELTIC-NEXT offers...



- Opportunities to fund transnational RD&I consortia



- Access to the best companies and knowledge institutes



- Projects initiated by industry in line with national priorities



- Global and trusted cooperation in the communities



- Support of experts with an industrial viewpoint

“Are you looking to collaborate on an international and industry-driven RD&I project that covers a whole value chain?”



CELTIC-NEXT's DNA

➤ Bottom-up

Proposers are free to define their project proposal according to their own research interests

➤ Close to the market

So far projects have led to more than 1500 new or improved products and services

➤ High Success Rate

High-quality proposals have a good chance of receiving funding.
Average success rate 60 %

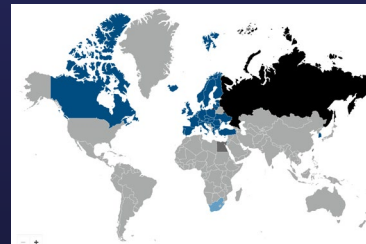
➤ Flexibility

Project focus can be adjusted to new technological developments in the field

FOR YOUR SUCCESS

By participating, you will get

- The award of a Globally Recognized Label
- Professional coaching and mentoring
- Easy access for SMEs
- Access to SMEs for Large industry & vice-versa
- Access to partners from more than 45 countries
- Access to national funding (while having international co-innovation)
- Transnational RD&I cooperation



Expectable benefits for you

- Boosting your competitiveness
- Accelerating your growth
- Shortening time to market
- Accessing new markets
- Increasing your international visibility
- Exposing your know-how to the eco-system
- Receiving guidance, coaching and monitoring of your project by the CELTIC Office,
- flexible project coaching process where you can adapt your project plan, consortium and other aspects, in an agile way, using CELTIC's Project Change Requests



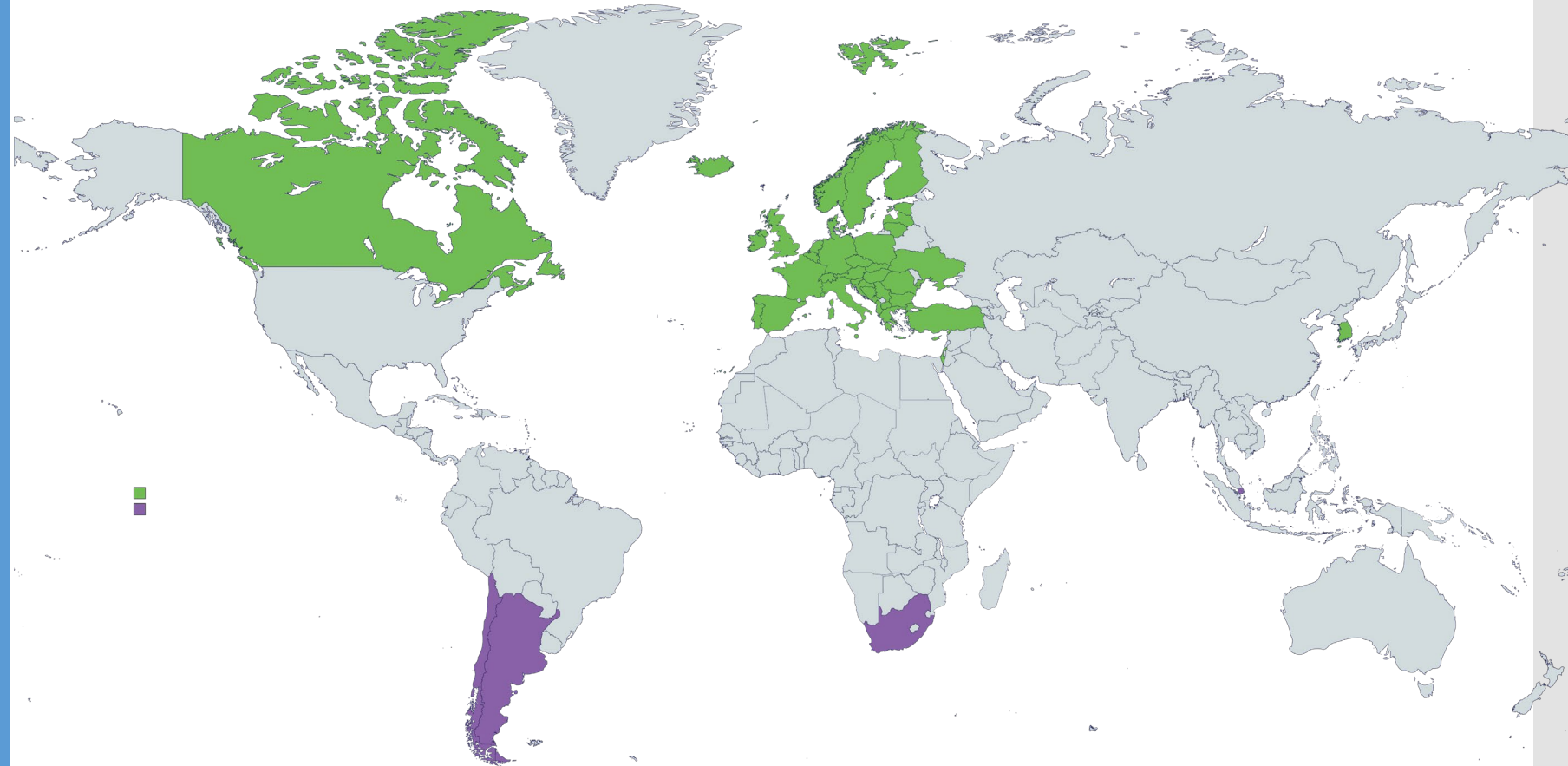
Your opportunities are

- Immerge yourself into a rich ecosystem covering the technology and business whole value chains (Large Industry, SMEs, Startups, RTOs, Academia, end-users)
- Build RD&I consortia during brokerage and other events
- Lead or be part of an industry lead project
- Create and foster collaborative innovation
- Stimulate disruptive and/or sustainable ideas
- Run and manage your collaborative project with the Office's support
- Adapt to internal and external circumstances
- Generate high economic impact
- Grow and collaborate beyond borders
- Deliver high social and economic impacts
- Support U.N. SDGs

Opportunities to collaborate globally

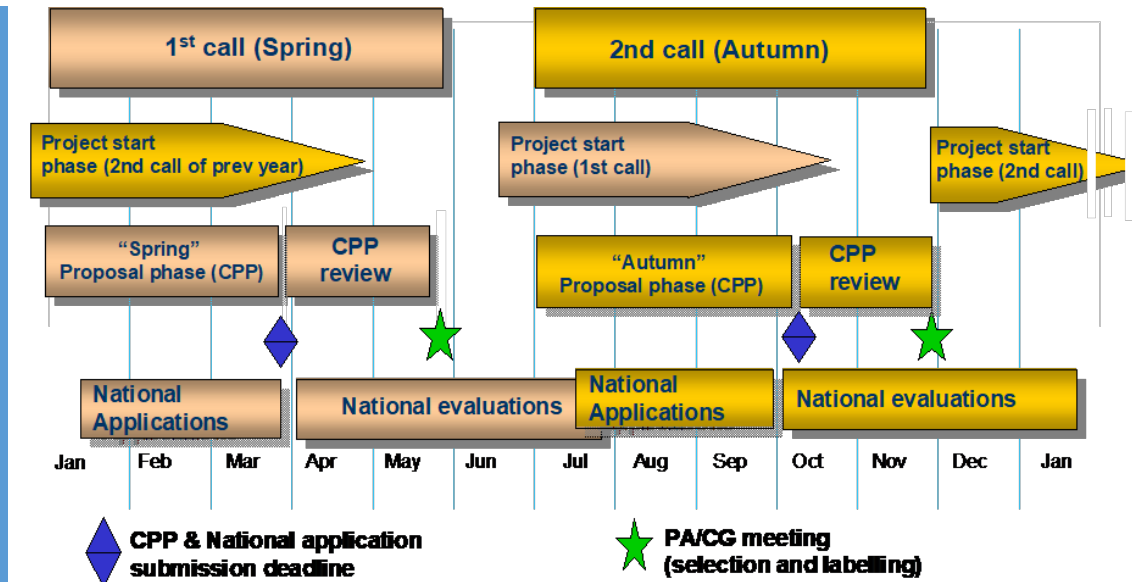
-  Europe (large)
-  UK
-  Canada
-  Chile
-  South-Korea
-  South-Africa
-  Singapore

And potentially more countries in the future... like Brazil



Call process and timelines

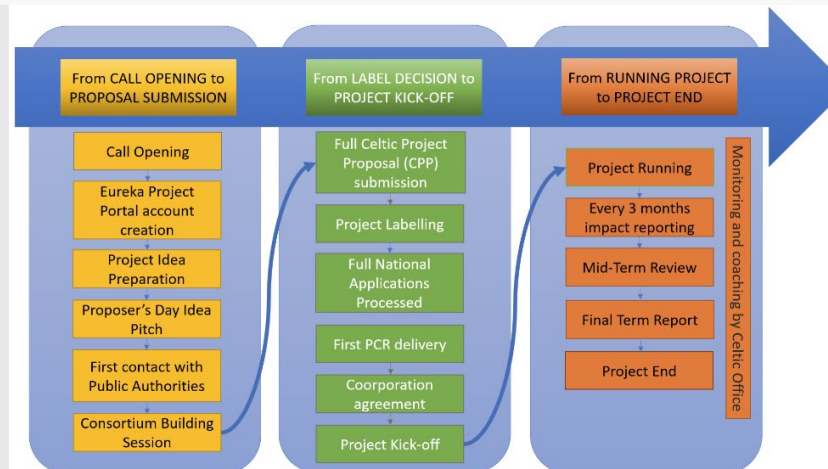
CELTIC offers 2 bottom-up calls per year and additional flagship calls



Call Process

Interactive map of Celtic-Next calls and projects

Click on the map to guide you through the cluster project process and navigate the website.



Autumn Call 2024 dates:

- Opening
July 2024
- Launch Event
23rd of July 2024
- Proposers Brokerage Day
18th of September 2024
- Deadline for proposals
21st of October 2024
- Labels notification
December 2024

<https://www.celticnext.eu/call-information/>
<https://www.celticnext.eu/proposers-days/>
<https://www.celticnext.eu/call-calendar/>
<https://www.celticnext.eu/brokerage-tool/>



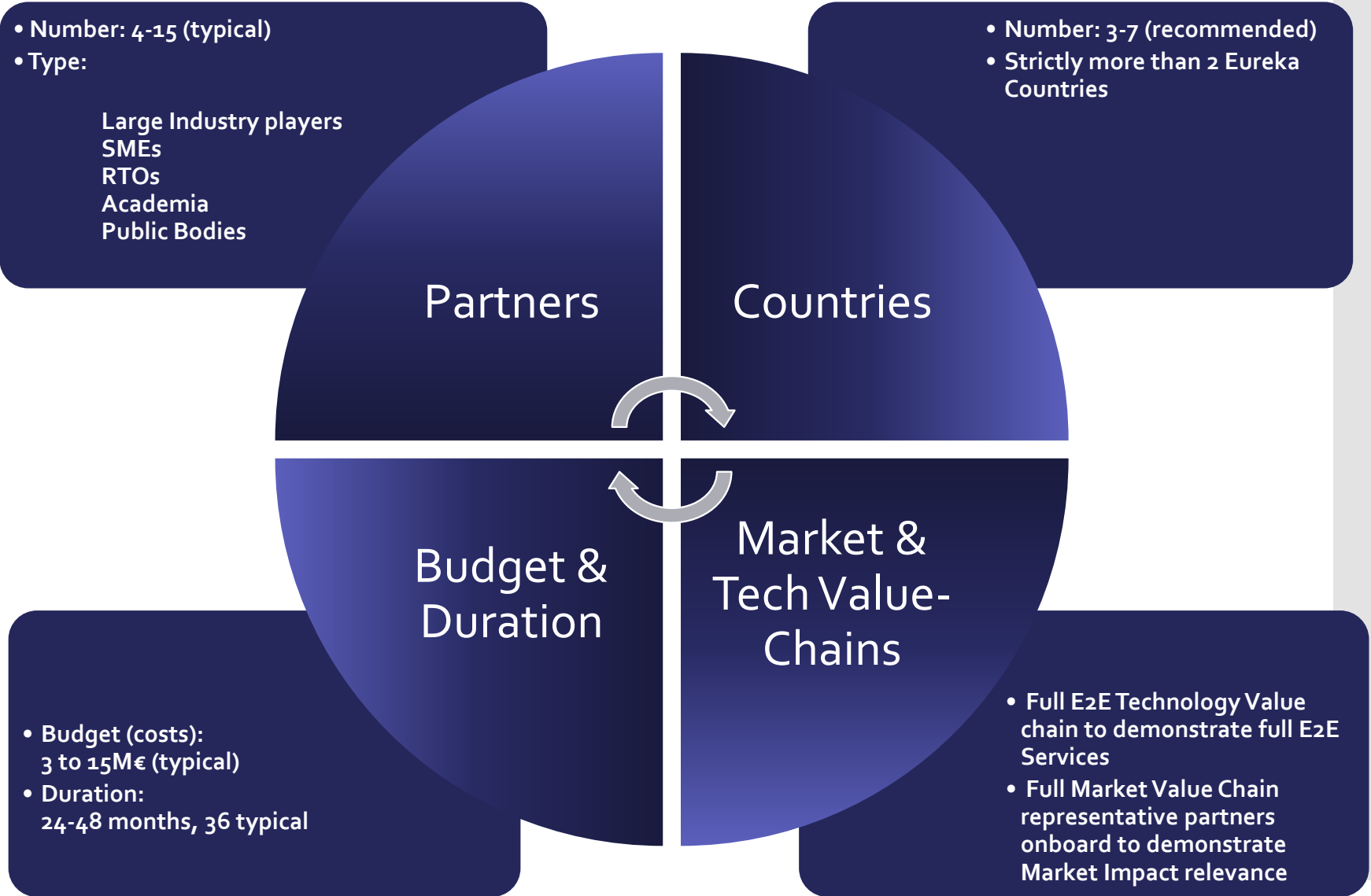
Important: please contact the Public Authorities before Projects submission:

<https://www.celticnext.eu/national-public-contacts-funding-schemes/>

Receiving their opinion early can avoid mistakes in your proposal, and will improve your chances to get the label by aligning with National Priorities and Schemes

<https://www.celticnext.eu/call-information/>

CELTIC-NEXT's typical BOTTOM-UP call projects



As usual, Proposals that address any of the topics of the CELTIC Strategic Roadmap in this bottom-up call are welcomed



<https://www.celticnext.eu/strategic-roadmap/>

Future needs of the end users: High level fields of applications

Human Centred Technologies and Services, for an Augmented Life Experience

- Digital divide elimination
- Smart Regions/Cities/Buildings/Homes
- Smart Transportation
- Smart Tourism
- Sustainability & Efficiency of Smart Energy Grids
- Public Safety & Crowd Control
- E-Health & Care
- Users in Control and Trust of offered services
- Digital support for Education and Remote Education
- Digital (Media, Gaming, Sports, Culture and Entertainment)
- Remote working and Nomadic Working (Digital Nomads)

Full industrial digitization and support of vertical industries

- Digital Enterprises
- Private Networks for Smart Manufacturing (Indus. 4.0)
- Smart Logistics (geolocation IOT networks)
- Smart Agriculture
- Future Financial and Fin-Tech
- ICT support to third party AI based applications
- Connectivity Grid / Telecom Infra as 4th Utility, like Energy

Futuristic use cases

- Holographic "Teleportation"
- "World" Real-time Synchronous Digital Twin

Future needs of the end users: Main technical areas of research

Ubiquity / Pervasiveness	Dynamic capacity following people seamless mobility	Automation, Reliability, Transparency: Cognitive operations	Protection and Trust	Holographic "transportation" & Real-time Synchronous Digital Twin
<ul style="list-style-type: none"> •Urban, sub-urban down to rural •Into the home for education and remote working •One Identity for seamless experience •Smart Regions/Cities/Buildings/Homes 	<ul style="list-style-type: none"> •In "normality" •In "crisis" (pandemics, major climate events) •Highly Precise Positioning •Edge Computing •Open-RAN / vRAN •Slicing 	<ul style="list-style-type: none"> •Extensive Monitoring •Big Data Analytics •Artificial Intelligence •ICT supporting large and intense Ai/ML deployment for verticals (connectivity, processing, data storage...) •Transparency or the Imperceptible latency 	<ul style="list-style-type: none"> •Cyber-security •Identity management 	<ul style="list-style-type: none"> •Holographic media teleport •Multi-sense networks •Time engineered applications

Enabling technologies that have to be mastered

Beyond 5G, from 5G to 6G	Wired and Wireless Industrial ICT	ICT Critical Infrastructure as a Utility, The Critical Connectivity Grid	Space dimension enabled 5G/B5G/6G	Distributed & Smarter Networks
<ul style="list-style-type: none"> Enhanced overall architectures to support needed enablers End-to-end Horizontal and Vertical Network Convergence AI/ML for Digital Infrastructures End-to-end Network Automation Autonomous Systems and Networks Advanced QKD Networking Connectivity as a Shared Critical Utility Wireless and Wired Tera-Broadband technology: <ul style="list-style-type: none"> Wireless (electromagnetic and visual light waves): <ul style="list-style-type: none"> Larger massive MIMO systems No "Cell" Radio Networks with distributed smart mMIMO systems TeraHertz Communications Wired optical: <ul style="list-style-type: none"> Photonics Optical smart networks Optical spectrum: Sliceable Optics, shared lambdas Increasing Bandwidth in Optical Network: use of additional bands, Higher modulation schemas Quantum communications <ul style="list-style-type: none"> QKD Entanglement 	<ul style="list-style-type: none"> Industrial features of 5G and beyond <ul style="list-style-type: none"> Time Sensitive Networks Precision Positioning Private Networks More Indoor techs like Terahertz, Visible Light Coms, Non-3GPP convergence (like Wi-Fi, Industry Net Standards...) Tera scale Internet of Things (IoT) 	<ul style="list-style-type: none"> Macro/Micro Grids' concepts related technologies adapted to ICT as it exists for Energy Full end-to-end Slicing of physical networks and infrastructures (see Smarter Networks) Cyber-security <ul style="list-style-type: none"> Quantum QKD AI/ML & Big Data Real Time Analytics based Security Reinforcement of Sovereignty Cyber-attack based Disaster recovery Trust enablers <ul style="list-style-type: none"> Security Auditability Transparency 	<ul style="list-style-type: none"> SAT enabled 5G/B5G/6G <ul style="list-style-type: none"> Moving ICT to SAT <ul style="list-style-type: none"> RAN in SAT (Space-RAN?) CORE in SAT (Space-CORE?) MEC in SAT (Space-Edge Dc?) MBH in SAT (Space-Mobile Backhaul?) Value Added Services in SAT Earth Meshed Network (including Oceans) <ul style="list-style-type: none"> SAT to Ground SAT to Sea SAT to Air Objects & IOTs SAT to SAT => SAT to All Multimodal SATs <ul style="list-style-type: none"> Combining GPS info with Network info Combining Observation modalities with Network info Avionics communications <ul style="list-style-type: none"> Air to Ground Air to Air Drones / HAPS Balloons? 	<ul style="list-style-type: none"> Deeper "edge-ification" for Distributed, collaborative and hierarchical AI/ML More Multi-Purpose Adaptable Networks: <ul style="list-style-type: none"> Universal adaptive core Programmable network Operating System Advanced very large-scale monitoring (for AI, ML, DL...) Distributed AI/ML <ul style="list-style-type: none"> Consuming Producing Supporting Intelligent and Automated Dynamic Spectrum Management : <ul style="list-style-type: none"> Electro-magnetic Spectrum: Horizontal & Vertical Flexible Sharing CBRS, DSS, LSA, LAA, MultiFire, new enablers... Optical spectrum: Sliceable Optics, shared lambdas Full Slicing <ul style="list-style-type: none"> Real End-to-End leading to: <ul style="list-style-type: none"> Multi-layered multi-tenancy Full neutral hosting Multi-Dimensions sliceable (incl. Spectrum and Time) Thanks to: Deeper Network Programmability

In addition to the SRIA large coverage, following topics are welcomed by PAs:

Digitalization of the Economy thanks to Information & Communications Technologies

Clean Growth & Sustainability

Remote Health & Care

ICT for Industry 4.0 and Logistics

Consumer IoT, Industry IOT

ICT Technologies for METAVERSES

Private Networks (including Industrial & leisure)

Critical Coms for Emergency & Rescue Services

Non-Terrestrial-Networks and Terrestrial Networks convergence

Critical Resilient Infrastructures & Cybersecurity

Open RAN

AI for ICT & Networks (including Radio Massive MIMO, Open-RAN RICs, ...)

and 5G Advanced and 6G topics (sensing, location, ...)

As usual, Proposals that address any of the topics of the [CELTIC Strategic Roadmap](#) in this bottom-up call are welcomed

Conclusion

Join the CELTIC-NEXT Community and apply to trans-national funding for your next steps of development of your innovations, technologies and products & services, **and:**

- **Get a recognised international label** to your innovations
- **Don't be restraint** to specific limit to your innovation project (**bottom-up** vs top-down)
- **Get a larger visibility** for collaboration
- **Gain commercialisation channels** (mixing Large Industry with SMEs and RTOs) in near-to-market innovation collaborations
- **Accelerate your Time-To-Market by increasing your TRLs** in a near to market funding scheme
- **Collaborate easily outside of Europe** (Eureka Network of Countries) with the proven EUREKA Clusters mechanism, extending again your visibility and commercialisation channels



MANY THANKS FOR YOUR ATTENTION.

CELTIC-NEXT



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