

CELTIC News 1/2024

The newsletter of EUREKA Cluster CELTIC-NEXT

CELTIC Chair's Corner
What's next for CELTIC-NEXT?

Events
CELTIC-NEXT Events in a nutshell

Autumn Call 2024
How to submit a high-quality proposal

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Join the Industry-Driven Research Programme of next-generation communications for a secured, trusted, and sustainable digital society

CELTIC-NEXT Autumn Call 2024 for Project Proposals – Deadline: 21st of October 2024

Here is the opportunity to participate in CELTIC-NEXT, the industry-driven European ICT and telecommunications research programme under the umbrella of EUREKA. Do not miss the submission deadline for the next call for project proposals, on the 21st of October 2024!

CELTIC-NEXT projects are collaborative private-public partnership R&D projects. All Eureka member countries and associated countries can financially support them. More information on public funding and national contacts per country can be found on the CELTIC-NEXT Public Authorities Website. Please talk to your national contact early in the process.
<https://www.celticnext.eu/national-public-contacts-funding-schemes/>

Easy proposal process

Preparing and submitting a CELTIC-NEXT project proposal is easy. Just register via the CELTIC-NEXT online proposal tool, fill in the Web forms, and upload your proposal in pdf. Access to the proposal tool and proposal template is available via our Call Information page (<https://www.celticnext.eu/call-information>).

Benefits of participating in CELTIC-NEXT

- You are free to define your project proposal according to your own research interests and priorities.
- Your proposals are not bound by any call texts, as long as it is within the ICT area see: CELTIC-NEXT Scope and Research Areas.
<https://www.celticnext.eu/strategic-roadmap/>
- CELTIC-NEXT projects are close to the market and have a track record of exploiting their results soon after the end of the project.
- High-quality proposals have an excellent chance of receiving funding, with an average success rate higher than 50 %.
- The results of the evaluation will already be known in December 2024.

If you have any questions or need help, do not hesitate to contact us; we would be pleased to support you.

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What's next for CELTIC-NEXT?



David Kennedy
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CELTIC-NEXT: Looking Back

It is said that there are periods in history where, if you jump 50 years, the world is recognisable. But there are other periods of rapid development where such a jump brings you to an unrecognisable new world. The first half of the 20th Century would be an example of the latter as at the turn of the century the world was still based on horse transport but by the middle of the 20th Century cars, trains and planes had made the world small and accessible to all.

For Telecommunications we have seen such a generational change in the first 20 years of the 21st Century. In fact, the pace of change from the late 1990s to today has seen the communications infrastructure change and evolve so rapidly that it has changed the behaviour of society as a whole.

As the new technologies advance, they reach a level where they become "adequate". What I mean by this is that it became sufficient for all normal needs to the point that you, as a user, no longer expects or demands evolutions. You don't ask any more if your PC processor is fast enough – they all are fast. We are rapidly entering the era where you don't worry about your data connection any more as it is fast enough. So where do we go from here?

CELTIC-NEXT: Looking Forward

There is a core challenge in the ICT domain that each evolution of the network infrastructure has prompted a complete infrastructure renewal. The fixed network had to be changed for a mobile network and then, in subsequent generations, all physical network elements had to be replaced with newer faster devices. No other infrastructure industry has had such a challenge. For example, the electricity network to your house has probably never been renewed. In the ICT sector growth has been

explosive as people now have a communication device for every family member (probably including the dog) and most family members now have several communicating devices.

This means that Telcos must get a good return on investment on each new technology within a very short time in order to be able financially implement the next generation. To progress from here the ICT industry now has to migrate to more generic hardware that can provide many of the interesting evolutions through updating software. Network infrastructures must have interfaces that allow elements to be changed without changing the whole system. At the same time the whole ICT domain must address the new requirements that include important issues like: sustainability, renewability, inherent societal considerations and, more recently, sovereignty.

CELTIC-NEXT: The future opportunities

Two streams of innovation are essential for the future: the first is the revolution – where new services and devices that enhance our lives must be invented and brought to life; and the second is evolution – where every aspect of how we do things must be overhauled to be done more efficiently, using less energy and resources, and for lower costs.

ICT not only must facilitate this for its own industry but also it is the facilitator for other sectors. The revolution of millions of sensors - the Internet of Things (IoT), combined with the explosion of Artificial Intelligence (AI) systems means we now should have all the data and the intelligence to learn how to improve everything.

The great opportunities for ICT now include:

- › To use our imagination and inventiveness to make our systems simpler, lighter, and more energy efficient. AI can help here.

- › To make the lifecycles more sustainable – reprogrammable equipment means longer working lives and less resources, and recycling helps everyone.
- › To help reduce the digital divide and promote better education and information. Again, AI can help.
- › To clean up the global information pool and make it safe. We all need information we can trust. Another opportunity for clever AI tools?
- › On a personal level, we need assistance to enjoy the end-to-end communications, so long the backbone of CELTIC-NEXT projects, so let's invent a new family of cutting-edge services devoted to looking after the interests of the individual.

These challenges are ideal for the Eureka Clusters Programme, as the combination of national interest and early industry investment ensures the wellbeing of both society at large and the industry sectors is considered.

ICT is a tool for economic growth and development. The dramatic evolution of the ICT networks now mean that it generates lots of new opportunities and can change the way our civil society functions. We must now join forces within the CELTIC-NEXT cluster to address these challenges and take advantage of the exciting opportunities to protect, preserve and enhance all the best and beautiful parts of our societies and, at the same time, to invent and develop new, better, more sustainable, solutions to our existing problems.

The exciting evolving ICT sector can be used as a stimulus to stop the spread of negative trends and lead the way towards sustainable development on all levels. CELTIC-NEXT is looking forward to a new generation of projects inventing new networks and services that facilitate a better future for all.



CELTIC-NEXT Events in a Nutshell

Past Events

EuCNC 2022 & 2023

CELTIC-NEXT and its strategic partnering Cluster Xecs held a joint booth at EuCNC 2022 in Grenoble, France, and at EuCNC 2023 in Gothenburg, Sweden. Both events were very good occasions for both Clusters to meet with the European ICT community members and exchange on inter-governmental funding opportunities offered by the Eureka network of countries within and beyond European borders. AINET Flagship was also present to display the excellence of the CELTIC-NEXT projects.



Xavier Priem, CELTIC Office Director and Nadja Rohrbach, Xecs Director

Eureka HLG/HLR Meetings under Portuguese Chairmanship

Four times per rotating chairmanship, the Eureka High Level Group and High-Level Representatives of the Eureka country members meet to check the status of the Eureka Programmes (including the Clusters). CELTIC-NEXT's Director attended several Portugal led meetings to represent the interests of the CELTIC-NEXT community, discussing funding, alignment of topics and strategies, timelines of national calls, etc. One of the targets of those meetings is to attract new countries of the Network to fund CELTIC-NEXT projects. Canada has become a full member of Eureka, Chile as joint member

As an example, the ESA partnership with CELTIC-NEXT and Eureka got signed during the Porto meeting. Also during those meetings the United Kingdom representatives announced their increased support to the Clusters.



Group photo of the Eureka Network meeting in Porto, Portugal



Group photo at the Eureka HLG/HLR Network meeting in Izmir, Türkiye

Eureka HLG/HLR Meetings under Turkish Chairmanship

CELTIC-NEXT's Director attended the Brussels', Ankara's and Izmir's meetings. Both meetings were important for the Clusters and thus for CELTIC-NEXT. At CELTIC-NEXT's level, very fruitful discussions took place with over

20 countries, including Chile as new country for CELTIC-NEXT but also with Brazil that will be an associated Eureka country starting mid-2024. This reinforces one of the CELTIC-NEXT' unique selling points: the ability to have cooperative innovation with countries outside of Europe. Actions have been defined with both countries to introduce CELTIC-NEXT to their national eco-systems.

> Further information

<https://eurekanetwork.org/about-us/chair/>
<https://www.celticnext.eu/celtic-next-participate-first-eureka-network-meetings-under-the-turkish-chair-22-23-november-2023/>



CELTIC-NEXT Proposers' Day at the BPI Le HUB in Paris

CELTIC-NEXT Proposers' Brokerage Day in Paris

Due to and during COVID-19 Pandemics, CELTIC-NEXT took the decision to stop all CELTIC-NEXT's regularly organised physical events such as Proposers' Brokerage Days and CELTIC-NEXT annual promotional events. Even if

COVID-19 is still present, it is now better mastered and physical meetings have rebooted all over the world. Recognising this, CELTIC-NEXT organised its first post-COVID-19 event at "le Hub by Bpifrance" in Paris, with the support of the French Public Authority in Eureka: Bpifrance. Despite the strikes blocking half of our registered attendees, the event was a success,

with keynotes from the Industry and from Bpifrance.

> Further information

<https://www.celticnext.eu/past-proposers-days/>

Upcoming Events

Eureka Clusters session at GIS 2024
**Turkish companies and Eureka Clusters:
 A mutual synergy**
13 June 2024 | 13:45-15:30 EEST | Istanbul

CELTIC-NEXT Eureka Cluster | Eurogia 2030 | ITEA 4 | smart advanced manufacturing | Xecs

Eureka Clusters Special Session at the GIS 2024 in Istanbul

The Global Innovation Summit 2024 brings together global leaders, decision-makers, companies, and key research organizations from all over the globe to tackle the most pressing challenges of an ever-changing world.

This year's event is coordinated by the Scientific and Technological Research Council of Türkiye (TÜBİTAK). Among the main

priorities of the Turkish Chairship towards building bridges for global challenges are: impactful instruments, building a green and digital future, sustainability of Eureka, embrace the Globe.

On 13 June from 13:45-15:00, the Eureka Clusters CELTIC-NEXT, EUROGIA, ITEA, SMART and Xecs will organise the session 'Turkish companies and Clusters: A mutual synergy'.

This session will enable you to discover and interact with the Eureka Clusters funding instrument, and to learn more about the experiences, benefits and impact for and by (Turkish) companies through participation in Eureka Cluster projects.

[> Further information](#)

<https://gis-2024.b2match.io/contact>

Eureka Clusters

CELTIC-NEXT Eureka Cluster | Xecs

Next-generation communications | Electronics Components and Systems (ECS)

EUCNC | 6G Summit

Antwerp, Belgium | 3-6 June 2024

EUCNC & 6G Summit 2024 in Antwerp, Belgium

The 2024 EUCNC & 6G Summit builds on putting together two successful conferences in the area of telecommunications: EUCNC, in its

33rd edition of a series, supported by the European Commission; the 6G Summit, in its 6th edition, originated from the 6G Flagship programme in Finland, one of the very first in its area. CELTIC-NEXT and Xecs will jointly hold the booth #60.

[> Further information](#)

<https://www.eucnc.eu/>



CELTIC 21st Anniversary Celebration & CELTIC-NEXT Exhibition at Berlin 6G Conference 2024 (1st-4th July 2024 at Berlin Congress Centre – BCC)

As already mentioned, on the 2nd of July 2024, CELTIC will celebrate its 21 years of existence on the scene of the international cooperation fostering innovation in the ICT domain and its application verticals. The Celebration's agenda will be communicated online. High level speakers from BMBF, Eureka and the Industry will share the floor of the Plenary Auditorium

and express themselves on CELTIC, its great achievements and their vision of its future. On the 2nd of July also, in the afternoon session, AINET will hold its Closure Event also in the Plenary space.

CELTIC-NEXT will also hold its exhibition from 1st to 4th of July at BCC. CELTIC-NEXT's running projects will expose their current achievements sharing the 6 booths dedicated to CELTIC-NEXT. The Office will be present with a booth for providing information on the programme. Finished projects will have the possibility to hold posters.

Please join us to celebrate together 21 years of international innovation cooperation!

> Further information

<https://tuk-anmeldungen.procampus.de/de/6g-conference-2024/>
<https://www.6g-plattform.de/berlin-6g-conference/>



CELTIC-NEXT Proposers' Brokerage Day Autumn Call 2024

CELTIC-NEXT is pleased to announce that the next Autumn Call 2024 will be launched on the 28th of May 2024 with an online event. The Proposers' Brokerage Day will take place on the 5th of September 2024 in physical presence. The location will be announced via our Newsletter and our Web site.

These events are the occasion for all to find potential partners consortium and to get the first feedback from the Public Authorities.

CELTIC-NEXT bottom-up calls are the perfect opportunity to enable projects in the field of next-generation communications for the digital society that contribute to a sustainable world. By applying and partici-

pating in any CELTIC-NEXT Calls, your organization can access national public funding for your R&D project as well as a large community sharing your interests.

> Further information to come

<https://www.celticnext.eu/>

Overview of CELTIC-NEXT running projects

Presenting our current 15 innovative projects in the domain of ICT

In the first half of 2024, the CELTIC-NEXT ICT cluster has a total of 15 ongoing projects that started between October 2021 and May 2024. These projects collectively represent cutting-edge ICT research and development efforts focused on diverse areas such as networking, AI, healthcare and wireless technologies to drive innovation and address critical challenges.

These 15 projects aim to discover technological advancements and outcomes in high technology readiness level (TRL) in the domain of ICT. In the perspective of CELTIC-NEXT vision to obtaining results with a successful technology-market oriented approach, the projects represent an investment of 132.9 millions of euros in public and private money. Around 311 companies, start-ups, SMEs and major industrial-players, Research and Technology Organisation (RTO), and universities are involved in actual research from 22 different countries in and outside Europe.



EMBRACE: Efficient Multi-Band network Architecture and Components for Petabit/s Elastic networks

Start Date: October 2021

End Date: October 2024

Budget (total): 3207.6 K€

Project Coordinator: Orange SA, France

EMBRACE develops, investigates, and demonstrates the required photonic technology for a complete optical system exploiting the entire spectrum of the single mode fibre (SMF) for applications from metro to long-haul reach.

This solution is supported by the large availability of SMFs with almost negligible water peak and thus extended low-loss spectral window. Right now, EMBRACE project is working on solutions to exploit the whole 1260-1625 nm spectrum. Within the project, the designed and prototyped multi-band (MB) components (coherent transceivers, optical amplifiers, wavelength selective switches, lasers) will be integrated into a permanent project demonstrator and tested over real installed fibres owned by the operators participating to the consortium.



SAFE HOME: Security-aware fog-based efficient Home monitoring for elders

Start Date: April 2021

End Date: March 2024

Budget (total): 2853 K€

Project Coordinator: Instituto de Telecomunicações, Portugal

SAFE-HOME is a multi-disciplinary project, which exploits the intersection of a number of disruptive technologies, namely sensor design, artificial intelligence and machine learning algorithms, and recent advances in

wireless networking, with emphasis on the interoperability of fog-cloud. The project aims at designing a system for monitoring the activity and movement of elders within a confined space (Home), in order to understand their activity level, with ability to identify emergency situations for alerting specific personnel, based on emergency type (e.g. medical staff, ambulance, or emergency contact). SAFE-HOME will also consider users surrounding information (e.g. neighbourhood and city information) in order to enrich solution results.



iCare4NextG: Integrated care for next-generation

Start Date: April 2021

End Date: March 2024

Budget (total): 3421 K€

Project Coordinator: Turkcell Teknoloji, Türkiye

The project develops a service framework where increased possibilities for improved wellness and care at home, directed by data driven methods, integrating needs from dif-

ferent stages of life, different caregivers and different diagnosis. A combined strategy of service framework development, business modelling and use case solutions are undertaken and this multi-track approach aims at developing a service framework that enables the creation of flexible user solutions and a business milieu where new digital business models can flourish. Care integration would incorporate a number of different providers, would be possible to deliver to the end user in an integrated way.



AI-NET Flagship: Accelerating digital transformation in Europe by Intelligent NETWORK automation

Start Date: June 2021
End Date: August 2024
Budget (total): 66547 K€
Sub-projects: AI-NET-ANIARA, AI-NET-PROTECT, AI-NET-ANTILLAS

The most recent CELTIC flagship project is AI-NET, launched in mid-2021 with a €66M total budget. Public authorities of Germany, Sweden and Finland, as well as major players from industry (both large and SME), and academia, are part of this ambitious European initiative.



AI-NET-ANIARA: Automation of Network edge Infrastructure & Applications with Artificial Intelligence

Start Date: June 2021
End Date: January 2024
Budget (total): 11214 K€
Project Coordinator: Ericsson AB (EAB), Sweden

The primary objective of the ANIARA project is to provide enablers and solutions for high-performance services deployed and operated at the network edge. To manage complexity, of artificial intelligence to complement traditional optimisation algorithms. Currently, deep edge network nodes will be deployed at locations not prepared for the power requirements of edge-centric compute.



AI-NET-PROTECT: Providing Resilient & secure networks [Operating on Trusted Equipment] to Critical infrastructures

Start Date: June 2021
End Date: June 2024
Budget (total): 26585 K€
Project Coordinator: ADVA Optical Networking SE, Germany

The primary focus of the AI-NET-PROTECT sub-project is to provide automated resilience and secure networks operated on trusted equipment to critical infrastructures and enterprises. AI-NET-PROTECT will ensure the protection of critical data, network performance (like latency, throughput, availability), and infrastructure (against tampering and attacks).



AI-NET-ANTILLAS: Accelerating digital transformation in Europe by Intelligent NETWORK automation

Start Date: June 2021
End Date: August 2024
Budget (total): 28748 K€
Project Coordinator: Nokia, Germany

network automation from the edge to the core through the FOG, and from the services to the physical resources, for end users, machine-to-machine and IoT networks. AINET-ANTILLAS concentrates on applying these technologies to automotive / teleoperated driving, manufacturing industry, public safety, and public utility businesses. The goal is to provide enablers and solutions for high-performance services deployed and operated at the network edge or in the cloud.

AINET project objective is to provide enablers and solutions for high-performance services deployed and operated at the network edge. They contribute to cyber-resilient intelligent



ENTRY100GHz: Energy-Efficient Radio Systems at 100 GHz

Start Date: September 2021
End Date: August 2024
Budget (total): 9151.42 K€
Project Coordinator: Chalmers University of Technology (CTH), Sweden

form generation in spatial, temporal, and frequency domains for beyond 5G (B5G) wireless communication infrastructure at 100GHz band and support other application sectors such as security & sensing, imaging, industrial IOT, automation etc. The proposed solution will be able to adapt dynamically to different user scenarios such as ultra-high data-rate multi-user broadband communication, reliable high mobility connectivity, ultra-low latency machine communications etc.

The aim of the current project is to develop a highly efficient integrated antenna module and RF front-end solution with adaptive wave-



USWA: Ultra Scalable Wireless Access

Start Date: December 2022

End Date: November 2025

Budget (total): 12883.18 K€

Project Coordinator: Wirepas Oy, Finland

The project Ultra Scalable Wireless Access (USWA) focuses on technology research how to utilize the new DECT-2020 NR radio technology developed in ETSI in various use cases.

DECT-2020 NR provides modern radio interface design with state-of-the-art radio capabilities for industrial use cases. DECT-2020 NR technology supports natively mesh radio network architecture which is enabling large scale local networking by relaying data between different devices and also enabling direct communication between devices. DECT-2020 NR technology can operate in a specific license exempt band used by legacy DECT.



F4iTECH: Federated AI Platform for Industrial Technologies

Start Date: March 2022

End Date: February 2025

Budget (total): 2232.44 K€

Project Coordinator: Inosens, Türkiye

Current AI-based industrial applications have a linear sequential approach for data collection, processing and model deployment cycles where each part of the cycle has a clear task.

However, collecting the data required for learning the desired models in one place may not always be possible and centralized data collection may cause data quality issues. This project aims to provide great benefit to the manufacturing and transportation industries by efficiently incorporating artificial intelligence into the production or operation line to resolve and eliminate some invisible and internalized problems that cost a lot.



COA-CFD: Cloud-based Online Access to Computational Fluid Dynamic Simulations

Start Date: March 2022

End Date: March 2026

Budget (total): 15836.8 K€

Project Coordinator: Engineering Software Steyr, Austria

Computational Fluid Dynamics (CFD) simulations utilize computational resources to simulate free flows of fluids (air, water, etc.), and the interaction of fluids with surfaces. CFD

simulations are used in development of new mechanical parts in the automotive, aerospace and military industries to increase efficiency. CFD based experiments are cost effective in comparison to conventional methods and can estimate properties which cannot be empirically measured. For the last decade, Engineering Software Steyr GmbH (ESS) has been developing new CFD capabilities (particle-based methods) in the form of four new solvers (CFD simulation programs) and hybridizing them to increase usability.



AICom4Health: AI-Powered Communication for Health Crisis Management

Start Date: January 2022

End Date: May 2025

Budget (total): 4985.30 K€

Project Coordinator: SII Concatel S. L., Spain

The objective of Alcom4Health project is to offer an innovative solution towards recovering the pandemics negative impacts on public health, healthcare access and socioeconomics through remote monitoring -AI based plat-

form's integration to the public's daily life whereas employing healthier citizens for smart cities in the area of 5G and beyond, network slicing, edge computing, artificial intelligence and machine learning based on feasible use cases including both medical and non-medical sensors for making accurate decisions and predicting risks against contagion in the future. The use cases include integration of an IoT platform with various types of sensors to monitor physiological, behavioral and environmental data from natural indoors and outdoors environments.



6G-SKY: 6G for Connected Sky

Start Date: May 2022

End Date: April 2025

Budget (total): 8924 K€

Project Coordinator: Airbus Defence and Space GmbH, Germany

6G for Connected Sky project aims at solutions to enable reliable and robust connectivity for aerial and ground users via flexible and adaptive network architecture adopting multiple technologies such as satellite and direct

air to ground communication (DA2GC). In addition, this project focuses on novel wireless network design and management schemes in 3-dimensional (3D) space including different types of flying vehicles with their unique requirements. Another focus is to provide robust, low latency and/or high-capacity communications to ground users in the rural areas without any infrastructure via non-terrestrial networks (NTNs), which are already initially introduced in 5G.



CANOPY: Cognitive and Automated Network Operations for Present and Beyond

Start Date: January 2022

End Date: December 2024

Budget (total): 4203.35 K€

Project Coordinator: Celfinet, Portugal

The objective of this project is to create a novel NOC proactive management solution that

will enable the evolution from the current reactive mode of operation towards a proactive and preventive mode. The vision is to predict problems that are going to occur before they impact customer service, providing an integrated view of the issue being solved, performing Root Cause Analysis (RCA) to understand and identify what causes triggered the problem and the corresponding recommended resolution.



CISSAN: Collective intelligence supported by security aware nodes

Start Date: May 2023

End Date: May 2026

Budget (total): 8985.23 K€

Project Coordinator: University of Jyväskylä, Finland

CISSAN proposes and implements algorithms for mitigating IoT security threats through col-

lective decision-making and with a reduced impact on the limited resources of IoT devices. These algorithms are based on research and innovation in optimizing the distribution of security capabilities and aggregating the intelligence in IoT network nodes. Three industrial use cases, on the use of IoT, inform the project developments and are used for validating and demonstrating the project results: (i) public transportation; (ii) smart energy grids; (iii) mining and tunnelling operations.

loDT2: Internet of Digital Twin Things

Start Date: May 2024

End Date: April 2027

Budget (total): 2504 K€

Project Coordinator: Loughborough University, UK

As current digital twin practices have limitations due to the central location of most digital twin models, which can cause data processing latency and network bandwidth issues, the freshly labelled project will be built

on an Information Centric Network (ICN) inspired digital twin network called Digital Twin Centric Network (DTCN). This will allow digital twin models, data, and compute resources to be published and located across networks easily. This framework will have applications in various industries, such as manufacturing (Industry 4.0), healthcare, and smart cities. To demonstrate and validate the framework, the proposers will use an asset management use case in the aerospace sector.

> Further information

CELTIC-NEXT website – <https://www.celticnext.eu/running-projects/>

Ongoing CELTIC-NEXT signed collaborations

Memorandum of Intent signed with ESA to enable faster convergence and development between terrestrial and non-terrestrial networks & services



On November 22, 2021, Eureka Cluster CELTIC-NEXT and the European Space Agency (ESA) formalized a partnership through the signing of a Memorandum of Intent (MoI) in Porto, Portugal. This collaboration aims to strengthen ties between their respective communities and drive economic growth and job creation by coordinating research, development, and innovation (R&D&I) activities in integrated space and terrestrial systems enabled by 5G and 6G technologies.

This MoI emphasizes leveraging the synergies between ESA and CELTIC-NEXT to maximize investment returns and contribute towards achieving the UN Sustainable Development Goals. In today's dynamic political and economic environment, Space ICT has emerged as a critical pillar for sovereignty and resilience. The growing importance of Space ICT is evident as it becomes central to global industry and government agendas. From an economic standpoint, new non-European players are disrupting the sector with innovations like Low-Earth-Orbit (LEO) satellites and High-Altitude Pseudo-Satellites (HAPS).

The collaboration between CELTIC-NEXT and ESA aims to address these challenges by fostering cross-fertilization and collaboration between their communities. This partnership will facilitate the convergence and development of terrestrial and non-terrestrial network and service technologies, including three-dimensional networking.



Signing the Memorandum of Intent (from left): Eureka Chairman Miguel Bello Mora, Elodie Viau – Director of Telecommunications and Integrated Applications and Head of ECSAT at the European Space Agency (ESA), and CELTIC Office Director Xavier Priem.

To implement this collaboration, both organizations will leverage their respective funding instruments, processes, and expertise while coordinating on specific themes such as network convergence, system development, business ecosystem models, and spectrum sharing. Joint activities will include roadmapping, advisory boards, knowledge networks, webinars, workshops, and testbeds/trial platforms to support common objectives and priorities.

Further collaboration to expect

This MoI marks the beginning of a series of strategic collaborations for CELTIC-NEXT, enriching its support and impact within the ICT community. The collaboration offers an ideal platform for the space and terrestrial ICT communities to collaborate on strategic initiatives and projects. CELTIC-NEXT looks forward to the space community's contributions and engagement in upcoming joint initiatives focused on Space ICT and three-dimensional networking.

Memorandum of Understanding signed with the 6G-IA to establish synergies and complementary activities in collaborative ICT research



The Memorandum of Understanding (MoU) to collaborate on ICT research between Eureka Cluster CELTIC-NEXT and the 6G Smart Networks and Services Industry Association (6G-IA) is now signed for a year now. As its aim is to enhance economic growth and job creation through joint R&D&I activities and the commercialization of outcomes, this collaboration leverages the strengths of both organizations to maximize investment returns and support the UN Sustainable Development Goals.

In the context of today's rapidly evolving social, political, and economic landscape, information and communication technology (ICT) plays a crucial role in ensuring national sovereignty and resilience. Recent global events such as the Russian-Ukrainian conflict and the COVID-19 pandemic have underscored the critical importance of both terrestrial and non-terrestrial ICT services as essential components of a country's infrastructure. To address these challenges, there is a pressing need to increase and optimize funding for R&D&I initiatives in European, with the goal of accelerating innovation and enhancing the competitiveness of the ICT industry.

This collaboration is for now facilitating cross-program discussions and soon workshops and joint projects will be organised to aim at advancing technology readiness and addressing key societal challenges outlined in the Sustainable Development Goals. It encourages cross-program discussions, workshops, and collaborative projects to advance technology readiness and achieve Sustainable Development Goals. Consultations on Strategic Research and Innovation Agendas (SRIAs), organize joint activities, and leverage resources to achieve common objectives are in discussion. Regular reviews will ensure effective collaboration and alignment with each community priorities.

Opportunities for the future

This MoU represents a new collaboration for CELTIC-NEXT and expands its impact within



the ICT community. It provides a platform for the 6G-IA and CELTIC-NEXT communities to collaborate on strategic topics and projects.

To operationalize the MoU, the signatories have committed to several actions, including promoting collaboration within their respective communities, consulting on Strategic Research and Innovation Agendas (SRIAs), organizing joint activities, and leveraging their combined resources and expertise.

Outlook

These two memorandums signed with two different big organisation in their domains are a significant milestone for CELTIC-NEXT, representing a strategic expansion of its impact

within the ICT community. By fostering closer ties and cooperation, they provide valuable platforms for both communities to collaborate on critical strategic initiatives and projects that will shape the future of ICT.

They will also allow knowledge exchange and SRIA's cross collaborations in the years to come, will help leveraging funding schemes across low TRL topics, support an easier pipelining for proposals and offer innovative entities the full panel between top-down programs and bottom-up spaces for their collaborative projects.



Roadmap implementation & Outlook

How CELTIC-NEXT is delivering on its 2021's ambitions and what is coming for CELTIC-NEXT in 2024-2025



Xavier Priem
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For CELTIC-NEXT, 2021 was a year of renewal and change. 2022 and 2023 were two important years of implementation and analysis. Let's have a look together to what has been achieved to date, and what we plan for 2024 & 2025.

Progress on Implementing the Roadmap

Since 2022, we have pursued the implementation of CELTIC's new roadmap by running several actions. We incorporated this roadmap in our Launch Events and Proposers' Brokerage Days, to allow consortia to propose innovative projects in the large number of fields of technologies, applications, and verticals of the new roadmap. This is our traditional bottom-up approach. We will continue to run our Spring and Autumn Calls as per our successful legacy. This is a unique selling point of CELTIC as a Eureka Cluster compared to other international funding schemes. And it will remain so in the future.

Working on the Partnerships

We signed two major partnerships (with ESA and with 6G-IA-SNS) to enhance our funding impact in the global ICT community, as well as in other industries. Those partnerships will nourish further our roadmap and attractiveness to Public Authorities to fund impactful innovative projects across and beyond the Eureka and European (contracted form: Eureka) countries. The targets of those partnerships are: knowledge exchange & SRIAs cross-contributions; leveraging funding schemes across Technology Readiness Levels (TRLs) & topics; calls timing alignment & Easier pipelining of proposals; from Research to Market (TRL 7, early adopters, testbeds...); of-

fering innovative entities the full panel between top-down programs and bottom-up spaces for their collaborative projects.

Running Calls

At the time of publication of this edition of the CELTIC-NEXT's News, the Spring Call 2024 will have ended. Therefore, it is already time to announce the Autumn Call 2024! The Autumn Call 2024 will be launched on the 28th of May 2024 with an online event. The Proposers' Brokerage Day will take place on the 5th of September 2024 in physical presence. The location will be announced via our Newsletter and our Web site. The submission will close on the 21st of October 2024, for a labelling early December 2024. Forecasted possible start dates for labelled projects would be first half of 2025. We can also happily say that more countries support CELTIC-NEXT and that Sweden supports again our Autumn Calls.

Flagships

AINET is ending, time has come for a new flagship

AINET Flagship and its three vertical projects have been tremendous successes with a high impact on several fundamental KPIs. Those projects are about to end. A final Closure Event is programmed for the 2nd of July 2024, collocated with the 6G Conference Berlin. Please check the Events section of this CELTIC-NEXT News issue.

As we are writing those lines, a new large consortium has formed and is making the proposal of a new flagship proposal in the stream of SASER, SENDATE and AINET. More information will be shared if this proposal gets labelled during this summer. The CELTIC-NEXT office is happy to establish the contact between potential new partners interested in joining the flagship after its labelling. Please contact us at office@celticnext.eu .



CELTIC-NEXT director Xavier Priem presented the CELTIC-NEXT Eureka CLUSTER advantages and proposal support at the 5G Techritory in a 6G-SNS ICE co-creation workshop on National initiatives.

Designing the Space ICT flagship programme

Space ICT has become a subject of high attention for industry and governments, and this has been strongly reinforced by the effects of the COVID-19 pandemic and the war in Ukraine. A clear sign has been also sent by 3GPP, which has now opened wider doors for the inclusion of SatCom besides the traditional backhauling role. The Memorandum of Intent will encourage terrestrial ICT and Space ICT industry collaboration with other industry verticals to facilitate the adoption of advanced Space ICT technologies in the business models and processes of all industry sectors. CELTIC-NEXT and ESA are working together to define a joint roadmap of technologies, use cases and agenda of calls. ESA is a key actor in the development of all aspects and fields of space activity. Once the first roadmap and calls agenda are ready, CELTIC and ESA will advertise those. The joint Roadmap and Agenda are being defined. The first CELTIC Space ICT flagship is under discussion with the Industry and the funding agencies and ministries.

Acquiring new Core Group memberships

The CELTIC-NEXT's Director has the mandate from CELTIC-NEXT's Core Group to propose and integrate new industry members to the existing Core Group. Some discussions are ongoing for some industrial companies.

ECP & Joint thematic calls

An analysis of the first results for the in 2021 initiated Eureka Clusters Programme (ECP) is currently ongoing. Target is to understand if the new structured collaborative approach grouping the five Eureka clusters under a Eureka Programme as such has achieved the goals it was assigned. Same applies to the first Joint Thematic Call on Sustainability. More will be reported once this analysis is finished.

No new Joint Thematic Call bringing all Clusters together in a same call is foreseen as of today. Potential new more focused Joint Calls with CELTIC-NEXT, where a sub-group of clusters (2 to 3) would engage together, are under discussion. Once those calls are exhaustively defined, the CELTIC-NEXT office will advert them.

Stay tuned by visiting our Call Calendar page: <https://www.celticnext.eu/call-calendar/> and/or by subscribing to our Newsletter under <https://www.celticnext.eu/news-subscription/>.

Outlook

2024 is and will remain a challenging year for many topics. Joint collaborative innovation and knowledge exchange is one of the best weapons against obscurantism, pandemics and wars. Our ICT community is one of the best positioned to understand and support this. Cybersecurity, Resilience of Critical Infrastructures, Sustainability... are certainly topics to be fully supported by our ICT technologies and to be ranked now as absolute priorities in the new world that is in front

of us. The new flagship proposal goes along those strategic lines.

2024 is also a year of joyful proud Celebration! CELTIC is getting 21 years old! This special Anniversary will be celebrated in Berlin on the 2nd of July 2024, during the 6G Berlin Conference, under the new presidency of Eureka by Germany and Canada. High Level Representatives from our Industry and from Ministries and Eureka's new President will take the floor to share their support and enthusiasm about CELTIC across its history and for the coming years!

A detailed agenda will be shared soon. Stay tuned by visiting our Call Calendar page: <https://www.celticnext.eu/call-calendar/> and/or by subscribing to our Newsletter under <https://www.celticnext.eu/news-subscription/>.

How to submit a high-quality proposal

5 key steps & 5 factors for a successful CELTIC-NEXT proposal



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CELTIC-NEXT is an industry-driven European research initiative to define, perform and finance through public and private funding common research projects. As the follow-on programme to the successful Eureka ICT cluster Celtic-Plus and its predecessor "Celtic-Initiative", the cluster has been defined for 8 years until the end of 2026. CELTIC is supported by nearly all major European players in telecommunications. Bringing the major European telecommunications vendors and

operators together into an ambitious European intergovernmental R&D programme, CELTIC is the best option to address a "system view" of communications to complement other existing Clusters.

CELTIC has been key for initiating ambitious and innovative projects dedicated to end-to-end communications solutions. Until today, CELTIC has labelled, funded and performed 176 projects in all their research areas with a total volume of more than one Billion Euro. By facilitating these collaborative R&D projects, CELTIC has made a great contribution to help Europe to stay at the competitive edge of the telecommunications industry.

Through 21 years of successfully running, the office has gathered the best tips and 5 key steps to submit a high-quality proposal and a rewarding project.

Step 1 - Use the brokerage tool

In order to support you in preparing your project proposal for CELTIC-NEXT Calls, we have created an online Brokerage Tool. Its goal is to

help you build your Consortium in preparation for your CELTIC-NEXT Project. The tool functionalities are the following:

- › Submission form for your Project Ideas and Expertise Offers
- › Overview lists with search form
- › Contact request forms
- › Process owner support functions: approval process and contact request tracking

Step 2 - Attend to the call events

CELTIC-NEXT organises several events open to the public, which interested parties can attend to learn more about CELTIC-NEXT. We have typically one large CELTIC-NEXT Event per year, including an exhibition where running projects show their results. In addition, we are running several Launch Call Events and Proposers Days every year where interested parties can discuss their project ideas and potential project proposals with other interested experts and with representatives from the Public Authorities. Please watch out for upcoming CELTIC-NEXT Events.



Step 1 - Use the brokerage tool



Step 2 - Attend to the call events



Step 3 - Contact your public authorities



Step 4 - Check your eligibility



Step 5 - Submit your proposal

Step 3 - Contact your public authorities

Projects can receive public funding, depending on the national funding rules. To speed up the funding decision process, each project participant should contact their national funding agency early in the process and follow their advice regarding national funding applications in parallel to the proposal submission. You may submit a short proposal abstract (including a short project outline, and intended consortium partners/countries) until one month before the deadline for a first check to the CELTIC Office.

Step 4 - Check your (funding) eligibility

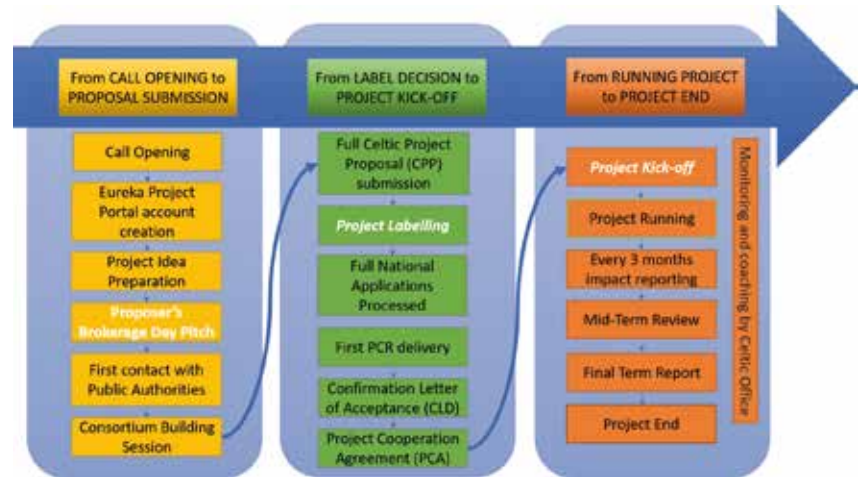
Project proposals for CELTIC-NEXT Calls must meet specific criteria. The consortium should include at least two companies from different Eureka participating countries include at least one industrial partner from each of the countries and in a fair and well-balanced way. The project should generate an obvious advantage and added value resulting from the technological cooperation between the participants.

Step 5 - Submit your proposal in the CELTIC Proposal Submission Portal

First of all, you will need to create an account on the CELTIC Proposal Submission Portal <https://cluster-projects.euretools.eu/>. Once your account is created, all steps and documents needed for upload will be explained.

5 factors for a successful project

- › Targeting the research areas: Least but not last: CELTIC-NEXT focuses on telecommunication and ICT, connecting people and businesses securely and reliably. The topics in the picture are not



CELTIC-NEXT complete project process: from Call opening to project end.

prescriptive and are only meant to give you some idea of the wide scope. Any topic related to the CELTIC-NEXT vision of a Smart Connected World is eligible.

- › Market relevance and exploitation potential: These are Key aspects to motivate Public Authorities to fund your project. The market analysis includes the technological value chain and added value of the collaboration, value chain as the right mix of partners in the consortium, added value of the cooperation at a technology level, added value by the cooperation at a business level, and consortium/partner access to the market.
- › Technology innovation: Innovation above the State of the Art (SoA) is a Key Criterion; 50 % of criticism of the Cluster experts during proposal evaluation are related to insufficient description of the SoA. Strategic relevance and expected impact of your proposal on a per-country

perspective such as what new businesses will be generated matters.

- › Right mix of participating countries: A large majority of successful projects in the past have been funded and built by a minimum of three different countries. A total of 44 European and non-European countries worldwide are participating in CELTIC-NEXT, of which 27 are coming from Eureka countries.
- › Knowing the process of the proposal submission: The CELTIC label decision is given in 3 stages: Proposal Submission by proposers, evaluation phase by Industry Experts and Public Authorities and lastly, Label Decision by the Public Authorities and CELTIC Core Group.

› **Further information**
 CELTIC-NEXT website - <https://www.celticnext.eu/>



About CELTIC-NEXT

CELTIC-NEXT is the Eureka Cluster for next-generation communications enabling the inclusive digital society. CELTIC-NEXT stimulates and orchestrates international collaborative projects in the Information and Communications Technology (ICT) domain. The CELTIC-NEXT programme includes a wide scope of ICT topics based on new high-performance communications networks supporting data-rich applications and advanced services, both in the ICT sector and across all vertical sectors.

CELTIC-NEXT is an industry-driven initiative, involving all the major ICT industry players as well as many SMEs, service providers, and research institutions. The CELTIC-NEXT activities are open to all organisations that share the CELTIC-NEXT vision of an inclusive digital society and are willing to collaborate to their own benefit, aligned with their national priorities, to advance the development and uptake of advanced ICT solutions.

www.celticnext.eu

