Introduction to the Joint Eureka Clusters Call on Sustainable industry

The Eureka network together with the Clusters have developed a strategy to address sustainability in the next three years and plans to implement several Calls for this topic. The first Call will cover the scope of Sustainable industry with the two sub-topics of **Green ICT** and **Space-earth-ocean integrated Systems for better observation and data exploitation**.

This Call will be jointly implemented between the Eureka Clusters CELTIC-NEXT, EUROGIA, ITEA, SMART and Xecs, and the Eureka Public Authorities of Austria, Belgium (Flanders), Canada, Denmark, Finland, Hungary, Ireland, Luxembourg, Portugal, Singapore, South Africa, South Korea, Spain, Sweden, Turkey, and the United Kingdom. The available budget for this Call will be over 20-25 M€ supported by at least 16 countries. The aim of this Call is to boost the productivity and competitiveness of the countries involved. Participating countries will directly benefit from the development of new solutions and technologies in their industrial sectors.

Project Outline Submission Deadline: 2 May 2022

Full Project Proposal submission deadline: 30 September 2022

Eureka Clusters Sustainability Call portal:
https://eureka-clusters.eu/sustainability.html

Eureka Clusters bring together industry, SMEs and academia in global research and innovation ecosystems to create highly innovative and competitive technological solutions in alignment with national priorities. The Clusters facilitate industrial development for both large companies and SMEs working with research and technology organisations (RTOs) and universities, through collaborative projects creating innovative ecosystems that can deliver high economic and societal impact in multiple sectors of the economy.

The participating Clusters are listed here, and their full information can be found via their respective websites:

CELTIC-NEXT:	https://www.celticnext.eu/
EUROGIA:	https://eurogia.eu/
ITEA:	https://itea4.org/
SMART:	https://www.smarteureka.com/
Xecs:	https://eureka-xecs.com/

Rationale for the Call

- **The strategic importance of sustainable industry**

In the global context of digital and green transitions, it is essential for all actors to become more sustainable while providing effective responses to the economic, technological, and societal rising challenges.

Industry is certainly no exception there, hence the strategic importance of this sustainable industry topic. Industry will support Public Authorities implementing their strategic priorities on sustainability, which will finally lead to new market opportunities at national and global levels.

- **Some of the targeted challenges**

The first Call within the 'accelerating sustainability' challenge will address the topic of 'Sustainable industry'. Sustainability and tackling energy and resource issues (from production to installation, from use and maintenance to disposal or recycling) should be placed at the heart of the combined digital and green transitions early on.

Furthermore, the use of industrial data to establish data-based services has potential for further innovation. The collection and analysis of the required huge amounts of data requires modern ICT components, but also high-performance computing power with less energy consumption. Therefore, it is also important to advance research and development towards more sustainable electronic components software, and systems solutions for information and communication technologies ('Green ICT').

Several other technologies, such as the integrated product/process development, the predictive maintenance for a zero-defect manufacturing approach and the continuous traceability of sustainability indicators throughout the product life cycle, will support those developments and the implementation of innovative projects, which will finally lead to innovative solutions and responding to the carbon-neutrality challenge. This will be based on a close link between the digital and green transitions at the core of future funded collaborative research and innovation.

Developing those new solutions can be supported by technological advancements, such as satellites, ocean and earth observation systems, ground, ocean and underwater imaging and sensing (e.g. planes using specific payloads, drones, marine robotic systems, 5G and IoT, etc.).

We have a powerful new geospatial ecosystem: a decentralised network comprised of a multitude of ecosystems still yet to be connected and integrated to enable a wide range of applications that contribute to sustainable industry. These systems need support from innovative digital technologies, like those listed above. Additionally, in any universal challenges of today, like

mobility, healthcare, smart energy systems and manufacturing, innovation is necessary for sustainable industry.

- **Importance for the industry of the participating countries**

This Call for proposals has been prepared jointly by 16 participating countries, for which supporting sustainable industry activities is of paramount importance.

Based on Eureka's strong partnership between industry and national governments, a clear sustainability strategy has been determined. This sustainability Call is a first step. As many countries as possible are thus expected to support strong and high-quality projects, complemented with considerable budgets.

- **Potential technical fields and areas for strategic applications**

Within the larger scope of sustainable industry, two areas of interest have been identified specifically by the national funding bodies supporting the Call:

〉 **Green ICT** – ICT technologies are a key enabler of a green transition for production and consumption patterns in every business and every part of society. However, the digital technologies that are crucial for these ecosystems consist of electronic components, software and systems that can consume a large amount of energy and resources over their life cycle from production to installation, use and maintenance to disposal or recycling.

Therefore, it is also important to advance research and development towards more sustainable electronic components, software and systems for information and communication technologies supporting sustainable manufacturing. Sustainable manufacturing should implement green ICT solutions in factories, operations, processes, and product planning.

Furthermore, to achieve energy efficiency in terms of use of calculation power and related electronic devices, the sustainability idea must also include the design of economical and frugal data capture and processing from the outset.

〉 **Space-earth-ocean integrated systems for better observation and data exploitation** – The challenge is to create application-based ecosystems that take advantage of the rapidly developing space, ocean and land/aerial monitoring techniques and technologies and to create new capabilities and demand-driven purpose-built ecosystems that take advantage of the rapid development of digital technologies (e.g. data-driven systems). These new capabilities shall support the move to a net zero-emissions economy, contributing to climate control, monitoring and management of natural resources, sustainable food production and societal protection, amongst other opportunities.

Other examples of potential technical fields or strategic application domains for this Call are:

Power electronics and power management	High-performance engineering for personalised products	Industry 4.0 for food production
Environmental protection and measurement	Decentralised technical intelligence	Marine and agricultural robotics
Digital twins for sustainable manufacturing simulation and real-time interaction with cyber-physical systems	AI assisted training and assistance systems for optimal factory operation	Autonomous shipping
Management systems for lifecycle monitoring and operations	ICT architectures, platforms and standards for industry and logistics 4.0	Environmental monitoring and disaster management
High-performance manufacturing systems	Sustainable, secure and resilient interconnection of all stakeholders and systems	New approaches for the energy sector, e.g. storage technologies and materials
Cyber-physical production and logistics systems	Integrated sensor and secure communication systems	Technologies supporting the balance of sustainable energy generation, consumption and storage
Sustainable smart factories through future connectivity	Utilisation and integration of various observation systems (in-situ sensors, marine robotics, drones, high altitude platforms and satellites)	Components, systems and architectures for distributed intelligence and low power data transmission
Space-earth-ocean sensing and data collection systems to monitor a.o. sea surface temperature, tidal heights, whale migration, land use/precision agriculture or natural hazards (weather-related or others)		

As with all Cluster Calls, these guidelines are provided only to indicate areas of common national interest, while the responsibility of identifying projects to address these important challenges lies with the industry and the project partners. Disruptive ideas are always encouraged, with dialogue between the consortium and involved funding bodies.

- **Coherence, complementarity and Key Performance Indicators (KPIs)**

For achieving new and innovative results, your sustainable industry related projects should be coherent and complementary to the existing initiatives at national and European levels.
Thus, the strategic and business-driven approach within Eureka, which will address sustainability in the coming years, will be one important module in the global RD&I landscape.

Finally, it is recommended to each project proposal to elaborate a set of KPIs related to the impact of the project on sustainability. The consortium can determine and describe its own scope of sustainability. The proposed KPIs are aligned with the chosen scope of sustainability.

The project consortium should define the baseline for each KPI and show what could be the beneficial impact of the project based on the defined KPI (use of SMART (Specific, Measurable, Attainable, Relevant, and Time-Bound) KPIs is recommended). The KPI should allow evaluation of the global and systemic environmental footprint reduction and evaluate the capacity of the solution to scale-up from a demonstrator to a viable solution at a country, European or even worldwide level. The Clusters will review KPIs during the monitoring phase of the labelled projects to assess project results.

- **Cross-cluster, cross-domain and cross-community proposal**

One of the objectives of this Cluster Call is to foster cross-Cluster, cross-domain and cross-community projects. The topic of sustainable industry is well suited to develop synergies between the participating Cluster communities and to propose projects that are beyond the scope of a single Cluster, resulting in innovative combinations.

In that respect the suggested topics presented in the 'Main technical fields and potential areas for strategic applications' section create many opportunities for crossover innovations and submitting research proposals that fulfil this objective.

Characteristics of a successful proposal

Proposals should primarily target taking sustainable industry technologies beyond the State-of-the-Art in whichever targeted application domains are addressed. Innovative projects that enable sustainable industry are also welcomed in the Call. It is recommended to have a consortium that covers all segments of the value chain relevant for the project scope[1].
This can be done by a description of all the processes producing products/services and delivering them to the end-user, and subsequently explaining how the different actors/project partners add value to these processes.

[1] There should be a consistency between the profiles of the partners and the project market ambitions

The topics suggested in this document should be considered as indicative and not exclusive. New ideas are always welcome.

The Call is looking for projects that will form innovative ecosystems, with sustainable industry at their core, that will enable advances in the State-of-the-Art and will result in commercial opportunities, economic and societal impact in the application areas addressed. The intent is to bring together partners from across the broad sustainable industry Community of all types (large enterprises, SMEs, research & technology organisations and universities) into collaborative teams that will be able to demonstrate a high impact in the chosen application area(s) at the end of the project. **Projects with eligible costs in the range of 5-20 M€ are expected,** though projects outside this range may also be submitted for evaluation. As always, it is essential that project partners hold in-depth meetings as soon as possible with the representatives of the Public Authorities in the countries from which they wish to gain support, to understand detailed eligibility requirements.

Looking for partners?

If you already have a project idea, and are looking for partners, or you are interested in participating in a project proposal, given your expertise in the field, but haven't yet formed a project idea or proposal, then please visit the Eureka Clusters Sustainable Call Brokerage area: https://eureka-clusters.eu/sustainability/brokerage-area.html.

Moreover, a Brokerage event will take place on 23 March 2022. Project idea owners are welcome to participate, share their ideas and look for potential partners.

Participating countries

Within the Eureka framework, this Eureka Clusters Sustainable industry Call has already received over 20-25M€ of funding commitments and expressions of support from the countries listed on the next page:

Sustainable industry Call supporting countries with indicative budget commitments (€)	
Austria	Open budget
Belgium (Flanders)	Open budget
Canada	1 million
Denmark	1 million
Finland	Open budget
Hungary	Open budget
Ireland	Open budget
Luxembourg	Open budget
Portugal	Open budget
Singapore	Open budget
South Africa	Open budget
South Korea	1 million
Spain	Open budget
Sweden	Open budget
Turkey	Open budget
United Kingdom	2,4 million

All Eureka countries are invited to support this Call and/or individual proposals. However, project partners from other Eureka countries, or countries outside of, must secure their national funding within the deadlines for the Call to participate, or should self-finance their part in the project.

Germany may provide funding for excellent projects in the areas of Electronic Components and Systems (ECS), Communication Systems, Research on Production, Services and Work; Photonics and Quantum Technology; as well as Development of Digital Technologies and Applications. Amongst other topics, proposals on satellite-based environmental monitoring are particularly welcome, possibly with partners from Canada, Singapore or Sweden. Any other topic and country participation are welcome as well. Applicants are strongly advised to enquire on possible funding opportunities with the project management agency contacts provided in the relevant s ection of this website.

In all cases, it is strongly recommended that potential project partners contact their supporting public authority as early as possible to check their eligibility for support under this Call.

Please be aware that a national funding application will be required. National eligibility criteria and funding rules for this sustainable industry Call can be found on the sustainable industry Call website: https://eureka-clusters.eu/sustainability.html.

Eureka eligibility criteria for proposals

Proposals must meet the following criteria:

- The consortium should include at least two companies from different Eureka participating countries. The participation of research institutes/universities is welcome according to each country's funding regulations.
- **The consortium should include at least one industrial partner from each of the countries represented in a project. "Industrial partner" refers to companies of all sizes (from SMEs to large companies).**
- The project partners must express their willingness to cooperate, on a win-win/fair basis in the development of a new product, industrial process Industry standard or service.
- The product, process or service must be innovative, market-driven, result oriented and there must be a technological risk involved.
- The project should benefit all involved partners in a well-balanced consortium (No single organisation or country can be responsible for more than 70% of the project budget)
- SMEs are explicitly encouraged to participate in the proposals.
- The project should generate an obvious advantage and added value resulting from the technologic cooperation between the participants (new technologies, standardisation, prototyping, field trials, new or improved products, increased knowledge, access to R&D infrastructure etc.).
- Having a consortium that builds a technological value chain and market value chain to create impact by the project idea is highly recommended.
- Economic and Societal benefits to be obtained (where relevant) must be highlighted in the project proposal.
- A project consortium or cooperation agreement (PCA) must be signed between the project partners as soon as possible. PCA templates are available for use if required.

Any organisation whose collaborative industrial research and innovation project is consistent with the above criteria can apply to the Call and funding could be provided by each funding agency afterwards in accordance with their national participation procedures, and subject to budgetary availability.

Each country may apply additional eligibility criteria based on their national regulations. Applications are strongly advised to contact their funding body, prior to submitting their application, to discuss their project idea and check the national eligibility criteria which would apply to their participation in the project.

Project Outline Submission Deadline: 2 May 2022

Full Project Proposal submission deadline: 30 September 2022

How to submit your proposal

The Eureka Clusters sustainable industry Call is using a *two-step* submission process where first a Project Outline will have to be **submitted by 2 May 2022, 17:00 CEST**. After a first evaluation, the selected consortia will be invited to submit a Full Project Proposal by 30 September 2022. Proposals must be submitted via the portal on https://eureka-clusters.eu/portal.

Submitting a proposal is a well-guided procedure of registering on the portal where the key characteristics of the proposal must be submitted through online forms and the document version of the detailed work descriptions, as requested in the proposal template, can be uploaded. Each project participant should also contact their national funding agency (as early in the process as possible) and follow their advice regarding national funding applications in parallel to the proposal submission.

Identifying your focus areas with the Clusters competence profiles

On submission of a proposal, project leaders will have the option of indicating which of the participating Cluster(s) they would like to support them through the project submission, evaluation and subsequent monitoring process. It will be possible to indicate a primary and secondary Cluster as we are looking for cross-Cluster projects.

Proposals should select the Cluster(s) best aligned to the key technology focus area(s) in their proposal as this will allow the appropriate Cluster to provide the best level of technological support and knowledge to look after the proposal. The participating Clusters have aligned their processes and procedures to support this Call so that there is no operational advantage or disadvantage when choosing a supporting Cluster.

If the project idea addresses two areas of Cluster expertise, a second Cluster should be chosen which will then jointly oversee the proposal with the primary Cluster. In this case both Clusters will share the responsibility for the proposal through evaluation and through its operational life as required. This facility is to ensure the appropriate technical competence is always on hand to evaluate and support the proposals. There is no advantage or disadvantage in terms of success

rate by selecting two Clusters. Towards project participants the primary Cluster will be the contact point and there will be no additional extra administrative burden. The project fee after having received funding will have to be paid to the primary Cluster only.
Project teams who are unsure of which route to follow can receive impartial advice via the contact link on the Call webpage, and/or from their national public authority. The respective Cluster websites can also be consulted for further information on the areas of expertise that they can support.

Evaluations of proposals

The proposals will be evaluated by the well-established Clusters evaluation processes. The proposals will be evaluated by experts coming from the Clusters supporting the Call and the relevant Public Authorities.

The experts are highly experienced individuals in most cases with industry background, selected by the participating Clusters, who have the necessary skills to evaluate the technological potential and business opportunities of the sustainable industry Call proposals. All experts are subject to strict non-disclosure agreements. Public Authorities will also perform their own evaluations based on their national requirements in parallel.

Proposals reaching the necessary quality standards will be invited to submit a Full Project Proposal (FPP) by 30 September 2022.

FPPs will be assessed by experts coming from the Clusters supporting the Call and the relevant Public Authorities. Proposals reaching the necessary quality standards will receive the sustainable industry ECP label and will be recommended for funding.

Projects are expected to kick off in the period from November 2022 to August 2023 *(maximum 12 months after labelling decision)*.

National eligibility and funding criteria

The Eureka Clusters Sustainable industry Call is explicitly supported by 16 Eureka countries. In addition, other Eureka and non-Eureka countries are invited to support the Call if they wish. In all cases, it is the responsibility of the submitting project team to contact the Public Authority representatives of the countries that they wish to involve, to ensure that the option of funding is available. Contact details of the supporting countries and other Eureka contacts can be found on the Eureka website and on the sustainable industry Call website.

Eureka funding is based on national funding policies and arrangements and, as such, is subject to national terms and conditions. On request it is required that each project participant will submit a national funding application in line with national funding processes.

Help and support

Eureka Clusters Sustainable industry Call homepage:
https://eureka-clusters.eu/sustainability.html

Sustainable industry Call contacts:

CELTIC-NEXT contact:	office@celticnext.eu
EUROGIA contact:	contact@eurogia.com
ITEA contact:	info@itea4.org
SMART contact:	info@smarteureka.com
Xecs contact:	xecs@aeneas-office.org

Project Outline Submission Deadline: 2 May 2022

Full Project Proposal submission deadline: 30 September 2022