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CHIST-ERA CONSORTIUM

The CHIST-ERA consortium has created a common funding instrument to support European research projects that engage in long-term research in the area of ICT and ICT-based sciences. Through this instrument, the national/regional funding organisations of CHIST-ERA support and join the Horizon 2020 Future and Emerging Technologies (FET) agenda. By launching joint European calls, they can support more diverse research communities, who are able to tackle the most challenging and novel research topics. Each year, CHIST-ERA launches a call for research projects in two new topics of emergent scientific importance.



European coordinated research on long-term ICT and ICT-based scientific challenges

Call 2020

Advanced Brain-Computer Interfaces for Novel Interactions

and

Towards Sustainable ICT

Funding Organisations in the Call 2020



Deadline: 1st March 2021



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CALL 2020 TOPICS

Advanced Brain-Computer Interfaces for Novel Interactions (BCI)

The challenge is to improve Brain Computer Interfaces (BCIs) as they become an increasingly explored technology most notably in the healthcare sector. BCIs obtain, analyse and relay brain signals in order to carry out a specific action. Challenges with BCIs include the quality of brain signal received by the interface, variability in test subjects, lack of co-creation with users and data capturing. In addressing these, the applications of BCIs will be able to move beyond human-computer interactions but also include human to human interactions and human to object interaction. Currently, active BCIs are the mainstay in BCI technology. But there is an opportunity for passive BCIs which can enhance human computer interaction, to be developed and push the technology into novel interactions and application sectors.

Target Outcomes

- i. Focus on user experience
- ii. Low power wearables
- iii. Better signal processing; improving the signal to noise ratio
- iv. Acquisition of large datasets

Towards Sustainable ICT (S-ICT)

The increasingly complex nature of ICT has gone hand in hand with an increase in its energy demands. Sustainability needs to be applied across to all areas of ICT and bring about an overall reduction the negative impact ICT has on the environment. Harnessing novel approaches to modelling, materials, manufacturing and power management are all necessary to bring this to fruition. E-waste is also a major consequence of fast-moving developments in ICT, moving towards recyclable and modular devices that can be reused and/or repaired will lessen the burden on nations that take in the discarded electronics. Faster computing is driven by industrial and consumer demand; therefore, it is equally important that end users are aware of the negative environmental impacts associated with ICT use. The systemic nature of ICT means it is ideally placed to undergo a complete reformation in its practices and this is what this call for research proposals in sustainable ICT and all its frugality aspects hopes to initiate.

Target Outcomes

- i. Reduction of e-waste through the use of organic materials and moving away from rare earth metals
- ii. Wireless power management and optimising wireless networks
- iii. Improved the efficiency of mmWave technologies
- iv. Improvements to the modelling of power consumption with links to AI
- v. Recyclable components, modular devices and extended lifetimes – designed for disassembly and reparability
- vi. Consideration of both energy and natural

*CHIST-ERA projects should be of a **FET-like** nature and contribute to the development of the European research and innovation capacity in the technology domain of the call topics. They should explore collaborative advanced interdisciplinary science and/or cutting-edge engineering with the potential to initiate or foster new lines of technology and help Europe grasp leadership early on in promising future ICT and ICT-based areas with potential for significant impact in the long term.*

***Open access** to publications and research data, is a key asset to leverage on research funding. Applicants are encouraged to consider approaches promoting open access starting from the project preparation stage.*

*To widen participation throughout Europe, applicants are encouraged to include partners from the **Widening Countries** in the call: Bulgaria, Czech Republic, Hungary, Latvia, Lithuania, Luxembourg, Poland, Romania, Slovakia and Turkey.*

SELECTION PROCEDURE

This call follows a one-stage submission and evaluation procedure.

The coordinator prepares a joint proposal for the consortium, using the template available on the CHIST-ERA website. The form is submitted using the electronic submission system of CHIST-ERA.

Consortium Eligibility

Projects have a duration of either 24 or 36 months.

The following criteria must be met:

- The consortium is **international**: It must have a minimum of three partners and partners must be located in at least three distinct countries.
- The consortium is **balanced**: At most 60% of the total funding may be requested by partners from one country.

The consortium needs to be **focused**, that is, the proposed research must have a clearly defined goal. Consortia should therefore normally contain between three and six partners.

Research groups who are not eligible to receive funding from any organisation participating in the concerned topic may be part of a consortium if they are able to secure their own funding. Third-party funding is not considered for the criteria above. The consortium coordinator must be supported by a funding organisation participating in the topic.

Evaluation and Funding Decision

The proposals are evaluated by an international panel according to the following criteria: **Relevance to the Topic, S/T Quality, Impact** and **Implementation**.

Based on the ranking and of available funding, CHIST-ERA proposes a list of projects to be funded. The final decision remains with the funding organisations.