CHIST-ERA CONSORTIUM

CHIST-ERA is a consortium of research funding organisations supported by the European Union's Future and Emerging Technologies (FET) programme as an ERA-NET. CHIST-ERA funds transnational research projects addressing long-term ICT and ICT-based research challenges and promotes multidisciplinary research with a potential to lead to significant breakthroughs. Each year, a subset of the funding organisations in CHIST-ERA participate in a call on two new topics of emerging scientific importance.

FUNDING ORGANISATIONS PARTICIPATING IN CALL 2017

IRISH RESEARCH COUNCIL — An Chomhairle um Thaighde in Éirinn

BULGARIAN SCIENCE FUND

fnrs — LA LIBERTÉ DE CHERCHER

Eesti Teadusagentuur — Estonian Research Council

GSRT — GENERAL SECRETARIAT FOR RESEARCH AND TECHNOLOGY

AGENCE NATIONALE DE LA RECHERCHE — ANR

Fonds de recherche Nature et technologies — Québec

TAČR

FWF — Der Wissenschaftsfonds.

ACADEMY OF FINLAND

TÜBİTAK

GOBIERNO DE ESPAÑA — MINISTERIO DE ECONOMÍA, INDUSTRIA Y COMPETITIVIDAD

FNSNF — SWISS NATIONAL SCIENCE FOUNDATION

Lietuvos mokslo taryba

uefiscdi — INOVARE SI CREATIVITATE

SLOVAK ACADEMY OF SCIENCES

EPSRC — Engineering and Physical Sciences Research Council

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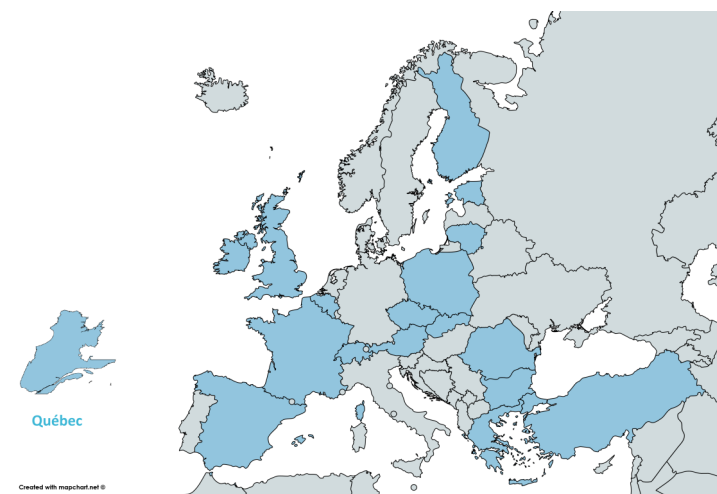European coordinated research on long-term ICT and ICT-based scientific challenges

Call 2018

Analog Computing for Artificial Intelligence

and

Smart Distribution of Computing in Dynamic Networks

Pre-proposal submission deadline: 15th January 2019

Québec

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CALL 2018 TOPICS

Analog Computing for Artificial Intelligence (ACAI)

Smart Distribution of Computing in Dynamic Networks (SDCDN)

SELECTION PROCEDURE

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

At both stages of the application, the coordinator prepares a joint proposal for the consortium, using the template available on the CHIST-ERA website (www.chistera.eu). The form is submitted using the electronic submission system on the website.

Projects should lead to technology demonstrators enabling robust operation and give due consideration to performance evaluation and experiment reproducibility. Power consumption, computational capability, efficiency, reliability and adaptability are important aspects of this research domain and should be considered where relevant. Both new algorithms and adaptation of existing algorithms to new analog technologies can be addressed. Unconventional approaches can be considered where it can be demonstrated that they can lead to better artificial intelligence either generally or for specific domains of use.

Key challenges are expected to be:
- Adaptability and ease of programming
- Energy consumption performance
- Performance benchmarking and demonstration of superior performance with respect to conventional approaches for specific applications in artificial intelligence
- The design of new, more resilient and configurable architectures
- Demonstration of practicality

Projects should propose, design and/or implement demonstration technologies in user-centric application domains that highlight the benefits of dynamic computing in terms of security, reliability, trust, energy efficiency, computational capability and user perception.

Key challenges may include:
- Improving user experience in dynamic network scenarios and integration of user experience evaluation
- Development of distribution strategies which improve application performance
- Intelligent data storage, processing and movement
- Creating context aware functionality
- Transparency of operation
- Identification of application classes which are particularly suitable for realization on such platforms
- Performance benchmarking
- Addressing potential security issues

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.

CHIST-ERA is looking for **transformative and highly multidisciplinary research projects**. They should explore **new ideas** with potential for significant scientific and technical impacts in the long term.

Selected projects are invited to participate in a yearly seminar together with projects from previous calls.

CHIST-ERA launches a call for research proposals in two **new topics each year**. In previous years, CHIST-ERA calls have targeted quantum computing, consciousness, knowledge extraction, low-power computing, intelligent user interfaces, smart communication networks, adaptive machines, distributed computing, trustworthy cyber-physical systems, human language understanding, security and privacy in the internet of things, terahertz communication, lifelong learning for intelligent systems, visual analytics, reproducibility in robotics, and industrial big data.

Evaluation and Funding Decision

The proposals are evaluated by an international panel according to the following criteria: *Relevance to the Topic, Scientific & Technical Quality, Implementation,* and *Impact*.

On the basis of the ranking and of available funding, the funders propose a list of projects to be funded. The final decision remains with the funding organisations.