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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



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

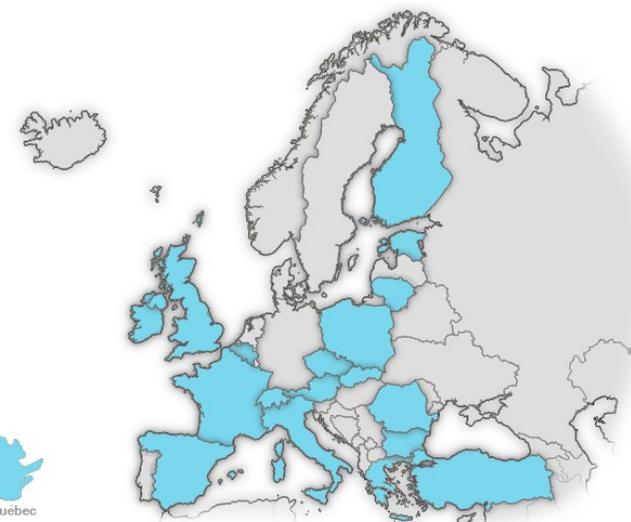
Call 2017

**Object Recognition and Manipulation by Robots:
Data Sharing and Experiment Reproducibility**

and

**Big Data and Process Modelling
for Smart Industry**

Pre-proposal submission deadline:
11th January 2018



Call Information

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<http://www.chistera.eu/call-2017-announcement>

www.chistera.eu



CALL 2017 TOPICS

Object Recognition and Manipulation by Robots: Data Sharing and Experiment Reproducibility (ORMR)

Projects should aim to enable the development of robots, which are able to accurately recognise and appropriately manipulate objects in various environments. Projects should lead to quantitative results which can be reproduced by others. Project teams should in particular make publicly available all the data, protocol description and software metrics needed to reproduce experiments. Appropriate efforts and means for doing so should be foreseen. Projects should address real-world challenges, and record and annotate robotic perceptions in order to experiment with different approaches for these challenges. Enough data from various environments and contexts should be used to show the robustness of the experimented approaches.

Key challenges are expected to be:

- Perceiving or predicting physical properties (shape, orientation, mass, fragility, etc.) of objects or environments;
- Handling of unknown objects and environments;
- Developing systems which are capable of operating in ambiguous contexts;
- Managing the perception-action loop;
- Interaction and cooperation with humans or other robots;
- Designing safe, secure, robust and ethically-sound systems;
- Independent and objective evaluation;
- Criteria and measures for reproducibility.

CHIST-ERA is looking for **transformative and highly multi-disciplinary 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.

Big Data and Process Modelling for Smart Industry (BDSI)

Projects should combine big data and process modelling for optimal and accurate operation. The developed models should be reusable across various contexts and application domains. Their performance should be measurable in an objective way.

Key challenges and opportunities are expected to be:

- Large-scale, complex systems in dynamic environments;
- Designing conceptual models for autonomous or semi-autonomous decision support;
- Intelligent fusion of multiple data streams;
- Integration of heterogeneous, structured and unstructured data;
- Combining a priori knowledge and models with empirically derived data;
- Undertaking research in collaboration with industrial partners who can provide representative data;
- Managing to combine the requirements for privacy, security and intellectual property with the need to develop models openly;
- Taking advantage of collaboration to collect data from multiple international environments (physical, cultural and regulatory);
- Implement independent evaluation of systems, data and outputs.

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 and visual analytics.

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.

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, 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.