

Terms of Reference
for the
Exploratory Research Projects
Call for Proposals - 2017

February 2017

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1 INTRODUCTION

1.1 BACKGROUND

The Carnegie Mellon Portugal Program is an education, research, and innovation platform that connects Portuguese universities, research institutions, and companies in cooperation with Carnegie Mellon University (CMU). The partnership was launched in 2006 to create new knowledge in key focused areas of Information and Communications Technologies (ICT) by means of cutting-edge research, world-class graduate education, and a close connection with Portuguese industry, aiming at placing Portugal at the forefront of science and innovation. In order to identify and assess emerging key strategic areas for a potential third phase, the Program is inviting submissions for its fourth Call for Proposals in Phase II, this time for Exploratory Research Projects.

1.2 INITIATIVE DESCRIPTION

Exploratory Research Projects are designed to assist teams of researchers from Portuguese institutions, Carnegie Mellon University and industry partners, to jumpstart high-impact potential research activities of strategic relevance for the Carnegie Mellon Portugal Program. The proposals should be high-risk/high-reward and show promise and a strategy for significant future expansion of project goals.

In the scope of this Call, the projects will specifically be used to identify and assess emerging key strategic areas that could be considered in the design of a potential third phase for the Program. The submitted projects should preferably contribute to the scientific developments and objectives of the Atlantic International Research Center (AIR Center), as stated in the document “Towards a Science and Technology agenda for an integrative approach to the Atlantic: Climate Change and Energy Systems, Space and Ocean Sciences, through North-South cooperation”, available on [FCT's website](#).

The projects must aim at stimulating and promoting Portugal's international competitiveness and innovation capacity in science and technology, in ICT as such, or as enabling technologies in application sectors. The analysis of the societal, policy and managerial implications of ICT-enabled scientific and technological breakthroughs naturally also fits within the scope of these projects.

For this Call, the Program is seeking proposals in the following areas:

1. Integrative research based in the context of the [AIR Center](#);
2. Data Science and Engineering;
3. Computer Science;
4. Electrical and Computer Engineering;
5. Applied Mathematics;
6. Technology, Management and Policy.

The area of Computer Science includes, but is not limited to, sub-areas such as: Computer Science; Computer Science - Robotics; Software Engineering; Language Technologies; Human Computer Interaction. The area of Technology Management and Policy includes, but is not limited to, sub-areas such as: Engineering and Public Policy; Technological Change and Entrepreneurship.

The support, direct involvement, and/or co-funding from companies, industry consortia, government agencies, foundations or financial investors will be emphasized. Priority will also be given to proposals featuring one or more of the following characteristics: multidisciplinary, exchange missions, and/or the inclusion in the team of young researchers, e.g., graduate students.

Exploratory Research Projects will often be aimed at formulating and launching a longer-term project, i.e., they will not be required to achieve, within their own scope, the fully developed and ambitious final results that will be typical of longer-term projects. However, the proposals must be very concrete on the activities and outcomes that the consortium actually proposes to carry out and achieve in the scope of the Exploratory Research Project, and clearly link them to its longer-term objectives.

2 AWARD INFORMATION

2.1 REGULATIONS AND GUIDELINES

Regulations governing access to funding are available at:

- <http://www.fct.pt/apoios/projectos/regulamentofundosnacionais.phtml.en>
- <http://www.fct.pt/apoios/bolsas/normasbolsasemprojectosunidades>

The announcement of the opening of this call is available at:

- <http://www.fct.pt/apoios/projectos/concursos>

The guidelines to writing and submitting proposals are available at:

- [Guidelines for Exploratory Research Projects Proposals Writing](#)

The Guide for Peer Reviewers is available at:

- [Guide for Peer Reviewers](#)

2.2 DURATION AND ESTIMATED NUMBER OF AWARDS AND FUNDING AMOUNT

The awards will be effective for projects lasting 12 calendar months or less, intended to commence by June 15, 2017. Depending on the quality of the proposals, 7 to 10 new awards are expected to be financed.

From the total funding, € 700,000.00 (seven hundred thousand euros) will be available to support resources and activities in Portuguese research institutions, and approximately \$ 500,000.00 (five hundred thousand dollars) will be available to support complementary activities at Carnegie Mellon University. The participating researchers from Carnegie Mellon University may be funded by the Information and Communication Technologies Institute (ICTI), at Carnegie Mellon University.

The maximum budget for Portuguese research institutions in each project will be € 100,000.00.

2.3 APPLICATION AND DEADLINE FOR RECEIPT OF FULL APPLICATIONS

Applications must be submitted online through the [FCT website](#) following the Announcement of the Call for Proposals. Solicitations will be open from February 17 to 5pm (Lisbon time) of April 12, 2017.

2.4 SUPPORTED ENTITIES

Only the following entities are eligible to receive funding from FCT through the present Call for Proposals:

- Higher Education Institutions, their institutes and R&D units;
- State or international Laboratories with head office in Portugal;
- Non-profit private institutions whose main objective is R&D activities;
- Other non-profit private and public institutions developing or participating in scientific research activities.

2.5 FORMAT REQUIREMENTS

Full applications must fulfill the following format requirements:

- Completion of the on-line FCT form, available through the [FCT platform](#), according to the [Guidelines for Exploratory Research Projects Proposals Writing](#).

Important note: All sections of the FCT form must be filled. Except where mentioned otherwise all the requested information needs to be in English. Please make sure that the text entered in the on-line form is formatted and comprehensive.

- Submission of the Annex to Application, that must include:
 - A cover page (not exceeding one page, Arial regular font, 11 point)
The cover page includes the title of the project, the contact information of the PIs, a list of Co-PIs and other key personnel, the duration of the project, and the total budget amount (requested amount and co-funding).
 - A summary (not exceeding one page, Arial regular font, 11 point)
The summary should include:

- a synopsis of the proposed project;
 - five keywords;
 - a concise description of the nature and aims of each partner's contribution and the collaboration in the consortium as a whole;
 - the indication of the project's scientific area, according to section 1.2;
 - a brief explanation of how the proposal meets the objectives of the Call and how it fits with the selected scientific area, according to section 1.2.
- A project description (not exceeding four pages, Arial regular font, 11 point)
The description should include sufficient detail that the reviewers can evaluate the appropriateness and feasibility of the proposed plan. The contributions of each member of the team must be delineated. The description should be as specific as possible about future expansion of project goals and support from government agencies, companies, industry consortia, foundations or financial investors. The proposals must be very concrete and specific on the activities and the outcomes that the consortium actually proposes to carry out and achieve in the scope of the Exploratory Research Project, and clearly link them to its longer-term objectives.
 - A team members list (Arial regular font, 11 point)
List all the team members, including their organizational affiliations and other relevant information.
 - The CV and publication list of the principal applicant and each co-applicant (for each applicant, a maximum of 2 pages, Arial regular font, 11 point, including a list of up to 10 of the most relevant papers)
 - Support letter(s) (for each organization, a maximum of 1 page, Arial regular font, 11 point)
Letters from any source(s) of matching funds must be included, when applicable. Other letters of support may be included.

Important note: The cover page, the summary, and the project description should include all the content of the Scientific Component section of the FCT form and **must not exceed six pages in total (including the title page)**. This limitation will be strictly enforced.

- Submission of the following Eligibility Documents:
 - The document that certifies the PhD degree of the lead Portugal Principal Investigator
 - Written agreement between the lead Portugal Principal Investigator and the Proposing Institution (if applicable).

- A statement from the PI at CMU confirming that he/she will be the lead PI from CMU and that he/she holds a faculty appointment at CMU.

2.6 REVIEW OF APPLICATIONS

The applications must follow the guidelines provided in these Terms of Reference and in the FCT on-line tools for general information on application filing, namely the instructions guidelines: <http://www.fct.pt/apoios/projectos/concursos/instrucoes.phtml.en>.

Applications will be reviewed by an international panel of independent experts, as organized by FCT. The review panel will be responsible for evaluating the merit of each proposal.

The selection for funding is based on the criteria presented in section 4.

2.7 NOTIFICATION AND REPORTING

The applicants will be notified in accordance with article 15 of the Regulations for Projects Exclusively Funded by National Funds. Funded applications are intended to commence by June 15, 2017.

A mid-term report after the first semester of each project, describing early outcomes and contributing to a more effective design of a potential third phase for the Program, will be delivered for interim review by the Board of Directors of the Carnegie Mellon Portugal Program and by FCT. The Board of Directors has the right to recommend to FCT that further funding be discontinued. A final report of the Exploratory Research Project will be delivered, for review by the Board of Directors and by FCT.

The Board of Directors and FCT may request that a panel of experts reviews the Exploratory Research Project, at any point in its progress and at its end. Periodic status updates of the project may be requested at the discretion of the Board of Directors, FCT, or the Directors of the Carnegie Mellon Portugal Program.

3 ELIGIBILITY INFORMATION

3.1 ORGANIZATION LIMIT AND REQUIREMENTS

The proposals must have research consortia including at least:

- Two partner Portuguese research institutions from different entities as identified in section 2.4. One of them should belong to the category of Higher Education Institutions, their institutes and R&D units.
- One partner CMU faculty team.

One of the Portuguese research institutions is the lead institution in Portugal. The CMU faculty team is the lead at CMU.

In addition to the entities mentioned above, the consortia may include other public or private entities, profit or non-profit, that may also invest in the exploratory project and that may bring relevant competencies to the project.

3.2 PRINCIPAL INVESTIGATOR (PI) LIMIT

The lead Portugal Principal Investigator (PI) should have a doctoral degree. The document certifying the doctoral degree should be attached to the application.

The lead Portugal PI should also be a professor or have a research position in the Proposing Institution. In the absence of such a link, a written agreement between the parties must be submitted attached to the application, according to point c) of item 1 of article 6 of FCT's Project Regulations.

The lead PI at CMU must hold a faculty appointment at CMU. A confirmation statement should be attached to the application.

Proposals will not be accepted from lead Portugal PIs affiliated with institutions on a situation of unjustified fault with FCT requirements regarding the delivery of scientific and/or financial execution reports from previous financed projects.

Proposals will also not be accepted from lead Portugal PIs who were PI of any project with a final scientific report rejected within two years before the opening of the Call, for reasons attributable to them.

3.3 PI AND RESEARCHERS DEDICATION

The lead Portugal PI shall be dedicated to the project, according to the duration of the proposed activities, at no less than 30%. The remaining members of the Portugal research team shall be dedicated to the project, according to their participation, at no less than 15%.

3.4 LIMIT ON NUMBER OF PROPOSALS PER ORGANIZATION

There is no limit on the number of proposals a lead research institution may submit. There is no limit on the number of proposals in which a research institution may participate.

3.5 LIMIT ON NUMBER OF PROPOSALS PER PI AND RESEARCHER

A Portugal researcher may be identified as lead PI in at most one proposal. Researchers may be listed as co-PIs or senior researchers in multiple proposals.

4 EVALUATION AND SELECTION CRITERIA

The selection and ranking of the applications will be based on the following criteria, detailed in the Regulations Governing Access to Funding for Scientific Research and Technological Development Projects:

- A. Scientific merit and innovative nature of the project, preferably within the scope of the priorities developed by the Atlantic International Research Center ([AIR Center](#)) initiative;
- B. Scientific merit of the research team;
- C. Feasibility of the plan of work and reasonableness of the budget;
- D. Contribution to the body of knowledge and competence of the National Science and Technology System;
- E. Potential economic value of the technology.

Application of these evaluation criteria shall take into account, among other considerations, the following:

- a. For criterion A:
 - i. Relevance and originality of the project proposed (based on the state-of-the-art in a determined scientific area and previous work done by the proposing team);
 - ii. Thematic alignment of the proposal with the Exploratory Research Projects topics as outlined in section 1, giving priority to proposals that contribute to the scientific developments and objectives of the Atlantic International Research Center ([AIR Center](#)) initiative;
 - iii. Adequacy of methodology adopted for carrying out the project;
 - iv. Expected results and their contribution to scientific and technological knowledge;
 - v. Resulting publications and articles;
 - vi. Contribution towards promoting and disseminating science and technology;
 - vii. Production of knowledge that can contribute to benefits to society or to the business sector.
- b. For criterion B:
 - i. Scientific productivity of the team (references to publications and citations in published works, other relevant indicators);
 - ii. Abilities and skills to adequately execute the proposed project (team configuration, PI's qualifications);
 - iii. Ability to involve young researchers in training;
 - iv. Availability of the team and non-duplication of objectives in relation to other projects underway;
 - v. Degree of internationalization of the team;
 - vi. Degree of success in previous projects in relation to the Principal Investigator (PI) (in the case of young PIs, this requirement must be assessed based on the potential

- revealed by the PI's curriculum vitae in the absence of prior concrete accomplishments);
- vii. Level of commitment of any companies participating in the project (if applicable).
- c. For criterion C:
 - i. Organization of the project in terms of the proposed objectives and resources (duration, equipment, size of the team, institutional and management resources);
 - ii. Institutional resources of the proposing and participating entities (technical-scientific, organizational and managerial and, when appropriate, co-funding capacity on the part of companies).
 - d. For criterion D:
 - i. Contribution to the body of knowledge and competence of the National Science and Technology System (expected effects and results).
 - e. For criterion E:
 - i. Potential economic value of the technology (if appropriate), namely in terms of its impact on the competitiveness of the national socio-economic system.

5 ADDITIONAL INFORMATION

For inquiries of a scientific nature, please contact the Carnegie Mellon Portugal Program at research@cmuportugal.org.

For specific information related to application submission, please contact projetosCMU@fct.pt.