

EXPLORATORY RESEARCH PROJECTS (ERP)

**2019 TERMS OF REFERENCE FOR EXPLORATORY RESEARCH PROJECTS
(ERP) UNDER THE CARNEGIE MELLON PORTUGAL PROGRAM**

TERMS OF REFERENCE FOR EXPLORATORY RESEARCH PROJECTS (ERP) 2019

1. Summary

The Carnegie Mellon Portugal Program (CMU Portugal) is a platform for advanced education, cutting edge research and global innovation that brings together Carnegie Mellon University (CMU) and several Portuguese universities, research institutions and companies. This partnership was launched in 2006, renewed in 2012 and entered its third phase in 2018.

The activities of the CMU Portugal Program are funded by the Fundação para a Ciência e a Tecnologia (FCT), supported by the Conselho de Reitores das Universidades Portuguesas (CRUP), co-funded by industry partners and by Carnegie Mellon University. In particular, the mission of the third phase of the CMU Portugal Program is to foster industry-science relationships as agents of change in the area of Information and Communication Technology (ICT).

Exploratory Research Projects (ERP) are designed to assist teams of researchers from Portuguese Institutions, Carnegie Mellon University and industry partners, to bootstrap high-impact potential research activities of strategic relevance for the Carnegie Mellon Portugal Program, namely in the area of ICT, with a focus on the opportunities provided by the data economy as a driver of growth and change. The proposals should be high-risk/high-reward and show promise and a strategy for significant future expansion of the project's goals.

The ERP should value impact, e.g., by building systems that address real-world problems, beyond just research papers. While inclusion of industry partners is not mandatory, it is beneficial to the overall evaluation of the proposal to show some degree of cooperation with industry affiliates of the program and/or other key companies in the ICT field.

The call is open to all faculty and researchers affiliated collaborating with Portuguese institutions of higher education and research, as well as faculty and research staff at CMU, including the Silicon Valley campus. The total funding available for Portuguese research institutions in this call will be up to €400,000 (four thousand Euros). The project duration is limited to one (1) year. Proposals are required to be collaborative, involving one or more Portuguese Universities through their Higher Education Institutions, Institutes or R&D centers, Associated Laboratories, State Laboratories and one CMU research team. The research activities of the participating CMU research teams will be funded by the CMU Portugal Program at Carnegie Mellon University at a level similar to the Portugal team level.

ERPs will often be aimed at formulating and launching longer-term projects, 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 ERPs, and clearly link them to its longer-term

objectives. The deadline for submissions is 30 July. For more information please contact research@cmuportugal.org (scientific information) or concursoprojetos@fct.pt (specific information related to application submission).

2. Award information

2.1. Regulations and Guidelines

- Regulations governing access to funding are available at:
<https://www.fct.pt/apoios/projectos/regulamentofundosnacionais.phtml.en>
- https://www.fct.pt/apoios/bolsas/docs/Normas_de_Atribuicao_de_Bolsas.pdf
- The announcement of the opening of this call is available [here](#).
- The guidelines to writing and submitting proposals are available [here](#).
- [Guide for Peer Reviewers](#)

2.2. Estimated number of awards and funding amount

Depending upon the quality of the proposals, a maximum of eight (8) new ERP awards are expected to be financed, pending on the budget. The total funding available for Portuguese research institutions in this call will be up to €400.000 (four hundred thousand euros) to ERPs starting in 2020. Research activities at Carnegie Mellon University (CMU) will be covered independently and at a comparable level through the CMU Portugal Program at Carnegie Mellon University.

The maximum funding for Portuguese research institutions in each ERP cannot exceed 70.000,00 euros for consortia with more than one Portuguese research institution, or 50.000,00 for consortia with a single research institution.

An advance payment of 75% of the funding approved for the financed projects will be made by FCT, I.P. after returning the acceptance documents.

The remaining amount, until the approved funding, will be paid after the scientific and financial components of the project are closed and by means of a final refund payment.

The expenditure justification should be made via electronic submission of only one payment request, in a specific form provided through the FCT, I.P internet Portal.

The involved companies or other independent non-academic organizations will not be funded by FCT.

2.3. Duration

A typical proposal should cover efforts for a period of up to 12 calendar months or less, intended to commence in 2020.

2.4. Supported Entities

Only the following Portuguese 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 Laboratory 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. Application and deadline for receipt of full applications

Applications must be submitted online through the FCT website <https://concursos.fct.pt/projectos/> following the Announcement of the Call for Proposals.

The call is open from 28 June until 30 July at 17:00 Lisbon time.

2.6. Format requirements

Full applications must fulfill the following format requirements:

1. **Completion of the online FCT form, available through the FCT platform (<https://concursos.fct.pt/projectos/>), according to the [CMU Portugal ERP Proposal Submission Guide](#) and the following documents, also submitted electronically:**
 - 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). For more detailed information regarding this point please refer to the Public Announcement of the Call available [here](#).
 - 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;
 - Declaration on the regulatory framework for State Aid - non-corporate entities of the R&I System;
 - Timeline file of project tasks.

A scan of the **Declaration of Commitment** of each application must be submitted on the [FCT platform](#) until **September 11, 2019**.

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 text entered in the online form is formatted and comprehensive.

2. Submission of an Annex to Application, appended to the online FCT form, which fulfills the proposal requirements as specified* in the following sections (A to C):

[*A template for the Annex of Applications is provided at the <https://www.cmuportugal.org/open-calls-for-projects/> website]

Annex to Application: **pdf file not exceeding 20 MB in size**, and must include the following sections:

A. Cover page (maximum 1 page, Arial regular font, 11 point)

The cover page includes the title of the project, the contact information of both PIs (one at CMU and one in Portugal), a list of all the partners of the consortium, including companies and government agencies, the duration of the project, the total budget amount (split into requested amount and co-funding from industry) and a proposal abstract (maximum 2000 characters and suitable for public distribution)

B. Project Description (maximum 4 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. Special emphasis should be put on the collaborative aspect between Portuguese universities and research institutions, Carnegie Mellon University, and non-academic partners. Furthermore, this part should explain the real-world relevance and impact of the research problems that are addressed.

C. CVs and publications

Include the CV and publication list of the principal applicant and each principal co-applicant (for each, a maximum of 2 pages, Arial regular font, 11 point, including a list of up to 10 of the most relevant papers or research contributions). Do not include CVs for students or post-docs.

D. Commitments from industry and government agencies (optional)

Include a detailed description of the financial and commitments from industry and other non-academic organizations (for each organization, a maximum of 1 page, Arial regular font, 11 point).

E. Support letters (for each organization, a maximum of 1 page, Arial regular font, 11 point) (optional)

Letters from any sources of funds must be included, committing to precise funding amounts. Other letters of support may be included.

F. 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.

2.7. Review of applications

Projects will be selected on a competitive basis. 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.

The applications must follow the guidelines provided in these Terms of Reference and in the FCT online tools for filling in the application, namely instructions guidelines:

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

2.8. Notification, start of activity and reporting

The applicants will be notified in accordance with Article 15 of the of the Regulations for Projects Exclusively Funded by National Funds. Funded applications are planned to start in 2020.

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. Requirements for participating institutions

The proposals must have research consortia including at least:

- One or more Portuguese research institutions from different entities as identified in section 2.5.;
- One partner from 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. However such entities will not be funded by this call.

3.2. Principal Investigator (PI) limit

The lead Portugal PI should be a faculty member, with a doctoral degree relevant to ICT, or a PhD in a field with potential impact on ICT transformation, and/or extensive demonstrated accomplishment. The document certifying the doctoral degree should be included in the Annex to Application attached to the application. The lead Portugal PI should also be a professor or have a research position in the Principal Contractor. 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.

The lead PI should identify a co-responsible for the project, the Co-Principal Investigator (Co-PI), that will replace the PI when he/she is unable to fulfil his/her duties.

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 remaining members of the Portugal research team shall be dedicated to the project, according to their participation.

3.4. Limit on number of proposals per organization

There is no limit on the number of proposals to be submitted by a lead research institution and there is no limit on the number of RL partnerships a partner research institution may join.

3.5. Limit on number of proposals per PI and researchers

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

4. Evaluation and selection criteria

Applications will be reviewed by international panels of independent experts, as organized by the Directors of the Program and FCT.

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

- A. Scientific merit and innovative nature of the project from an international standpoint, and alignment with the goals of Phase III of the CMU Portugal Program;
- B. Impact of the project results in a real-world problem and potential for opening longer-term research avenues;
- C. Scientific merit of the research team;
- D. Feasibility of the plan of work and reasonableness of the resources and budget.

The overall merit of the project is given by:

$$MP = 0.45 A + 0.2 B + 0.2 C + 0.15 D$$

Each criterion is scored using a 9-point scale system (1 – minimum; 9 – maximum) and rated using this scale with whole numbers only (decimal ratings are not allowed). The final score of MP is rounded to a single decimal place. If information made available in the application does not allow for evaluating a given criterion, then the respective criterion will receive a score of 1 (one).

For a proposal to be eligible for funding, the following minimum score is required:

$$MP = 5.0 \text{ points.}$$

For the purpose of selection and decision-making regarding funding, projects will be ranked by score obtained in the review process in decreasing order. In case of equal ratings, the locking date of the proposals in the FCT's electronic system will be taken into consideration for the ranking list.

4.1 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. Suitability of the project to the goals of Phase III of the CMU Portugal Program;
- 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. Degree of internationalization of the team;

4.2 Criterion B

- i. Contribution towards promoting and disseminating science and technology;
- ii. Contribution to the body of knowledge and competence of the National Science and Technology System (expected effects and results);
- iii. Potential economic value of the technology (if appropriate), namely in terms of its impact on the competitiveness of the national socio-economic system;
- iv. Production of knowledge that can contribute to benefits to society or to the business sector;
- v. Potential to lead to a longer-term research agenda.

4.3 Criterion C

- 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 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).

4.4 Criterion D

- 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).

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 concursoprojetos@fct.pt.