

TERMS OF REFERENCE

**2024 Call for Exploratory Research Projects
under the Carnegie Mellon Portugal Program**

DECEMBER 2024

Carnegie Mellon
Portugal 



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1. Summary

The Carnegie Mellon Portugal Program (CMU Portugal) is a platform for education, research, and innovation that brings together Carnegie Mellon University (CMU) and Portuguese universities, research institutions, and companies. CMU Portugal Program activities are funded by the *Fundação para a Ciência e a Tecnologia* (FCT), co-funded by industry partners and Carnegie Mellon University, and count on the support of the Council of Rectors of Portuguese Universities (CRUP).

Exploratory Research Projects (ERP) are designed to assist teams of researchers from Portuguese institutions, Carnegie Mellon University, and industry partners in bootstrapping high-impact potential research activities of strategic relevance for the Carnegie Mellon Portugal Program, namely in Information and Communication Technologies (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.

ERPs aims at formulating and launching the basis for longer-term projects, *i.e.*, they will not be required to achieve, within their scope, the fully developed and ambitious results that will be typical of longer-term projects. However, the proposals must be very concrete on the activities and outcomes that the consortium proposes to carry out and achieve within the ERPs' scope and link them to its longer-term objectives.

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

The CMU Portugal Program will fund the activities of the participating CMU research teams at Carnegie Mellon University at a level similar to the Portuguese team level. The Call is open to faculty and Ph.D. researchers, affiliated with Portuguese institutions of higher education and research, and faculty and research staff at CMU, including the Silicon Valley campus. The Call encourages recent Ph.D. graduates that are faculty at Portuguese Universities or researchers with an appointment in Portuguese research institutions to submit a research proposal.

The total funding available for Portuguese research institutions in this Call will be up to €400,000 (four hundred thousand Euros). The project duration is limited to 12 months. Proposals must involve one or more Portuguese Universities through their Higher Education Institutions, Institutes or R&D centers, Associated Laboratories, State Laboratories, non-profit private institutions whose main objective is R&D activities, including Collaborative Laboratories (CoLab) and Centers for Technology, and Innovation (CTI) and one CMU research team. The task's description and research plan should reflect the involvement of the team at CMU and the team in Portugal.

The deadline for submissions is **January 22, 2025, at 17:00 Lisbon time** (WET time zone). For more information, please contact research@cmuportugal.org (scientific information), concursosprojetos@fct.pt (specific information related to application submission), or CMUPortugal@andrew.cmu.edu (specific to CMU submission requirements only).

2. Award information

2.1 Regulations and Guidelines

- Regulations governing access to funding:
 - [Projects](#)
 - [Fellowships](#)
- Announcement for Proposal Submissions;
- Application Guide;
- Guide for Peer Reviewers;
- CIÊNCIAVITAE GUIDE;
- Ethics self-assessment guide;
- Methodology for Applying Simplified Costs – Lump Sums;
- Data Protection.

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 solicited budget. The total budget allocation for this Call is **€ 400.000** (four hundred thousand euros) to ERPs starting in 2025.

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 for consortia with more than one Portuguese research institution, or € 50.000,00 euros for consortia with a single Portuguese research institution.

The advance payment will be 75% of the funding approved.

The remaining amount, until the approved funding for each project, 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 the identifying lists of expenses paid, and in a specific form provided through FCT. FCT will not fund the involved companies or other independent non-academic organizations.

2.3 Duration

A typical proposal should cover efforts for up to 12 calendar months or less, intended to commence in 2025.

2.4 Supported Entities

The following non-entrepreneurial Portuguese entities of the R&I are individual or co-promotion beneficiaries:

- Higher Education Institutions, their institutes, and R&D units;
- State or International Laboratories with head offices in Portugal;
- Non-profit private institutions whose main objective is R&D activities, including Collaborative Laboratories (CoLab) and Centres for Technology and Innovation (CTI);
- Other non-profit private and public institutions which are developing or participating in scientific research activities.

2.5 Application and deadline for receipt of complete applications

Applications must be presented to FCT, in English, from **December 2, 2024 to January 22, 2025, at 17:00 Lisbon time (WET)**, using a specific on-line form and submitted through [myFCT](#) platform.

2.6 Format requirements

Complete applications must fulfil the following requirements:

- a) Completion of the online FCT form, available at [myFCT](#) platform, according to the CMU Portugal ERP Proposal Submission Guide and the following documents, including the submission of:**
 - A two-page CV of the team leader at CMU;
 - A confirmation statement of faculty appointment at CMU of the team leader at CMU.
- b) CMU teams should submit no later than the deadline of the Call to the CMU Portugal Office at CMU through the [online submission form](#):**
 - 1) their budget;
 - 2) the abstract of their proposal, identifying the Portugal and CMU team members (including department affiliation and email) and partner institutions using the [CMU PI ERP Abstract Template](#).

The Statement of Commitment for the Principal Contractor will be available on myFCT platform, for agreement by the head of the Principal Contractor or someone appointed by him, following the deadline for submission of applications and up to **February 5, 2025 at 17:00 (Lisbon time, WET)**.

The Portuguese PI, the core elements, and the remaining elements of the research team are responsible for submitting an updated version of their CV in English on the CIÊNCIAVITAE platform. The CV of the Team leader at CMU should be annexed to the FCT application form.

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 online form is formatted and comprehensive.

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 the FCT online tools for filling in the Application.

2.8 Notification, the start of the activity, and reporting

According to Article 15 of the Regulations for Projects Exclusively Funded by National Funds, the applicants will be notified. Funded applications are planned to start in 2025.

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. A final report of the Exploratory Research Project will be delivered, to be reviewed by the Board of Directors and by FCT. Periodic status updates of the project may be requested at the discretion of the Board of Directors, FCT, or the Carnegie Mellon Portugal Program's Directors.

3. Eligibility information

3.1 Requirements for participating institutions

Projects may be presented “individually” (only one beneficiary) or in “co-promotion” (two or more beneficiaries). Projects in co-promotion must be led by an entity listed in 2.4.

The proposals must have research consortia, including at least:

- One or more Portuguese research institutions from different entities as identified in section 2.4.;
- One partner from the CMU faculty team.

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

The project consortium may include Collaborative Institutions, that may also invest in the exploratory project, bringing relevant competencies to the project. However, such entities will not be funded by this Call.

This Call will fund only resources and activities in Portuguese beneficiaries.

3.2 Principal Investigator (PI)

The lead Portugal PI should be a faculty member with a doctoral degree relevant to ICT, or a Ph.D. in a field with potential impact on ICT transformation, and/or extensive demonstrated accomplishment. The document certifying the doctoral degree must be presented upon project granting, during the contracting stage. The lead Portugal PI should have an employment contract or grant contract with the Principal Contractor. In the absence of such a link, at the time of the Acceptance Document, a written agreement between the parties must be submitted, according to point c) of item 1 of article 6 of FCT's Project Regulations.

The team leader at CMU must hold a faculty appointment at CMU. A confirmation statement should be attached to the Application together with the CV (2 pages).

Proposals will not be accepted from lead Portugal PIs in a situation of unjustified non-fulfilment of the regulatory requirements regarding the presentation of reports on scientific execution of projects concluded and financed through FCT and in which acted as PI.

Proposals will also not be accepted from lead Portugal PIs who have a final scientific report rejected within two years before the opening of the call, for reasons attributable to them.

3.3 Limit on number of proposals per organization

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

3.4 Limit on number of proposals per PI and researchers

The lead Portugal PI may be identified as PI in, at most, one proposal in this call. Researchers may be listed as senior researchers in multiple submissions.

The members of the CMU Portugal Program governance structure (Board of Directors, External Review Committee and Program Directors) are not allowed to participate as PI, team members, or consultants.

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 (A1) and innovative nature (A2) of the project from an international standpoint and alignment with the goals of Phase III of the CMU Portugal Program – **40%**;
- B. Scientific merit of the PI and the research team (B1), including the impact of project execution in developing the PI's career and/or research (B2) – **35%**;
- C. Feasibility of the workplan and the expected indicators (C1), including the project's impact in a real-world problem, as well as the budget adequacy (C2) – **25%**.

The Merit of the Project (MP) is calculated according to the following formula, where each criteria is divided into two sub-criteria:

$$\text{MP} = 0.40 (0.50 \cdot \text{A1} + 0.50 \cdot \text{A2}) + 0.35 (0.60 \cdot \text{B1} + 0.40 \cdot \text{B2}) + 0.25 (0.50 \cdot \text{C1} + 0.50 \cdot \text{C2})$$

The (sub)criteria A, B and C are scored using a 9-point scale system (1 – minimum; 9 – maximum) with decimal numbers. The final score of MP is rounded to two-decimal places. If the information available in the Application does not allow for evaluating a given criterion, then the respective criterion will receive a score of 1.0 (one).

For a proposal to be eligible for funding, a minimum score of MP equal to or higher than 5.00 points is required.

For selection and decision-making regarding funding, projects will be ranked by the MP score obtained in the review process in decreasing order. As a tiebreaker between applications with the same MP score, the classifications assigned to criteria A2, B1, A1, B2, C1, and C2 will be used successively in descending order to provide the final ranking of the projects.

4.1 Criterion A (40%)

4.1.1. A1 – Scientific merit of the project (50%)

- I. Relevance and originality of the project proposed project (based on the state-of-the-art in a determined scientific subject 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. Articulation of the research plan between Portugal and CMU;
- IV. Adequacy of the methodology adopted for carrying out the project;
- V. Expected results and their contribution to scientific and technological knowledge;
- VI. Resulting publications and articles;

4.1.2 A2 – Innovative nature of the proposal (50%)

- I. Originality of the project proposed and breakthrough potential beyond the current state-of-the-art (e.g., novel concepts or development between or across disciplines).

- II. Methodological innovation and replication potential.

4.2 Criterion B (35%)

4.2.1 B1 – Scientific merit of the PI and the research team (60%)

- I. Contributions to the generation of new ideas, tools, methodologies, or knowledge, including publications, key data sets, software, intellectual property (patents, licences, trademarks, copyrights, etc.), conference presentations, research and policy publications, or other scientific, technological, cultural or artistic achievements.
- II. Degree of internationalization of the team;
- III. Abilities and skills to adequately execute the proposed project (team configuration, PI's qualifications);
- IV. Ability to involve young researchers in training;
- V. Availability of the team and non-duplication of objectives in relation to other projects underway;
- VI. Degree of success in previous projects in relation to the 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).

4.2.2 B2 – Impact of project execution for PI's career progression and/or research (40%)

- I. The PI's current career stage.
- II. The PI's current research lines and path, and the degree of novelty regarding other previous challenges addressed by the PI.
- III. Timeliness and career development potential in areas such as scientific production and dissemination, team and project leadership, engagement of students/young researchers, and the ability to enable future research and to attract funding or other resources.

4.3 Criterion C (25%)

4.3.1 C1 – Feasibility of the workplan and the expected indicators, including the project's impact in a real-world problem (50%)

- 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. The 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 longer-term research agenda;
- VI. Organization of the project in terms of the proposed objectives and resources (duration, equipment, size of the team, institutional and management resources).

4.3.2. C2 – Budget adequacy (25%)

- I. Institutional resources of the proposing and participating entities (technical-scientific, organizational and managerial and, when appropriate, co-funding capacity on the part of companies).
- II. The adequacy and consistency of the estimated costs (Lump Sum) to accomplish the objectives.

5. ADDITIONAL INFORMATION

For inquiries of a scientific nature, please get in touch with the Carnegie Mellon Portugal Program at research@cmuportugal.org. For specific information related to application submission, please contact concursoprojetos@fct.pt. For specific information related to the Carnegie Mellon PI requirement or submission, please contact CMUPortugal@andrew.cmu.edu.



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