APPLICATION FORM GUIDE

Call on Advanced Computing Projects (3rd edition)

Ref.: FCT/CPCA/2022/01

Index

I. INTRODUCTION

Framework

This Guide for the preparation and submission of applications for advanced computing projects is a document that is intended to clarify aspects of the submission process, to facilitate and guide the preparation of the application and to inform about the evaluation, communication of the decision and prior hearing processes.

It gathers information dispersed through the website of FCT (Foundation for Science and Technology) and RNCA (National Network of Advanced Computing) on the internet, by the application form and by the applicable legislation without, however, overgoing the legislation. It highlights important aspects to which the IR (Responsible Investigator) should pay attention.

At FCT — Call for Advanced Computing Projects 3rd Edition are published all the announced, open and recent calls on advanced computing projects. This page provides the Call Notice (AAC) and gives access to the regulations and the application submission portals. More information about RNCA and accessible platforms Rede Nacional de Computação Avançada (fccn.pt)

II. BEFORE SUBMISSION

PRACTICAL ADVICE RESULTING FROM THE EXPERIENCE OF OTHER CALLS

What you should do before applying

- Read the associated call documents
- Check eligibility criteria
- See Call Notice and next submission deadline in case of A0/A1 access types
- Carefully read this form fill-out script
- Select the access type that best suits your project:

A0 - Experimental Access

A1 - Preparatory or Development Access

A2 - Project or Regular Access

Who can submit applications

All institutions and candidates complying with the conditions set out in the Regulations and this Call notice.All applicants must have an active CienciaID with up-to-date information. For more help check the CienciaVitae guide and the following page https://www.cienciavitae.pt/

Basic advice

- Before starting the application form, please inform yourself of the conditions of access and limits for the allocation of computational resources.
- The schedule of applications A0 and A1 will be available, since for these types of access the call will be open continuously with different rounds. Submissions calendar is publicly available. Only applications received so far will be evaluated in each of these rounds.
- It is strongly advisable to select A0 to all those who do not have experience in the selected software or platform.
- Submit your application as soon as you gather all the necessary information.
- After submission, all A0 and A1 applications will be verified for their technical suitability and A2 applications also by scientific evaluation. Applicants will be notified of the final decision within the deadlines indicated in the Call notice.
  - o In the event of approval of the application, applicants will receive an individual report and an acceptance term which they must return signed within the deadlines stipulated in the RPCA. Upon receipt of this document, details will be sent for allocation of computational resources and a single reference of the project. The operational centers will be informed of the approved projects and will provide access credentials to candidates according to their access policies.
  - o In case of conditional approval of the application, applicants will receive an individual report and details of the allocation of computational resources, with the conditions described – these may be related to the selected project or platform (temporary unavailability of the machine, software, technical support, just to name a few examples).
  - o In the event of non-approval of the application, applicants will be informed. If they so choose, they can make improvements and resubmit their application in the next period or batch of technical suitability.

How to write a good application

- The form will be completed in English.
- All fields marked with asterisk * are required.
- The MyFCT platform has the possibility to "Consult" / "Edit" / "Remove" your application until the end of the contest. If you need to make stops, you can save and come back later.
- Find out more about the available platforms by checking the data sheet in the URL: https://www.fccn.pt/computacao/rnca/. This prior consultation will be useful to you as the form is requested the order of preference of the HPC (High Performance Computing) platforms.
- • In the "Previous Experience" section of the form, specify any prior experience on the platform(s) to the competition or in others not contemplated by the RNCA (e.g. PRACE). You can indicate previous publications or works.
- For the "Work Plan" in the "Application Data" section you can find templates here.
- Focus on technical requirements as they will have a greater weight in the evaluation. Be clear in the work plan or work plan detailing the various phases of the project, the software to be used, the tasks and especially in the justification of the computer resources requested.
- Identify the software that best applies to your project and find out if it is already installed on the selected platform(s). This information will be updated in the fact sheet of this contest. If you have any questions about the hardware/software version or other technical detail, please contact RNCA via email.

How to ask questions to the RNCA

- Send your questions and suggestions to rnca@fccn.pt . They may be directly answered or forwarded directly to the heads of the operational centers.

Operational Center	URL	Contacts
MACC	https://macc.fccn.pt/ https://docs.macc.fccn.pt/	help@support.macc.fccn.pt Manager: R. Oliveira
LCA-UC	https://www.uc.pt/lca	lca_info@uc.pt Manager: P. Alberto
HPC-UE	https://oblivion.hpc.uevora.pt	support@oblivion.uevora.pt Manager: M. Avillez
INCD	https://www.incd.pt/ https://wiki.incd.pt	helpdesk@incd.pt Manager: J. Gomes

Applications submission system

- ## via *myFCT (A1 and A2)*

In this edition, applications with access types A1 and A2 may be submitted through the following URL:

https://myfct.fct.pt/
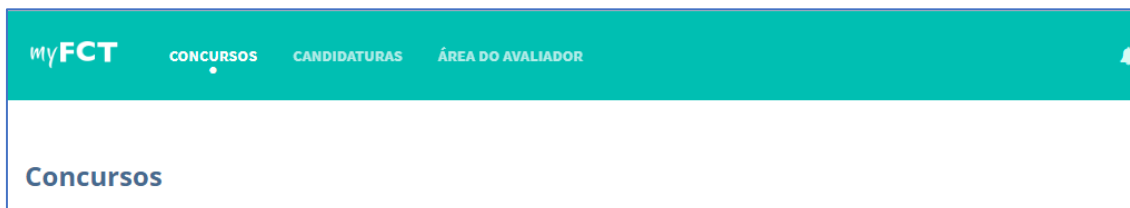
Login requires an updated **CIÊNCIAID and CienciaVitae**. For more information see the Cienciavitae Guide on the call support documents or the URL https://cienciavitae.pt/

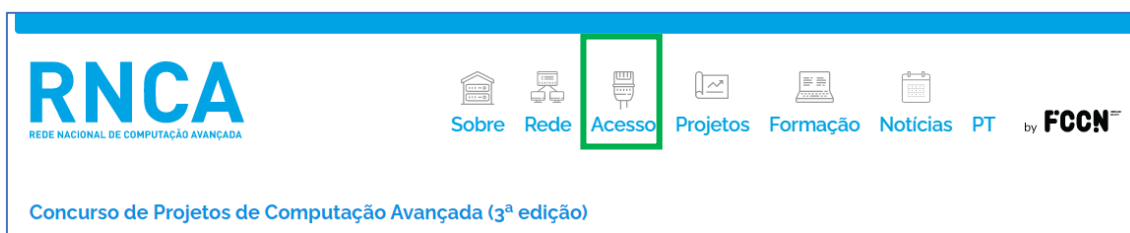- ## via form at RNCA webpage (A0)

In this edition, applications with access type A0 may be submitted through the following URL:

https://rnca.fccn.pt

III. APPLICATION SUBMISSION via myFCT (A1 and A2)

The current format of the application form is based on similar calls by other European advanced computing entities. The answers should be written in **English**. It is divided into 3 sections:

> *I. IR and Co-IR details*
> *II. Application details*
> *III. Technical requirements*

Section 1: *IR and Co-IR details*

In this section it is intended to obtain the identification of the project manager (IR) and co-responsible (co-IR). The email provided will be the preferred contact for communication and notification of results.

Principal Investigator* - These data will be automatically loaded from the CiênciaID register.

ATTENTION that the registered institutional email address must be active and functional in order to receive notifications of the results and be the preferred means of communication with the operational centre, in case of approval of the project.

IR Institution* - After selecting the country, fill in the name of the public or private institution associated with the IR and this project.

Co-responsible Investigator* - Identify one co-responsible for the project, the Co-IR, who will replace the PI when the latter is unable to fulfill his duties. The form asks for ScienceID, Name and Email. OPTIONAL FOR A1.

Curriculum vitae - This field will integrate the information from the current version of your CV on the CIÊNCIAVITAE platform. You must, therefore, confirm that you have the updated CV before integrating it in your application. In order for your CIÊNCIAVITAE CV to be available to FCT and the evaluators you must select for each section the privacy level "Public" or "Semipublic". Confirm that you have your CV updated before clicking "get CV from CIÊNCIAVITAE". [CienciaVitae Guide here](#).

Section 2: Application details

This section asks for a description of the advanced computing project you intend to carry out and seeks identification of the project and funder supporting this advanced computing project application (which does not award funding, but rather computational resources).

Sub-Section: General Description

Title* (text up to 255 characters) - Phrase with the title of the project

Abstract* (free text, 0-1500 characters) - *Short Public Abstract* or state of the art of the project, where you can briefly describe the objectives, hypothesis, motivation, need for computational resources and plan for dissemination of results. Previous experience may be described in a proper field at the end of this section. The computational resources will be detailed in section 4 of the form.

Keywords* (text) - Three to five keywords

Domain, Scientific Area and Subarea * (dropdown) - select the options that best fit your project, even if the academic training area is different. Panels and Scientific areas here.

Sub-section: Work plan

Work plan * (text 0 to 4000 characters) - This is a fundamental field of the application that will be reviewed at the technical evaluation stage. Here you can describe in detail the tests already done or to be done, the phases of the project, the deadlines, the management of time and computational resources, the users of the project, training and training needed, storage plan, plan for dissemination of the results, and a possible extension/request for continuation. Example available here.

Subsection: Previous experience

Previous experience (options and description) - answer the question "Have you ever used HPC or HTC platforms or cloud science?**" and** select one or more options. In the requested description you can summarise the previous experience including dates, software, platform and summary of results obtained. Optionally you can include reference to projects approved by FCT/PRACE/other entities and associated reports.

Subsection: Associated science/innovation project

Will this submission, if approved, contribute to an existing project? * (dropdown Yes/No)

Select one option. Only answer yes if this scientific or innovation project has been subject to prior independent evaluation by a competent entity. Otherwise, answer "no".

Entidade financiadora* (dropdown) - Se respondeu "Yes" à pergunta anterior, por favor **Funding body*** (dropdown) - If you answered "Yes" to the previous question, please select one of the answers or click "Other" and specify the funding body in the appropriate field. In case of "Other", fill in the Name in the new box that appears with that option.

Application Reference* (text) - State the unique funding identification code. Fill in this field in case of "Other" Funding Entity.

URL (text) - Here you can indicate the URL of the funding entity or of the competition/project itself.

Evaluation Report (upload) - optionally attach the associated scientific or innovation project report (if applicable)

Section 3: Technical requirements

In this section complete all the technical data relevant to the advanced computing project. There are currently 4 national platforms offering HPC and only 1 platform offering Cloud or VRE. **Read carefully and answer the first 3 questions before moving on.** The use of these computing resources in A2 access may occur up to a maximum of 12 months (or 24 months for VRE), extendable for an equal period, being non-refundable and without any costs for the user. In case of doubt, please consult the Regulations and Call Notice or contact the RNCA.

REQUISITOS TÉCNICOS   ⌄

    Modelos computacionais

    High Performance Computing

    Cloud Científica

    Questões técnicas adicionais

    Pedido de recursos computacionais

Subsection: Computer models

1. Do you need high performance computing (HPC) resources? *

2. Do you need short term scientific Cloud computing resources (virtual machines)? *

    (each contains a Yes/No dropdown)

- The yes answer is pre-defined, but you should only answer "yes" if there is a need. By answering "Yes" a set of questions associated with each access modality will appear.

Sub-section: High Performance Computing

This sub-section will only be present if you answer 'yes' to the questions on HPC. The answers should be written in English.

HPC platform preference (drag and order) - drag to order the 4 platforms according to your preference (top to bottom). In case you have no preference, select the "any platform" field.

Number of concurrent CPU cores required and **Total number of clock hours required** (numeric field) - fill in the number of concurrent CPU cores and total number of clock hours required. The **Total CPU core.hours required** field **will** automatically **calculate** the CPU core.hours value.

RAM requirements in GB per CPU core (optional) - state total RAM per CPU_core.

Does the project require the use of GPU? * (options yes/no/don't know) - select one of the options. See the tender's datasheet to know which platforms have GPU.

Application Software (text) - state main application used - name and version. Consult the software available from the 4 platforms here https://rnca.fccn.pt/?page_id=607

Other tools and software (optional) - If there is more than one application or software used in the project.

Provide software scalability chart (only for A2 access type). As it is optional for A1, applicants can upload their own graph or a template available at myFCT call page.

Average CPU colours per job/computing job (optional)

Total amount of disk, in GB, required to support HPC or storage jobs

Sub-section: Scientific Cloud or Virtual Research Environment (VRE)

This sub-section will only be present if you answer "yes" to the question about Cloud Computing or VRE. Only INCD provides Cloud and VRE services. The answers should be written in English.

Total vCPU.hours required = Number of vCPU required x Total number of clock hours required

Number of VMs (virtual machines) required * (text) -number of virtual machines required.

Total number of vCPUs needed* (text) - number of processors needed. You may specify details.

Need to use GPU? - select one of the options. Consult the tender's datasheet to know which platforms have GPU.

Application Software - state main application used - name and version. Consult the software available here https://rnca.fccn.pt/?page_id=607

Other tools and software (optional)

Total amount of disk, in GB, required (number) - describe amount of disk required per VM and total, in GB -gigabytes.

Total amount of RAM, in GB, required * (text) - total amount of RAM, in GB - gigabytes.

Operating systems (optional) (text) - name and version of the operating system(s)

Sub-section: Additional technical issues

This sub-section will always be present. The answers should be written in English.

Technical support requirements, software and tools (text) - Describe **technical** support needs of operators and/or support in configuring and accessing the system.

Internet bandwidth (Mbit/s) required for the computational project (optional) - state the bandwidth requirements in Mbit per second for your project

Expected Internet data volume to be transferred (GB) per month (optional) - amount of data volume in GB (gigabytes) to be transferred per month via the Internet.

High bandwidth internet communications sites (optional) - please select one or more options. If you are part of the national academic network, you are likely to be covered by RCTS and/or GEANT. See here for more information.

Sub-section: Request for computer resources

Request for computing resources - here a summary of CPU core.hours, vCPU.hours and GPU.hours requested is presented.

Justification of computational time (text) - here you should justify the computational time and resources requested (required for A2 accesses).

Start date (date) - optional field where you can fill in the project start date. In some cases it may be as soon as possible, but there are reasons that may delay the start of the project such as hiring staff, acquisition of a software license, collection of all data for the project, among others.

End date

Data Management Plan (DMP) - answer Yes/No and if yes, upload the document. Example available here.

Additional comments (text) - in this field justify previous options and leave suggestions to the RNCA

Do you accept the following information to be used in RNCA related publications? * (dropdown) Select one option - "yes" or "no". If yes you declare that you accept the publication of the list data in RNCA publications, such as annual and progress reports.

Validate and Submit

Submit form - when you press the button, a new window will show you if you succeeded in submitting the application. If any mandatory fields are missing, these will appear in the validation window. Fill in, review and submit again. If you have problems with submission, save the application and contact the RNCA.

IV.   SUBMISSION via RNCA WEBPAGE (A0)

O The current format of this application form is based on similar competitions. Answers should be written in **English**. It is divided into 3 sections:

    I.   *IR and Co-IR details*
    II.   *Application details*
    III. *Technical requirements*

Section 1: *IR and CO-IR details*

IR Name* (text) - first and last name of the Principal Investigator.

IR E-mail* (text) - E-mail contact, active and preferably institutional, of the Principal Investigator.

IR CIENCIA ID * - Unique and active reference "CIENCIAID" of the Principal Investigator.

IR Main Institution* (dropdown) - select the name of the public or private institution associated with the IR and this project. In case it is not listed, write in the field below "If other".

1. Responsible Investigator (IR) & co-Investigator (co-IR)

IR Name *

> First and last name

IR E-mail *

> Please provide a valid institutional email

IR CIÊNCIA_ID *
Learn more here

> 0000-AAAA-1111-BBBB

IR Main Institution *

> ARDITI - Agência Regional para o Desenvolvimento da Investigação Tecnologia e Inovação da Madeira ⌄

If "other", please specify IR main institution

>

co-IR Name (optional)* - Identify one co-responsible person for the project, the Co-responsible Investigator (Co-IR), who will substitute the PI when the latter is unable to fulfill his duties. In this field write the first and last name of the co-responsible co-researcher.

co-IR E-mail* - **Email** contact, active and preferably institutional, of the co-Investigator in charge.

Co-IR Name *

>

Co-IR E-mail *

> Please provide a valid institutional email

Secção 2: Application details

Project title* (text up to 255 characters) - Project title sentence

Brief Description* (free text, 400-4000 characters) - *Short Public Abstract* or state of the art of the project, where you may briefly describe the objectives, hypothesis, motivation, need for computational resources and plan for dissemination of results. Previous experience may be

described in a proper field at the end of this section. The computational resources will be detailed in section 4 of the form.

Scientific Domain, Area and Sub-Area * (dropdown) - select the options that best fit your project, even if the academic background is different

Project Title *

Brief Description *

> 400-4000 characters

Scientific Domain *

> Life and Health Sciences ⌄

Scientific Area *

> Neurosciences ⌄

Scientific Sub-Area *

> Neurosciences - Molecular and Cellular ⌄

Associated funded project (text) - Only answer if the scientific or innovation project has been subject to a prior independent evaluation by a competent entity.

Funding Entities (dropdown) - specify the funding entity(ies) for your project(s). If "Other", fill in the Name in the new box that appears with this option.

Workplan * (text 300 to 3000 characters) - This is a fundamental field of the application that will be reviewed at the technical evaluation stage, especially in the A1 accesses. Here you can describe in detail the tests already performed or to be performed, the phases of the project, the execution deadlines, the management of time and computational resources, the users of the project, the necessary training and training, the storage plan, the plan for dissemination of the results, and a possible extension/request for continuation. Example available here.

Associated funded Project (s)

> Indicate, if any, one or more research or innovation projects, for which the computational resources are intended

Funding Entities

> Indicate, if applicable, the funding entities for the projects identified in the previous field.

Work Plan *

> 300-3000 characters

HPC Previous Experience (options and description) - answer yes or no to the question. In the additional comments you can summarise the previous experience including dates, software, platform, summary of results obtained and include reference to projects approved by FCT/PRACE/other entities.

High Performance Computing Previous Experience
○ Yes
○ No

Additional comments

Section 3: Technical requirements

HPC platform preference (dropdown) - select 1 platform according to your preference. Please refer to the tender fact sheet to learn more about the platforms. If you have no preference, select the "any platform" field.

Starting date (date) - optional field where you can fill in the starting date of the project.

Duration (numeric field) - write the desired duration in months, with a number from 1 to 6.

CPU cores x hours (numeric field) - fill in the Total CPU core.hours, product of the number of concurrent CPU cores times the total number of clock hours required. Total clock hours cannot exceed 6months x 730h/month = 4380 hours.

Preferred Platform *
Information about the platforms available here and also on the Technical Sheet

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Starting date *

Earliest starting date for the Advanced Computing Project (DD / MM / YYYY). Resources will be available from June 2021

Duration (in months) *

up to 6 months

CPU_cores x hours *

Max. limits: A0 - 15.000 and A1 - 100.000

GPU * (options yes/no) - select one of the options. Consult the tender's datasheet to know which platforms have GPU.

GPU units x hours (numeric field) **-** fill in the Total GPU.hours, product of the number of GPU cards times the total number of clock hours required. The total clock hours cannot exceed 6months x 730h/month = 4380 hours.

Quantity of RAM in MB/core - megabytes per CPU core, required to support HPC jobs.

Quantity of disk **in GB -** Total amount of disk, in GB, required to support HPC jobs

Operating System, Software, tools and libraries * - state the name and version of the operating **system(s)** and application used - name and version. Please check the software available here https://rnca.fccn.pt/?page_id=607 . You can add more tools and applications, if there is more than one application or software used in the project.

GPU *
- ○ Yes
- ○ No

GPU_units x hours

> Max. limit: 35.000 GPU.hours (8 GPU for 6 months)

Quantity of RAM in MB/core - memory to support HPC runs

Quantity of disk in GB - storage to support HPC runs

Operative System, Application Software, tools and libraries *

> List OS and all needed tools, if known

In addition to HPC resources, do you need Scientific Cloud Tools? (options) **-** answer yes/no on the need to use Scientific Cloud with the installation of Virtual-Research Environments (VRE) and/or Virtual machines (VMs).

Scientific cloud details (text) - here you can set Total vCPU.hours needed = Number of vCPUs needed x Total number of clock hours needed, Number of VMs (virtual machines) needed - number of virtual machines needed, Total number of vCPUs needed - number of processors needed. You can specify details, Application Software - state main application used - name and version, Total amount of disk, in GB, required - describe amount of disk required per VM and total, in GB - gigabytes, Total amount of RAM, in GB, required - total amount of RAM, in GB - gigabytes, Operating systems - name and version of operating system(s).

Justification for computational needs (text) - here you should justify the time and computational resources requested.

In addition to HPC resources, do you need Scientific Cloud tools? *
i.e. Virtual Machines and/or Virtual Research Environments
- ○ Yes
- �� No

Scientific cloud details
Please provide required quantities of vCPU, VMs, RAM in GB, Disk in GB, plus operative system and software requirements.

Justification for computational needs *

> Please 1) explain how the chosen software is adequate for the project and 2) justify the requested amount of CPU core.hours, vCPU.hours and GPU.hours

If inexperienced do you need Technical Advanced Support? (options) - If you have no experience in HPC or Cloud and want to use these resources, choose the "yes" option.

Additional Technical Requirements (text) - Describe any support needs for application installation, support and technical development.

If inexperienced, do you need Technical Advanced Support?

○ Yes
○ No

Additional technical comments

☐ **I confirm that I read and understood the Regulations. ***   Regulamento de Projetos de Computação Avançada no. 772-a/2020 (DR)

☐ **RGPD - I agree that the above information can be shared with RNCA centers. ***

☐ **RGPD - I accept that the following details may be published in FCT and RNCA reports and websites. ***   Name, Institution, Project title, Project Description, Scientific area, Platform, Allocated Resources, Resulting publications

Submit

Submit form - when you press the button, a new window will show you if you succeeded in submitting the application. If any mandatory fields are missing, please complete, review and resubmit. The PI and co-IR should receive a copy of the submitted application via email. If you have problems with submission, save the application and contact the RNCA.

V. OVERVIEW AND COMMITMENTS

Overview of the application after submission

Via *MyFCT* it is possible to view the Application Overview, as well as export it to PDF. Automatically after submission, each applicant will receive an email from MyFCT Portal with the application reference. During the application period you can edit your application after submission. If you choose to edit, please note that the application status will revert to draft, requiring you to resubmit it again after editing.

You can consult your application data at any time in the application area of MyFCT.

For A0 access, in the *RNCA* submission format*, it* is not yet possible to view or edit the application status after submission. The final . pdf version of the application will be sent to your email inbox. If you wish to withdraw your application or make minor changes, please contact rnca@fccn.pt. For the evaluation of proposals every 2 months, only the date and time of the last submission will be considered. For each round of applications A0/:

- Each application for A0 access will have a summary administrative and technical validation.

After approval

In case of approval, and the legal deadlines defined, FCT will request the signature of a term of acceptance. Upon receipt of this document, each approved application will be assigned a unique

project reference. Keep it, because in case of request for extension or submission of a new project, this reference will be requested.

Upon completion of each project, applicants will be required to submit a simple final report within 30 days of finishing the work, using the template that is going to be shared later.

Each user must respect the Access Policy of the operating centre that operates the selected platform. We remind you that it is the responsibility of each user to back-up their data during and after the use of the platforms. After finishing the project, the data must be stored in a location to be defined by the IR.

For further questions and suggestions please contact rnca@fccn.pt

Legislation and Documentation
• Call webpage
• Notice for Submission of Applications (AAC)
• Advanced Computing Project Regulation
• Application script
• Evaluation Guide
• CIÊNCIAVITAE script to obtain or update SCIENCE ID
• Computational Resources fact sheet

Acronyms
AAC – Call Notice
Co-IR - Co-Responsible Investigator
CV - Curriculum Vitae
FCT - Foundation for Science and Technology, I.P.
FCCN - FCT National Scientific Computing Unit
HPC - High Performance Computing
IC&DT - Scientific Research & Technological Development
IP - Proposing Institution
IR - Responsible Investigator
MCTES - Ministry of Science, Technology and Higher Education
RNCA - National Advanced Computing Network
RPCA - Advanced Computing Project Regulation
SCC - Scientific Cloud Computing
VRE - Virtual Research Environment