

APPLICATION FORM GUIDE

Call for Advanced Computing Projects (2nd edition)

Ref.: FCT/CPCA/2021/01

INDEX

ı.	INTRODUCTION	2
	Framework of the competition	2
	Legislation and Documentation	2
	Acronyms	3
II.	BEFORE SUBMISSION OF THE APPLICATION	3
	PRACTICAL ADVICE DERIVED FROM THE EXPERIENCE OF OTHER COMPETITIONS	3
	What you should do before submitting an application	3
	Who can submit proposals	3
	Basic advice	3
	How to write a good proposal	4
	How to ask questions to the RNCA	5
	Proposal submission system	5
	via myFCT (Typology A2)	6
	via RNCA form (Typologies A1 and A0)	6
Ш	SUBMISSION OF THE PROPOSAL via myFCT (A2)	6
	Section 1: IR and CO-IR data	6
	Section 2: Application details	7
	Sub-Section: General Description	8
	Sub-section: Work plan	8
	Subsection: Previous experience	8
	Subsection: Associated science/innovation project	8
	Section 3: Technical requirements	9
	Subsection: Computer models	9
	Sub-section: High Performance Computing	9
	Sub-section: Cloud Science	10
	A DEDÚDA CA	



	Sub-section: Additional technical issues	10
	Validate and Submit	11
	. SUBMISSION OF THE PROPOSAL via RNCA (A1 and A0)	
	Section 1: IR and CO-IR data	12
	Section 2: Application details	12
	Section 3: Technical requirements	13
	Submit	16
٧.	OVERVIEW AND COMMITMENTS	16
	Overview of the application after submission	16
	After approval	17
	After approval	17

I. INTRODUCTION

Framework of the competition

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

This brings together information scattered throughout the FCT (Foundation for Science and Technology) and RNCA (National Network for Advanced Computing) websites, the application form and the applicable legislation without, however, overlapping with the legislation. It highlights important aspects that the PI (Principal Investigator) should pay attention to.

http://www.fct.pt/apoios/projectos/concursos/ lists the announced, open and recent competitions for advanced computing projects as well as the evaluation calendar. The link for each call gives access to the respective Call for Proposals (AAC). The page that provides the AAC gives access to the regulations and the project submission portal. More information on the RNCA and accessible platforms at https://www.fccn.pt/computacao/rnca/

Legislation and Documentation

- Call Web Portal
- Call Notice (AAC)
- Advanced Computing Projects Regulation
- Application guide
- Evaluation Guide
- CIÊNCIAVITAE Guide to obtain or update the CIÊNCIA ID
- Technical Sheet on Computational Resources



Acronyms

AAC - Notice of Application

Co-IR - Co-Investigator in Charge

CV - Curriculum Vitae

FCT - Foundation for Science and Technology, I.P.

FCT-FCCN - National Scientific Computing Unit of the FCT

IC&DT - Scientific Research & Technological Development

IP - Proponent Institution

PI - Principal Investigator

MCTES - Ministry of Science, Technology and Higher Education

RNCA - National Network for Advanced Computing

RPCA - Advanced Computing Projects Regulation

II. BEFORE SUBMISSION OF THE APPLICATION

PRACTICAL ADVICE DERIVED FROM THE EXPERIENCE OF OTHER CALLS

What you should do before submitting an application

- Read documents associated with the competition
- Check eligibility criteria
- See Call for Proposals and next submission deadline
- Please read this guide carefully when filling in the form

Who can submit applications

All institutions and applicants that fulfil the conditions set out in the regulations and notice of opening.

All applicants must have an active CIÊNCIA ID with updated information. For more information consult the Guide and the following page https://www.cienciavitae.pt/

Regarding applications from companies as beneficiaries, advanced computing projects should:

- occur in the context of pre-competitive research and innovation, not yet having a market value.
- together do not exceed 50% of the total computational budget available for this call.

Basic advice

- Before starting to fill in the application form please inform yourself about the conditions of access and limits to the allocation of computer resources.
- The technical evaluation schedule for A0 and A1 proposals will be available, since unlike
 other FCT calls, this call will be open continuously with distinct technical suitability
 periods for each batch of applications. Only proposals received by the date defined for
 each of these periods/batches will be evaluated.



- It is strongly advised to select A1 preparatory access for all those who have no experience in the selected software or platform. Only ONE ACCESS TYPE can be selected in each application.
- Submit your application as soon as you have all the necessary information.
- ONE computational project per IR and co-IR can be admitted in A2 and ONE A0/A1, and multiple platforms and computational models can be selected and combined.
- Following submission, all A0 and A1 proposals will be checked for technical adequacy and A2 proposals will also be checked for scientific evaluation and applicants will be notified of the final decision according to the deadlines indicated in the Regulations for Advanced Computing Projects (RPCA).
 - In case of approval of the application, applicants will receive an individual report and a term of acceptance that must be returned signed by the deadlines stipulated in the RPCA. Upon receipt of this document, details for allocation of computing resources and a unique project reference will be sent. The operational centres will be informed of the approved projects and will provide access credentials to the applicants 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 computing resources, with the conditions described these may be relative to the project or the selected platform (temporary unavailability of the machine, software, technical support, just to name a few examples).
 - If the application is not approved, applicants will be informed. If they wish, they
 may make improvements and resubmit their application in the next period or
 batch of technical suitability.

How to write a good proposal

- The form will be completed in English.
- All fields marked with an asterisk * are mandatory.
- The MyFCT platform has the possibility to "Consult" / "Edit" / "Remove" your application
 until the closing of the competition. In case you need to make stops, you can save and
 come back later.
- Find out more about the available platforms by consulting the datasheet on the URL: https://www.fccn.pt/computacao/rnca/. This prior consultation will be useful as the form asks for the order of preference of the HPC (High Performance Computing) platforms
- In the "Previous experience" section of the form, please specify any previous experience in the platform(s) being tendered for or in other platforms not covered by the RNCA (e.g. PRACE). You may indicate previous publications or work.
- For the "Work Plan" in the section "Application Data" you can find templates here.
- Concentrate on the technical requirements, as these will have greater weight in the
 evaluation. Be clear in the 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 technical sheet of
 this call. In case of doubt on the hardware/software version or other technical detail,
 contact the RNCA through email.
- We also recall that the evaluation criteria stipulated in this notice are as follows:



Criteria for the selection of A0 Accesses:

For Experimental Access A0 a summary technical validation will be carried out, simplifying criteria T1, T2 and T3; requests will be served on a first-come, first-served basis until the quota defined for these accesses (5%) is exhausted.

Criteria for the selection of A1 Accesses:

- T1: Technical suitability to RNCA resources (20%);
- T2: Reasonability and planning of computer resources (50%);
- o T3: Work Plan (30%).

• Criteria for the selection of A2 Accesses:

- T1: Technical suitability to RNCA resources (10%);
- T2: Reasonableness and planning of computing resources (20%);
- T3: Work Plan (10%);
- S1: Scientific relevance that includes the proposed activity (20%);
- S2: Justification of the computational activity to support the scientific project (25%);
- o S3: Scientific merit of the group and investigator in charge (5%);
- S4: Experience and training in advanced computing (10%).

How to ask questions to the RNCA

• Send your questions and suggestions to the email rnca@fccn.pt. These may be answered directly or forwarded directly to the operational centres.

Operational centre	URL	Contact
MACC	https://macc.fccn.pt/ https://docs.macc.fccn.pt/	help@support.macc.fccn.pt Responsible: R. Oliveira
LCA-UC	https://www.uc.pt/lca	<u>lca_info@uc.pt</u> Responsible: Fr. Alberto
HPC-EU	https://www.oblivion.uevora.pt/	support@oblivion.uevora.pt Responsible: M. Avillez
INCD	https://www.incd.pt/ https://wiki.incd.pt	helpdesk@incd.pt Responsible: J. Gomes



Proposal submission system



• via myFCT (Typology A2)

In the present edition of this call, applications with the typology A2 - Project Access may be submitted through the following URL:

https://myfct.fct.pt/

The login requires an **updated CIENCIAID** and **CienciaVitae**. For more information see the Cienciavitae Guide of the call documents or the URL https://cienciavitae.pt/

via RNCA form (Typologies A1 and A0)

In the present edition of this call, applications with the typology A1 - Preparatory Access and A0 - Experimental Access may be submitted through the following URL:

https://rnca.fccn.pt/?page_id=767

III. SUBMISSION OF THE PROPOSAL via myFCT (A2)

The current format of the application form is based on similar competitions run by other European advanced computing entities. It is divided into 3 sections:

- O. IR and Co-IR data
- 1. Application details
- 2. Technical requirements

DADOS DO IR E CO-IR

DADOS DA CANDIDATURA

REQUISITOS TÉCNICOS

VALIDAR E SUBMETER

Section 1: IR and CO-IR data



This section aims to obtain the identification of the project leader (PI) and co-responsible (co-IR). The email provided will be the preferred contact for communication and notification of results.

DADOS DO IR E CO-IR

Investigador Responsável

Instituição do IR

Investigador Co-Responsável

Curriculum Vitae

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

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". Manual available 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). The answers should be written in **English**.



DADOS DO IR E CO-IR

DADOS DA CANDIDATURA

Descrição Geral

Plano de Trabalhos

Experiência Anterior

Projeto científico/inovação

associado

REQUISITOS TÉCNICOS

VALIDAR E SUBMETER

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

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".



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 HTC or Cloud. **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 6 months, extendable for an equal period, being non-refundable and without any costs for the user. In case of doubt, please consult the Regulations and 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)

Average CPU colours per job/computing job (optional)

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

Sub-section: Cloud Science

This sub-section will only be present if you answer "yes" to the question about Cloud Computing. Only INCD provides Cloud 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 from the 4 platforms 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. <u>Example</u> 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 OF THE PROPOSAL via RNCA WEBPAGE (A1 and A0)

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 data
- II. Application details
- III. Technical requirements

Section 1: IR and CO-IR data

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)



co-IR Name* - 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.



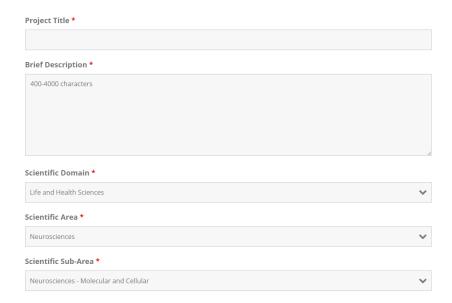
Section 2: Application details

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





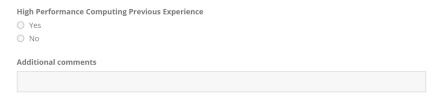
Associated funded project (text) - Only answer if the scientific or innovation project has been subject to a prior independent evaluation by a competent entity.

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.



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.



Section 3: Technical requirements



Access typology (dropdown) - select Access A0 or A1.



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 780h/month = 4680 hours.



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 $\frac{1}{2}$ 6months x 780h/month = 4680 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 from the 4 platforms 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.

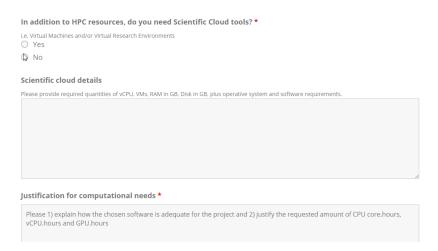




In addition to HPC resources, do you need Scientific Cloud Tools? (options) - answer yes/no on the need to use Scientific Cloud with the installation of Virtual-Research Environments (VRE) and/or Virtual machines (VMs).

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 (recommended for A1 accesses).



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	Regulamento de Projetos de Computação		
understood the Regulations. *	Avançada no. 772-a/2020 (DR)		
RGPD - I agree that the above in	nformation can be shared with RNCA centers. *		
RGPD - I accept that the	Name, Institution, Project title, Project		
following details may be	Description, Scientific area, Platform, Allocated		
published in FCT and RNCA reports and websites. *	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, 19/07/2021 to 13/09/2021, 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 and A1 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 batch of applications A0/A1:

- Each application for A0 access will have a summary administrative and technical validation.
- Each application for A1 access will have an administrative validation and technical evaluation (see criteria in the notice and evaluation guide). In both accesses, the applicant will be notified via email which will include the approval status, the amount of resources allocated and relevant comments.



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













