



Cyberinfrastructure Initiative Challenge 1

Competition 2

Guidelines to prepare a proposal

July 2017

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Chapter 1 – Introduction

These guidelines are intended for researchers and institutional research services personnel wishing to prepare and submit a proposal to the second competition of the Cyberinfrastructure Initiative – Challenge 1. Consult our website for additional information about the [Cyberinfrastructure Initiative](#), including the Call for proposals.

CFI Awards Management System

Researchers and institutional research services personnel must use the CFI Awards Management System ([CAMS](#)) to prepare, share and submit proposals for this competition. If you require additional help to get familiar with the basics of CAMS, user guides for institutional administrators, researchers, and reviewers are available on our [website](#).

Deadline

Institutions wishing to participate in the second competition of the Cyberinfrastructure Initiative – Challenge 1 must have submitted an NOI to the CFI and been invited to submit a proposal. Proposals must be submitted to the CFI by October 13, 2017.

Chapter 2 – Guidelines for attachments

It is important that all submissions follow the instructions provided on the electronic forms in CAMS as well as those in this guide. It is strongly recommended that researchers and institutional research services personnel review the forms prior to submission to ensure that the proposals comply with these instructions.

Electronic forms

Institutional research services personnel and researchers will use the forms available in CAMS to prepare, share and submit proposals for this competition.

Format of attachments

Since many reviewers will assess proposals electronically, attachments must be clear and easily readable. Legibility is of paramount importance. Attachments not in compliance with these guidelines may result in the CFI returning the proposals for revision.

Paper Size and Margins

The layout of attachments must follow these guidelines:

- No larger than standard letter paper size (8 ½" x 11")
- Portrait layout with a single column
- Insert a margin of no less than 2.5 cm (1 inch) around the page (top, bottom, left, and right) for all pages. The header and footer may be within the margin.

Font and line spacing

Adherence to font size, line spacing and text color requirements is necessary to ensure readability and fairness. Text in your attachments must follow these minimum requirements:

- Font size: Must be 12 points or larger. Smaller text in figures, graphs, diagrams and charts is acceptable, as long as it is legible when the page is viewed at 100%. It is important to confirm that the final PDF document complies with the font requirements.
- Line spacing: Must be no more than six lines per vertical inch.
- Text color: Though not required, black or other high-contrast text colors are recommended since they print well and are legible to the largest audience.

Page numbering

Do not include page numbers on attachments. CAMS will automatically paginate the proposals submitted to the CFI.

Headers and footers

- Header: Indicate the administrative institution on the top left, the title of the section in the middle and the project number on the top right of each page.
- Footer: Do not include any information on the bottom right side of the page as this space will be used for page numbering.

File format and size

- Only PDF files may be uploaded. Documents must not be encrypted or password protected.
- The file size must not exceed twenty megabytes (20MB).

Chapter 3 – Proposal structure

The proposal should clearly present the merits and excellence of the proposed project. The requisite proposal preparation instructions are contained herein. Sufficient information should be provided to enable reviewers to evaluate the proposal in accordance with the assessment criteria established by the CFI (please refer to the “Assessment criteria” section).

The proposal consists of four modules:

1. Project module – includes information about the proposed project and how it meets the objectives and criteria of the competition.
2. Collaborating Institutions module – lists the CFI-eligible institutions collaborating on the proposal and, if awarded, which will receive a portion of the CFI funding.
3. Suggested reviewers module – lists at least six potential reviewers of the proposal.
4. Finance module – outlines the budgetary details of the proposal

The online forms will dictate the maximum number of characters that can be included in each section and/or the page limits for uploaded files.

Project module

The Project module consists of six sections, as detailed below.

Project information

This section captures basic information about the project such as the title, administrative institution and keywords.

Note: The information in this section is automatically populated with information provided in the NOI. The applicant, however, has the ability to change the information in the proposal.

Plain language summary

MAXIMUM 1500 CHARACTERS

Provide a short summary in plain language of the proposed project: what is being researched, how it is being done and why it is important. Focus on the expected impacts and benefits to Canada, beyond academic accomplishments. This summary will not be used in the review process. Should the project be funded, it may be used in the CFI's communications products and website.

Project summary

MAXIMUM 1 PAGE

In language appropriate for a Multidisciplinary Assessment Committee (MAC), provide a general description of the research data infrastructure project and the research that this infrastructure will enable. This summary must concisely address the extent to which the proposal meets the competition objectives, which will be assessed by the MAC:

- Scientific excellence: The proposal relates to a field in which Canada is recognized for having significant research strengths. The research data infrastructure project is necessary to maintain Canada's position by enabling established or emerging leaders to carry out timely, innovative and leading-edge research programs;

- **Impact and ongoing relevance:** A critical mass of Canadian researchers is actively involved in the research data infrastructure project and will be able to maximize its use through optimal access mechanisms and sound data management plans. The research enabled has the potential to lead to significant tangible benefits to society, health, the economy and/or the environment;
- **Feasibility:** The research data infrastructure project’s scope is clearly defined and the team has the necessary expertise and experience to design, develop and deliver the project within 36 months. The proposed budget, as well as the long-term financial sustainability of the infrastructure, is realistic.

Scientific experts

List up to 10 scientific experts¹, including the project leader, for the proposed research data infrastructure project. This list may include individuals from non CFI-eligible organizations.

Individuals listed must have a CAMS account and sign in to accept to participate in the project before the proposal can be submitted to the CFI.

Individuals listed automatically gain read access to the proposal. The CVs of the scientific experts will be automatically appended to the proposal when it is submitted to the CFI.

Note: The information in this section is automatically populated with information provided in the NOI. The applicant, however, has the ability to change the list of scientific experts in the proposal. If changes are made to the scientific experts, please inform your Senior Programs Officer as soon as possible to ensure that no review committee members are in conflict of interest with the proposal.

Technical experts

List the technical experts² responsible for the development of the research data infrastructure project. This list may include individuals from non CFI-eligible organizations. These individuals do not require a CAMS account; however, the administrative institution should ensure that they have been informed and consented to their participation in the project.

Do not include individuals included as a scientific expert. The CVs of these individuals will NOT be appended to the proposal.

¹ Scientific experts are subject matter experts who will be involved from the early stage of the project in defining the research questions and the data requirements, based on gaps and opportunities identified by a broader research community. They will both serve as advisors during the development of the research data infrastructure and be the end users once it is fully operational. Consequently, their engagement throughout the project will be critical to the success of the endeavor.

² Technical experts are software developers, business analysts, data specialists, etc. who will be involved in the day-to-day development of the research data infrastructure. They are well aware of technical solutions and are not necessarily experts in the scientific area that will benefit from the research data infrastructure.

Assessment criteria

MAXIMUM 23 PAGES

Upload a PDF document that contains key information on how the proposal meets the objectives and assessment criteria for this competition. Ensure that the document follows the guidelines for attachments (Chapter 2). Additionally, the applicant should:

- Address each criterion in the order that they appear below; and,
- Begin each criterion on a new page.

Each assessment criterion will be evaluated against a standard. Each criterion includes aspects that must be addressed in the proposal. Failure to do so will weaken the proposal. Expert committees will be asked to rate the degree to which the proposal meets each standard, whereas the MAC will be asked to rate the degree to which the proposal meets each competition objective. In the following pages, each assessment criterion is listed and described.

Research

Criterion standard

Once completed, the research data infrastructure will enable research activities that are timely, innovative and at the leading edge internationally.

To help reviewers assess this criterion, please:

- Explain how the proposed research data infrastructure will improve how research data is organized, accessed or used. Describe how you identified these improvements and determined they are a priority right now. Who else from the broader research community helped to determine these improvements?
- Describe the research that the proposed research data infrastructure will allow the community to do. Demonstrate how the research is innovative, feasible and at the leading edge internationally.

Research data infrastructure

Criterion standard

The research data infrastructure is necessary and appropriate to enable the proposed research activities and, if applicable, builds on existing national or international data research infrastructure(s). The scope and requirements of the project are clearly defined and the proposed research data infrastructure can be commissioned within 36 months.

To help reviewers assess this criterion, please:

- Describe the research data infrastructure you're proposing. If applicable, explain how it uses or builds on existing national or international analytical tools, or data management methods and standards.
- Explain how the community will be able to do the research they have planned once the proposed research data infrastructure is operational.
- Describe each item you're requesting. Justify why it is needed to develop the research data infrastructure you're proposing. Reference the relevant item number from the "Cost of individual items" table. If you have grouped items together, provide a cost breakdown and justification for each individual item. If you are requesting construction or renovation, provide a description of the space, including its location, size and nature. Provide a detailed cost breakdown, timeline, and floor plans in a separate document as part of the finance module.
- Provide a clear timeline for how the research data infrastructure will be developed.

Scientific expertise

Criterion standard

The scientific experts are established or emerging leaders in the relevant research domains and have the necessary expertise to guide the development of and exploit the research data infrastructure.

To help reviewers assess this criterion, please:

- Outline each scientific expert's track record. Include their most significant contributions and relevant measures of output.
- Highlight how each scientific expert will contribute to developing the proposed research data infrastructure. Describe how they will use the research data infrastructure once it's operational.
- Explain how the scientific experts will engage the broader research community throughout the development of the proposed research data infrastructure.

Technical expertise

Criterion standard

The technical experts have the required expertise to efficiently design and build the research data infrastructure.

To help reviewers assess this criterion, please:

- Describe each technical expert's most significant contributions related to developing research data infrastructure. Examples could include, among others: research data infrastructure product development or adaptation; computation methodologies and algorithms for problem-solving; development of databases to support research.
- Highlight how each technical expert will contribute to developing the proposed research data infrastructure.

Sustainability and maintaining relevance

Criterion standard

A compelling plan for the long-term management of the data is in place to ensure ongoing relevance of the infrastructure. The proposal presents a credible plan addressing the long-term financial sustainability of the research data infrastructure.

To help reviewers assess this criterion, please:

- Describe how you will keep the proposed research data infrastructure relevant and useful. Include plans for the long-term management of data.
- Describe your long-term financial and management plans for the proposed research data infrastructure. How will you make sure it is sustainably operated?

Benefits to Canadians

Criterion standard

The research activities enabled by the infrastructure have the potential to lead to significant tangible benefits for society, health, the economy and/or the environment. The use of the research data infrastructure will be maximized by adopting best practices in accessibility, interoperability and generalizability.

To help reviewers assess this criterion, please:

- Describe how researchers will access the proposed research data infrastructure once it is operational. How will you maximize its use? If applicable, explain how you will use the research data infrastructure to leverage other existing national or international data resources. How will these other data resources make the proposed research data infrastructure more useful?
- Describe potential socio-economic benefits of the research made possible by the research data infrastructure. This could include training highly qualified personnel.

Collaborating institutions

Identify the institutions eligible for CFI funding collaborating on this project. For the purpose of this competition, a collaborating institution is one that receives CFI funding or part of the infrastructure. Do not include in this list the administrative institution identified in the Project information section.

The list of collaborating institutions should be filled out prior to completing the Finance module. The choice of infrastructure location in the Cost of individual items section of the Finance module will be populated based on this list. Do not include in this list the administrative institution identified in the Project information section.

Note: The information in this section is automatically populated with information provided in the NOI. The applicant, however, has the ability to change the collaborating institutions in the proposal. If changes are made to the collaborating institutions, please inform your Senior Programs Officer as soon as possible to ensure that no review committee members are in conflict of interest with the proposal.

Suggested reviewers

The list of suggested reviewers is prepopulated using the list provided in the notice of intent. You may identify additional reviewers who are well-qualified to review the proposal. Refer to the Suggested reviewers section in Chapter 3 of this document for conflict of interest guidelines. The decision to use the suggested reviewers remains with the CFI.

Note: The information in this section is automatically populated with information provided in the NOI. The applicant, however, has the ability to change the suggested reviewers in the proposal. If changes are made to the suggested reviewers, please inform your Senior Programs Officer as soon as possible to ensure that no review committee members are in conflict of interest with the proposal.

Finance module

The Finance module consists of the following sections:

- Cost of individual items
- Construction or renovation plans (if applicable)
- Contributions from eligible partners
- Infrastructure utilization
- Financial resources for operation and maintenance
- Overview of infrastructure project funding (read only)

The tables in the Overview of infrastructure project funding section in CAMS will be automatically populated with information taken from the other sections of the Finance module. The amount requested from the CFI is calculated based on the difference between the total contributions from eligible partners and the total eligible costs.

Cost of individual items

When completing the Cost of individual items section, the CFI recommends that the applicant bundle items into functional groupings. However, details and justification for each item within a group must be provided within the Assessment criteria section when addressing the 'Research Data Infrastructure' criterion. The CFI's [Policy and program guide](#) outlines the eligible costs for infrastructure projects.

List only the eligible infrastructure acquisition and development costs. List the full cost of each item. Retain documentation (price lists, quotes, etc.) so that you can provide it to the CFI upon request.

Note: If the infrastructure will be used for purposes other than research, list only pro-rated research or technology development costs. The total eligible costs must include taxes (net of credits received), shipping and installation. However, taxes must not be calculated on the in-kind portion.

When preparing budget estimates, the applicant must follow their existing institutional policies and procedures. Costs included in this budget must be close estimates of fair market value. Refer to the Policy and program guide for information about how in-kind contributions must be assessed.

Construction or renovation plans

Upload a PDF document that provides the following information:

- A complete description of the entire new space, including common elements (e.g. corridors, washrooms). The description should include the location(s), size and nature (e.g. wet lab, dry lab, office, greenhouse) of the new space;
- A detailed breakdown of the overall cost of the construction or renovation project, categorized by cost component (i.e. direct, soft and contingency costs);
- A timeline identifying key dates for the various stages of the proposed construction or renovation;
- Floor plans of the proposed area(s), showing the location of the infrastructure and the scale of the plans for projects involving multiple rooms. The floor plans must be legible when printed in black and white on standard letter size paper (8.5" x 11").

Note: This PDF does not count towards the page limit for the Assessment criteria section of the proposal.

Contributions from eligible partners

List all contributions from eligible partners. Do not include the amount requested from the CFI. Provide the partner name and type, as well as a breakdown of contributions (cash and in-kind) for each eligible partner. The applicant is encouraged to bundle all expected in-kind contributions from vendors into a single line. If partner contributions are expected but have not yet been confirmed, outline the plans for securing these funds.

Infrastructure utilization

This section of the Finance module captures the use of the requested infrastructure for CFI-eligible and non-eligible purposes and any applicable pro-rating of costs.

Financial resources for operation and maintenance

This section of the Project module captures the annual costs and sources of committed support to ensure the effective operation and maintenance of the infrastructure for the first five years after implementation.

In cases where the useful life of some of the infrastructure items requested are longer or shorter than five years, the Assessment criteria section of the proposal should provide complementary information regarding the operating and maintenance needs for these items over their useful life. Do not include costs related to research and/or technology development. If funding sources include the CFI Infrastructure Operating Fund (IOF), list these in the “institutional contribution” category.

Chapter 4 – Submission process

Proposal submission

Proposals to the second competition of the Cyberinfrastructure Initiative – Challenge 1 must be submitted through CAMS. The CFI does not require a hardcopy of the proposal; however, a list of all proposals on which the institution is the administrative or a collaborating institution must be submitted to the CFI. The cover letter (see Appendix 1 for template) must be signed by the President or an authorized signatory as per the Institutional agreement. The cover letter and the list of proposals must be sent by email to cyber@innovation.ca by **October 13, 2017**.

Collaboration with provinces

The CFI will share a list of the proposals with relevant provincial and territorial funding authorities to assist in their planning process. The CFI encourages institutions to work with relevant provincial and territorial funding authorities as key partners at an early stage in the planning and development of the project.

Appendix 1: Template – Proposal cover letter

October 13, 2017

Mohamad Nasser-Eddine
Director, Programs
Canada Foundation for Innovation
450 - 230 Queen Street
Ottawa ON K1P 5E4

Re: Submission of proposals to the Cyberinfrastructure Initiative – Challenge 1 competition

Dear Mr. Nasser-Eddine,

In response to the CFI's *Call for Proposals* for the Cyberinfrastructure Initiative – Challenge 1 competition, I am pleased to submit the proposals outlined in the attached document.

Sincerely,

President (or authorized signatory)

Signature

Institution

Name of institution: _____

Table 1: List of projects led by institution

Project #	Project leader (Last name, first name)	Project title	Total project cost (\$)	Amount requested from the CFI (\$)	Collaborating institution(s) (use a comma separated list, if applicable)

Table 2: List of projects on which the institution is collaborating

Project #	Lead institution	Project leader (Last name, first name)	Project title	Total project cost (\$)	Amount requested from the CFI (\$)

