



Canada Foundation for Innovation
Fondation canadienne pour l'innovation

Canada Foundation for Innovation Major Science Initiatives Fund

Overview

In support of the Government of Canada's science and technology strategy, *Mobilizing science and technology to Canada's advantage*, the CFI will contribute to the operating and maintenance (O & M) costs of CFI-funded large scale research facilities, and also provide governance and management oversight of these facilities based on best practices.

Often referred to as "Big Science", a major science initiative (MSI) addresses a set of leading-edge scientific problems or questions of such significance, scope and complexity that it requires unusually large-scale facilities and equipment, substantial human resources, and complex operating and maintenance activities. As such, MSIs are typically too large to be funded exclusively by any one organization and have a life cycle extending over many years.

Objectives

To ensure that CFI-funded MSI state-of-the-art facilities enable researchers to undertake world-class research and technology development that lead to social, economic and environmental benefits to Canada, the CFI will:

- Enable MSIs to fully exploit their capabilities by contributing to their O & M costs;
- Promote the adoption of best practices in governance and management, including long-term strategic and operational planning.

Under the MSI Fund, the CFI will provide O & M funding, beyond that currently offered through the Infrastructure Operating Fund (IOF), for up to five years. Funding decisions will be based on the demonstrated need for O & M funding to enable these facilities to fully exploit their capabilities; on their advanced governance and management structures; on their scientific excellence; and on their current and potential benefits to Canada.

Available funding

The \$185 million that has been allocated to the Major Science Initiatives Fund will cover **a portion of the** total eligible O & M costs of an MSI from 2012-13 to 2016-17. The total CFI funding (including IOF or the O & M portion of the International Joint Ventures award), will not exceed 40% of the total eligible O & M costs. The CFI contribution is not intended to displace current O & M funding received from other sources. The Major Science Initiatives Fund is different from other CFI funds in that other funders are already providing O & M support to MSI facilities. In order to meet the objective of

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enabling MSIs to fully exploit their capabilities, it is expected that these funding partners will remain involved and other funding partners will be sought. The CFI encourages the institutions to interact with the current and potential funding partners at an early stage in the planning and development of the proposal.

A formal mid-term review is planned during the third year of the award in order to assess the MSI's ability to maximize its scientific and technological capabilities as a result of the MSI funding. The CFI could potentially **review the level of funding of an MSI for 2015-16 and 2016-17.**

Eligibility

Eligible applicants

A proposal can only be submitted by an eligible institution as defined in section 3.1 of the *Policy and program guide*.

Eligible major science initiatives

Institutions must submit a *Statement of qualification* (SOQ) showing that the proposed MSI meets **all** eligibility criteria. The SOQ will be reviewed to determine eligibility. Eligible institutions must submit a *Statement of qualification* on behalf of the MSI requesting CFI funding over the 2012-13 to 2016-17 period. Since one of the program's objectives is to contribute to stable and predictable funding, eligibility will be valid for up to five years.

Projects funded under the CFI's Research Hospital Fund are not eligible for support under the MSI fund.

Eligible costs

- Salaries of Managers, professionals, technicians, administrative personnel and consultants directly involved in the governance, management, operation and maintenance of the facility
- Internal financial auditors
- Training for the main operator(s) of the research infrastructure, not included in the infrastructure award. It is expected that the main operator(s) will train other users. Alternatively, a group training session may be provided by the vendor at the institution.
- Board of Directors and governance committees meetings and related travel
- Communication/outreach activities
- Extended warranties and/or service contracts not included in the infrastructure award and extensions to warranty coverage and software upgrades
- Maintenance and repairs

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- Replacement parts and replacement of an item needing repair, only if the replacement is more cost effective than the repair (the replacement item must have similar functionality).
- Minor upgrades to maintain the operational capacity of the facility
- Insurance directly related to the facility
- Services (e.g. electricity, security, cleaning, telephone, internet) that directly support the facility
- Regulatory requirements compliance costs
- Supplies and consumables required to keep the facility in a state of readiness for researchers, independently of the number of researchers actually using the resource and not associated with specific research projects
- Decommissioning costs

Non-eligible costs

- Equipment and construction/renovation costs deemed eligible under an infrastructure project
- Buying or leasing of real property
- Trainee stipends (undergraduates, graduates and post-doctoral fellows) and faculty members salaries
- Administrative personnel not directly related to the governance, management, operation and maintenance of the infrastructure (e.g. institutional research office, library and finance services)
- Any cost to conduct research activities
- Intellectual property related expenses
- Costs not directly related to the facility

Any partner, including Tri-Council Agencies, departments and agencies of the federal government, departments and agencies of the provincial, territorial and municipal governments, firms and corporation, can contribute to eligible O & M costs.

Application process

Statement of qualification

Institutions must submit a *Statement of qualification* showing that the proposed MSI meets all eligibility criteria. The *Statement of qualification* will be reviewed to determine eligibility.

Definition of major science initiatives

An MSI addresses a set of leading-edge scientific problems or questions of such significance, scope and complexity that it requires unusually large-scale facilities and

equipment, substantial human resources, and complex operating and maintenance activities to be carried out. As such, MSIs are typically too large to be funded exclusively by any one organization and, have a life cycle extending over many years.

Eligibility criteria

An eligible MSI must meet all of the following criteria:

Facility

1. Large-scale: The facility has received a one time contribution of at least \$25 M in capital funding from the CFI. It houses specific and substantial equipment and has significant human and operational resources needs beyond what is standard in Canadian research institutions.
2. World-class: The facility compares with the best in the world and provides an environment to conduct leading-edge research.
3. Unique: The MSI is a purpose-built national facility created to offer a unique capability to all Canadian researchers. It is not standard in a discipline or research area and not available elsewhere in Canada.

Governance

4. Established governance structure: The MSI has a formal governance structure, including a Board of Directors that is responsible for such matters as long-term strategic and multi-year business planning, and risk management at both strategic and operational levels.
5. Ownership: The facility is owned by one or more eligible institutions.
6. Access: The facility is operational and accessible to a broad range of researchers from across Canada. It also has an established merit-based access policy.

Full proposal

To lessen the burden for the MSIs and the institutions, the form for the full proposal has been designed to meet the information needs of the CFI, NSERC (MRS program) and the provincial funders. The proposal should address all of the evaluation criteria.

Evaluation criteria

In recognition that the scientific merit of the science being undertaken at the MSIs has been judged meritorious in recent past, emphasis will be put on enhancement of capacity for innovation, advanced governance and management, and benefits to Canada for the initial application stage.

The CFI will evaluate the MSI proposals on the basis of four broad criteria.

1. Enhancement of capacity for innovation
 - The MSI demonstrates the need for operating and maintenance support to fully exploit the capabilities of its state-of-the-art facility.

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- The facility is openly accessible and used by a broad range of national and international users from diverse sectors, and has an established merit-based access policy.
2. Advanced governance and management
 - The MSI adopts international best practices in governance, including long-term strategic planning.
 - To realize the objectives of the strategic plan, the MSI implements a high-quality management plan.
 3. Scientific Excellence
 - The facility ranks amongst the best in the world.
 - The facility supports innovative and leading-edge research programs.
 - The MSI is used by researchers of the highest caliber.
 - By offering unique training opportunities, the MSI attracts HQP of the highest calibre (including technicians and professionals) and allows them to acquire high-level skills for research and other careers.
 4. Benefits to Canada
 - The research activities of the MSI benefit society, health, the economy and the environment through the development of new or improved products, processes, services, public policies, and/or sustainable job creation. The MSI ensures that appropriate measures are taken to transfer the research results in a timely manner.

Review process:

Expert committees

The expert review process is designed to assess the strengths and weaknesses of the proposals. An expert committee will be convened for each of the MSIs and the meeting will take place on-site with representatives of the applicant institution(s) and the MSI. A strong emphasis will be placed on the demonstrated need for O & M funds to fully exploit the capabilities of the MSI, and the review of the governance and management of the facility. The on-site visit will (where applicable) include a tour of the facility. The committee membership will cover a broad range of expertise: financial, governance-related, managerial, scientific, etc.

International Multidisciplinary Assessment Committee (IMAC)

The IMAC will be charged with the mandate of:

- reviewing and integrating the assessments of the various expert committees ;
- providing final funding recommendation for each of the competing requests;
- providing recommendations to the CFI on the entire process;

Members for this committee will be chosen for their breadth of expertise in the governance, management and operation of large science facilities.

Participation of funding partners

The CFI will be working with current and potential funding partners (such as provinces and federal granting agencies, especially NSERC) with the goal of developing an integrated approach for the review process and oversight of the MSIs. This will imply the institution's consent that the CFI may share relevant application and review material with the appropriate funding partners.

Funding decisions

Funding decisions will be made by the CFI Board of Directors at its March 2012 meeting. The expert committees and IMAC reports will be provided to the institutions.

Oversight and monitoring

In collaboration with funding partners, the CFI is working at developing a framework to provide oversight in respect of major science initiatives. The oversight framework will guide the CFI in the monitoring activities of the individual MSIs. The activities will include:

- yearly financial and progress reports including short and medium term outputs and outcomes,
- risk assessments and mitigation strategies,
- performance monitoring strategies,
- decommissioning plans and,
- mid-term scientific, governance and managerial review.

Mid-term review

A formal mid-term review is planned during the third year of the award in order to assess the MSI's ability to maximize its scientific and technological capabilities as a result of the MSI funding. As such, the review will place greater emphasis on the quality of the research, research outcomes, and impacts, and could potentially result in a revision of **the level of funding for the MSI for 2015-16 and 2016-17.**

Final report

The lead institutions will submit a final report at the end of the five year period. Other means of evaluation (for example, Outcome Measurement Study) could be considered in order to assess the degree to which the CFI's investment was a critical contributing factor in the realization of five outcomes: strategic research planning, research capacity, highly qualified personnel, research productivity, and innovation.

MSI Timeline

Dates	Activities
September 30, 2011	Full proposal deadline
November 2011	Expert committees meetings
January 2012	International Multidisciplinary Assessment Committee meeting
March 2012	Board funding decisions
Fall 2014	Formal mid-term review