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for Innovation

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Major Science Initiatives Fund Oversight Framework

2023



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About this framework

This 2023 version of the Canada Foundation for Innovation’s (CFI) Major Science Initiatives Fund (MSIF) oversight framework is intended for research facilities of national importance that are funded through the 2023 MSIF competition and their associated postsecondary institutions, as listed in [Appendix A](#).

The purpose of this oversight framework is to:

- Outline the CFI’s approach to overseeing the facility as well as the policies and requirements that guide that oversight
- Set out the CFI’s expectations regarding governance and management of the facility including the adoption of key indicators
- Help multiple funding partners align oversight requirements to reduce both the duplication of efforts and the reporting burden on the facility
- Help maintain accountability, transparency and communication among all stakeholders.

The CFI developed the first version of this framework in 2011 in consultation with key funding partners and with the help of an international advisory committee. We have since then regularly updated it to reflect program changes and to incorporate lessons learned through our management of the MSIF.

Although previous versions of the framework included advice on the good governance and management of facilities, the 2023 framework instead refers readers to the [MSIF section of the CFI’s website](#). The website will be regularly updated over the course of the award period to incorporate relevant resources on good practices for the governance, management and operations of facilities.

Facilities and institutions should refer to the [CFI Policy and program guide](#) (available on the “Apply & manage awards” page of Innovation.ca) for other instructions including, for example, information on financial auditing and the management of in-kind contributions from partners, as well as terms and conditions that apply to other CFI funding related to the facility (e.g., funding from the CFI’s Infrastructure Operating Fund).

Note that a funded facility may hereafter be referred to simply as a “facility.”

About the Major Science Initiatives Fund

In 2010, the Government of Canada mandated the CFI to design a systematic approach to address the operating and maintenance (O&M) needs and scientific performance of research facilities of national importance, and to oversee their management and governance policies and practices.

We launched the MSIF with the inaugural competition in 2012. Our goal was to help stabilize the operations of the funded facilities by promoting governance and management practices of the highest standards including the development of business plans tailored to the Canadian funding model.

The 2023 competition is the fourth competition since the MSIF began. We have incorporated several changes across these competitions to include a greater number and range of facilities, both in size and complexity and across all research disciplines. In 2019, we also implemented the following two important changes:

The Government of Canada, acting upon a recommendation made in 2017 in [Canada’s Fundamental Science Review report](#) (also known as the Naylor report), mandated the CFI to increase its maximum share of funding from 40 percent to 60 percent of a facility’s O&M costs for a subset of facilities identified in the report as being of major scale (see [Appendix A](#)).

The announcement of permanent funding for the CFI in the 2018 federal budget allowed the CFI to extend the funding cycle for the MSIF from five to six years, providing for a longer planning horizon for facilities and greater stability to help retain highly qualified personnel.

Through the 2023 competition, the CFI is making a significant investment of public money; it will provide up to \$660 million in multiyear funding toward the O&M needs of 19 facilities from April 1, 2023 to March

31, 2029. This funding — which can cover up to either 40 or 60 percent of eligible O&M costs — complements important contributions from other funding partners toward the operational needs of the facilities.

Objectives of the 2023 competition

Funding through the 2023 competition is intended to:

- Enable pan-Canadian research communities to undertake world-class research and technology development that lead to social, health, economic or environmental benefits for Canadians
- Enable facilities to operate at an optimal level to ensure the best use of their specialized equipment, services, resources, and technical and scientific personnel
- Promote responsible stewardship through the adoption of best practices in governance and management.

Definition of a facility in the context of this fund

The MSIF supports facilities for which the loss or absence of support would represent a serious setback for Canada.

Each facility addresses the needs of a community of Canadian researchers representing a critical mass of users distributed across the country.

The facility does this by providing shared access to substantial and advanced specialized equipment, services, resources, and scientific and technical personnel.

Whether single-sited, distributed, or virtual, the facility:

- Supports leading-edge research and technology development, and promotes the mobilization of knowledge and transfer of technology to society
- Requires resource commitments well beyond the capacity of any one institution
- Is specifically identified or recognized as serving pan-Canadian needs and its governance and management structures reflect this mandate.

See [Appendix B](#) for more information on the eligibility criteria for facilities to be considered in the 2023 competition.

Guiding principles for the oversight of facilities

Facilities are increasingly complex and international in scope and require robust governance, management and stewardship mechanisms to ensure that they are funded, managed and operated for success, and ultimately contribute to Canada's economy and society. Our oversight approach therefore strives to balance general principles of scientific excellence with responsible stewardship and accountability, while factoring in the context of each facility. Through good communication, transparency and the sharing of good practices, we also aim to promote a culture of mutual learning and continuous improvement for both the CFI and facilities, and one that helps facilities think more strategically for the long term.

From our experience with the oversight of the facilities funded in the 2017–23 cycle, as well as the lessons shared in our report on the advancement of research facilities funded between 2012 and 2017, we recognize that the best approach is a customized oversight plan tailored to each facility. Facilities are all different, whether in their mandate or mission, the makeup of their stakeholders or the culture of the research communities they serve. Their governance and management approach will also evolve as they mature through the different stages of their lifecycle. Oversight activities for each facility will be determined by the assessment of the potential risk for the CFI in managing the award, as described in the next section. This also ensures that we can provide adequate oversight to a growing cohort of research facilities across Canada.

Another cornerstone of our oversight approach is to incorporate the use of key indicators in annual reporting to better frame the facility's progress, performance, and broader impact. We recognize that facilities have broad societal value, and their impacts are not limited to fostering scientific knowledge for the benefit of scientists; they also impact their environment, socially and economically.

Individual oversight plans will therefore be customized within the parameters of this framework through discussions to be held between the CFI, the facility, the administrative institution, and other key funding partners interested in establishing a common oversight approach.

Each facility will be assigned a CFI programs officer. Under the supervision of the Director of Programs and the Associate Director for Research Facilities, the Programs Officer will be responsible for the oversight of the facility and will act as the point of contact for the facility and administrative institution. General inquiries may also be sent to MSI-ISM@innovation.ca.

Assessment of a facility's level of risk

To help identify the potential risks for the CFI, and to establish appropriate oversight activities for each facility, we have developed a Tool for Risk Assessment and Management (TRAAM). The TRAAM allows us to document and track the evolution of risks and mitigating activities as well as facilitate the sharing of assessments with facilities.

To determine each facility's risk profile, we will rely on several sources of information, including the proposal, merit review reports, prior CFI experience with both the facility and associated institutions, as well as discussions with the facility, and material produced by the facility for its governance body, and/or reports of its committees, as appropriate.

Facilities will be assigned to one of four overarching categories of increasing levels of risk: (1) low; (2) medium; (3) medium/high, and (4) high. Although the amount and percentage of CFI's contributions are important considerations for determining the overall level of risk for a given facility, we also consider the following factors:

- The sustainability of the facility and its operations, which could impact the ability to maintain highly specialized equipment, services, resources, and personnel needed to support world-class research.
- The potential for major delays, which could result in project setbacks and impact the delivery of user services, and research outcomes.
- The risk of inappropriate expenditures, including ineligible expenses or funding misuse.
- The risk of major cost escalations, leading to cost overruns and potentially an inability to operate at an optimal level and have the facility's scientific and technical capabilities fully exploited.
- The risk in securing matching partner funding and support, and in sustaining partner engagement.
- The risk of inefficient or inappropriate management practices affecting the facility's ability to operate optimally and fully exploit its scientific and technical capabilities.
- The maturity of the facility's governance model and approach to strategic planning, which could impact the facility's ability to effectively respond to changing circumstances, or act as a facility intended to serve the needs of its user communities.

Furthermore, we customize our assessments to reflect additional risk factors based on facility-specific context, for example, when there are conditions on the award which are not already captured by the standard factors, or other risks identified during the CFI's review of the initial proposal and annual reports.

While the oversight activities will be similar for all facilities within a given risk category, adjustments may be made based on each facility's individual risk profile. This will ensure that oversight activities are tailored to the unique risks and needs of each facility, while also providing a consistent approach to monitoring and reporting across all facilities.

We expect that the facility has established oversight and reporting activities as part of its management plan, and periodically performs its own risk assessments. While our assessment may differ in scope from the risk assessment performed by the facility, we will take into consideration, where possible, these internal oversight activities and assessments in the CFI's oversight plan of the facility.

Our goal is to closely collaborate with facilities to manage and mitigate risks to help them be successful. We will share our risk assessments with facilities and institutions and incorporate their input. Risk assessments will be updated at a minimum annually and oversight activities may be adjusted to reflect changes in the facility's risk profile. As risk assessment is a shared responsibility among the CFI's Research Facility, Finance, and Performance, Analytics and Evaluation teams, this risk profile will incorporate the perspectives of all the CFI.

Oversight activities and reporting requirements

Table 1 lists the monitoring and reporting activities intended for each of the four risk categories (although, as described above, our oversight may be tailored to a facility's specific risk profile). Each category is associated with a range of the amount contributed by the CFI. We determined these ranges by examining the amounts contributed to facilities that typically fall within each risk category. However, many other factors will contribute to determining the overall level of risk for a given facility, as stated above. Hence a facility within a given range of CFI contribution can still be assigned to another risk category.

Table 1: Common oversight activities by overarching risk category

	Oversight activities	Risk level 1	Risk level 2	Risk level 3	Risk level 4
		< \$10 million	\$10 million to \$30 million	\$30 million - \$100 million	> \$100 million
		+other risks			
Financial	Confirmation of partner funding (due annually in March)	✓	✓	✓	✓
	Financial reports (due annually June 15 / due semi-annually June 15 and November 15)	✓	✓	✓	✓
	Budget updates (due annually June 15)	✓	✓	✓	✓
	Contribution audit		✓	✓	✓
Performance and impact	Progress and performance reports (due annually June 15)	✓	✓	✓	✓
	Written review by independent reviewers	✓			
	Expert Committee review (Face-to-face (F2F) meeting and site visit, depending on risk)		✓	✓ F2F + site visit	
	Standing Committee review (Face-to-face meeting and site visit)				✓
	Governance body materials (Board materials, minutes and scientific advisory committee report. Observe some or all meetings, depending on risk.)	✓	✓	✓ observe	✓ observe
	CFI follow-ups (meetings, phone calls and other information exchanges between the CFI, the facility and the institution)	✓ ± as needed	✓ ± annually	✓ ± semi-annually	✓ ± quarterly

All facilities will be subject to the following minimum requirements:

- Annual submission of financial reports and budget updates
- Annual submission of progress and performance reports, which include an update on key indicators
- Annual confirmation of partner funding for release of payment at the beginning of each fiscal year
- Sharing of documentation that normally informs the facility’s governance body or bodies, or that is produced by those bodies
- Regular meetings among the CFI, the facility’s management team and the administrative institution
- At least one review conducted by external experts during the award period.

Both financial and progress reports should be presented to, and approved by, the facility's governance body. A cover letter signed by the Chair of the Board (or governing body) will confirm approval of the reports and attest that these have met the reporting requirements outlined in the CFI award agreement.

Reports will be reviewed and approved by CFI staff (independent of an external review conducted in a reporting year). The release of payments for the subsequent year will depend on the submission of satisfactory annual reports.

Confirmation of partner funding

Unless partner funding is already secured for multiple years or the entire award period, facilities will be asked at the end of each fiscal year, in March, to confirm their partner funding for the upcoming fiscal year. The payments for the next fiscal year, beginning in April, will not be released to the institution until this confirmation has been received.

Financial reports

At least once a year, the administrative institution will be asked to report on the facility's actual expenses for the designated reporting period and provide projections for the next two reporting periods.

The financial report is due by June 15 and uses the reporting period April 1 to March 31. The first financial report is due in 2024.

Depending on our assessment of risk, semi-annual financial reporting may also be required. In such cases, the financial report is due every six months using the following reporting periods: April 1 to September 30 (due on November 15) and October 1 to March 31 (due on June 15).

These interim financial reports include:

- Cumulative actual and forecasted eligible costs
- Cumulative actual and forecasted contributions toward eligible costs from eligible partners, including assurance that funds have been received and spent (or will be received during the forecast period).

Eligible costs are costs related to the O&M of the facility, as detailed in Appendix C. Institutions must report their various sources of funding toward these eligible costs. For each budget category, institutions must report actual eligible costs, even if those costs differ from the estimates provided at award finalization.

Facilities which have included contingency in their budget — an amount not to exceed 10 percent of annual eligible expenses — need to report it in year six of the budget. This contingency fund will be retained at the CFI and can only be claimed to cover eligible expenses arising from unforeseen events. Use of these funds will require prior approval from the CFI.

A final financial report will be due by June 15 of the final year of the award period. The report will confirm cumulative actual eligible costs and contributions.

Financial reports must be submitted in the CFI Awards Management System (CAMS). Find technical instructions for using CAMS in the "[Getting started with CAMS](#)" documents for researchers and institutional administrators. We will also seek opportunities to visit facilities to learn more about their operations, challenges and good practices, as well as opportunities to attend relevant events, workshops and conferences organized by the facility or its user communities to gain a better understanding of the facility and its role in the scientific community. Virtual meetings and our MSIF workshop are other ways we can exchange ideas with facilities and offer advice and guidance, as explained below.

Budget update

In addition to the financial report, the administrative institution must submit a budget update by June 15 each year through the amendment module in CAMS. This form must be submitted as an "annual budget update," not as a "change to the budget."

As an attachment to the budget update, institutions are asked to upload a document providing justification for any **significant** budget variances to the latest approved budget in light of the facility's activities —

both for the reporting year and those forecasted for the remaining years — including changes to partner contributions. For example, a delay in an internal project which leads to the carry over of expenditures to the following year, or an underspend in one category and an overspend in another, are cases that should be explained in this attachment.

Contribution audits

We use our Tool for Risk Assessment and Management (TRAAM) to determine which of our funded facilities will be audited. We consider various risk factors, such as the value of the CFI contribution and the in-kind contributions, the complexity of the facility, and the CFI's experience with both the project and the institution. The institution will be notified if the facility is selected for an audit. However, facilities receiving a total CFI contribution greater than \$10 million will automatically be subject to a contribution audit to ensure that the funding received has been used in accordance with agreed-upon terms and conditions of the award agreement, and with applicable policies and guidelines.

The CFI should be notified if the facility prepares annual financial statements that are audited by external auditors or if the O&M costs will be subject to an audit by another stakeholder. In some cases, the CFI can coordinate additional audit procedures to be done concurrently in order to gain efficiencies and reduce burden.

Progress and performance reports

Each year, facilities will be asked to report on their use of resources, on their activities, achievements and progress against the milestones and performance goals established in their operations and management plans, and on upcoming activities for the following year. These reports will provide the CFI, key funding partners (e.g., provincial or others), and when applicable, external reviewers, with relevant information to monitor and assess the progress and achievements of individual facilities toward meeting their own goals but also toward the attainment of the MSIF's objectives. Collectively, these reports also help the CFI:

- Highlight the collective accomplishments of research facilities supported by the MSIF
- Discern where CFI funding has had the most impact
- Meet its accountability requirements to the Government of Canada.

The report will use a standard template which will cover, at minimum, the following components which map to the assessment criteria (see Appendix B) and the MSIF objectives:

- The achievements and progress against planned objectives and activities from the previous year's report and/or management/business plan
- The remaining challenges and mitigation strategies with reference to planned objectives and activities from the previous year's annual report and/or business plan
- The achievements and progress against selected key indicators
- The planned scientific and operational activities for the upcoming year
- Updates to the strategies or plans of the facility (e.g., risk assessment, performance monitoring strategies, data management and cybersecurity, equity, diversity and inclusion, decommissioning)
- Updates on CFI conditions (if any).

Facilities must submit their report by June 15 each year starting in 2024. The information collected through this report will be used and disclosed in accordance with the CFI's policy around the Access to Information and Privacy Acts. It may be shared with the CFI's funding partners and be used for program evaluation or other analyses conducted by the CFI, and may appear in published CFI material. We expect that if some of the information that is shared cannot be made public (e.g., under embargo), it will be clearly mentioned in the report.

The final report will be different from those submitted annually as its scope will cover the entire award period. As such, the report will contain both annual and cumulative information related to the facility's achievements and meeting the fund objectives. We will provide a distinct template for the final report. It will be due by June 15 of the final year of the award period.

Key indicators

As stated above, progress and performance reports will include a discussion substantiated by a set of standard indicators as well as discretionary facility-specific indicators.

One of the objectives of the MSIF is to promote responsible stewardship of research facilities through the adoption of best practices in governance and management. Using indicators that involve quantitative measures and targets is an international best practice¹ for helping research facilities track their progress toward meeting their short- and long-term strategic goals as part of an overall performance monitoring strategy. Measuring indicators and setting targets is important because this enables research facilities to have a clear understanding of their performance and progress, detect problems, and identify areas that require improvement. This approach also helps in the effective management of resources, processes and outcomes.

While quantitative indicators can only provide a partial view of a facility’s performance and impact, they are complemented by the narrative in the progress and performance report, which should contain concrete examples, stories and testimonials from users and stakeholders to provide a more comprehensive view. This approach helps in effective communication and the successful demonstration of results and achievements.

Given their diverse nature, facilities will report on a set of standard indicators common to all facilities, as per Table 2, as well as up to six facility-specific indicators. The standard indicators will be helpful to the CFI and other partners for accountability, while the facility-specific indicators will reflect other critical success factors for the facility.

Table 2: Description of the nine standard indicators common to all facilities

Indicator category	Purpose	Data requested (annually)
Users of the facility	This indicator tracks the evolution of the community or communities of users and in some cases offers a perspective on how the facility supports research and technology development activities.	Number of users of the facility (i.e., on site, remote and data users) and their distribution (i.e., geographic and sector)
User demand for facility resources	This indicator tracks the level of interest in the facility, and in some cases, its competitiveness. It complements “optimal use of the facility,” which can reflect factors other than user demand.	Number of requests received to access the facility and the number of those requests accommodated
Optimal use	Although definitions vary, this indicator tracks whether the facility’s capabilities are being used at their optimal (i.e., most sustainable) capacity, which may be at or below maximum capacity.	One all-encompassing data point (e.g., percentage of time the facility is used versus its availability) that demonstrates the level of use of the facility relative to its optimal capacity, excluding required maintenance periods

¹ See OECD/Science Europe (2020), “Optimising the operation and use of national research infrastructures,” OECD Science, Technology and Industry Policy Papers, No. 91, OECD Publishing, Paris, <https://doi.org/10.1787/7cc876f7-en>.

OECD (2019), “Reference framework for assessing the scientific and socio-economic impact of research infrastructures”, OECD Science, Technology and Industry Policy Papers, No. 65, OECD Publishing, Paris, <https://doi.org/10.1787/3ffee43b-en>.

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Management of human resources that contribute to operations and maintenance (O&M)	This indicator tracks how the facility makes optimal use of its human resources in order to deliver on its mission and strategic goals. It also helps the CFI better understand the facility's needs, and how human resources affect its performance and optimal use.	Total human resource complement included in the MSIF budget (i.e., staff, consultants, trainees) reported in full-time equivalent (FTE)
User satisfaction	This indicator tracks whether the facility is responsive to the needs of its user community or communities.	The level of satisfaction of those who used the facility in the past year, the number of users surveyed, and the number of respondents
Research outputs	This indicator tracks scientific activity and dissemination of knowledge. It demonstrates the impact of the facility on research and technology development.	Number of knowledge outputs, including the dissemination of research knowledge linked to the use of the facility or data from the facility (i.e., peer-reviewed academic publications, publications in a professional/trade journal, magazine or newsletter, contributions to conference/symposium proceedings, presentations or posters at conferences or symposia, and monographs, books or book chapters)
Engagement and outreach activities	This indicator tracks the efforts made by the facility to build awareness of its evolving capabilities and services and to improve its visibility and potential impact, thereby attracting new stakeholders and users.	Number of efforts made by the facility to build awareness of its capabilities and services (i.e., courses, workshops, training sessions and summer schools offered by the facility, stakeholder or public events either hosted by the facility or that facility staff have participated in, and media interviews, press conferences, broadcasts, podcasts and press conferences)
Contribution to training	This indicator tracks both the attractiveness of the facility for trainees and its impact on the workforce including the development of the next generation of researchers.	Number of students, postdoctoral fellows and technical and professional personnel who conducted research or technology development onsite, remotely or using data from the facility
Technology development and transfer	This indicator tracks the role of the facility in enabling innovation.	Number of technology transfer activities linked to the use of the facility or data from the facility (i.e., technical/consultancy reports, provisional patents filed, full patents filed and granted, licences granted, and spin-off companies created)

Facilities can report on up to six additional indicators that reflect their mission and strategic goals, and which may not be captured by the standard indicators listed above. Facilities may already have a pre-existing set of indicators they track for their own purposes or for funding partners. Not all need to be reported to the CFI but we invite facilities to provide useful and actionable indicators that are clearly defined, measurable, accurate, repeatable and verifiable.

Before the beginning of the award period, the CFI will collaborate with facilities to determine both sets of indicators. For each indicator, the facility will need to provide a definition applicable to its context, a description of the approach that will be used to collect data, a baseline value which sets the threshold against which the reported status will be assessed, and a target the facility aims to maintain or achieve at

the end of the funding cycle. Baseline values should be measured at year zero or year one. If that data was not collected, facilities should provide a best estimate.

Once the indicators are identified, and agreed upon with CFI staff, facilities should include them in their management plans. The intent is that the set of indicators, including their definitions, baselines, and targets, remain fixed over the funding period to ensure consistency. Should changes be required, facilities should discuss these with the CFI prior to implementing them.

Indicators often carry different meanings for different facilities. In their reports, it is expected that facilities explain how they have interpreted each indicator according to their own context of operation and/or the culture and expectations of their user communities and complement it with an appropriate explanation to ensure correct interpretation.

Facilities must discuss their progress relative to their baselines and targets in their annual progress and performance report. Facilities may also set year-to-year targets and discuss these in their reports. While we generally expect progress between baseline and target, in some cases, maintaining the same value throughout the cycle is the desired outcome, such as in the case of a facility that has already achieved optimal and sustainable operations, for example.

The CFI recognizes that some indicators may fall outside a facility's range of control or influence and therefore setting targets may be difficult. Targets and goals may also not be fully met due to external forces and changing research priorities. The explanations requested alongside the indicators are meant to provide a more comprehensive view of the facility and should address such issues.

External reviews

Facilities will undergo at least one assessment — up to five for facilities in higher risk categories — by an independent panel of experts during the award cycle. The facility will be informed of the timing of these assessments well in advance, as some may involve a site visit and/or meeting with facility and institutional representatives.

The reviews will assess how well a facility has supported, and will continue to support, the achievement of the MSIF's objectives. The reviews will also provide an assessment of:

- The overall impact of funding from the MSIF on the scientific excellence of the research enabled by the facility
- The research outcomes and impacts
- The governance, management and operations of the facility, with an emphasis on the facility's areas for improvement as identified by the committees that reviewed the funding proposal.

In reviewing the facility's progress, the panel will make recommendations to the CFI on ways to improve the facility's operations, management and governance. The CFI contribution for the period following the external review will be contingent upon its satisfactory outcome. Facilities failing to demonstrate satisfactory progress and performance will receive a reduction or potential termination of CFI funding.

Following the external reviews, a report will be prepared to summarize the assessment of the facility and to provide feedback to the facility. This report will be shared with the facility, administrative institution and key funding partners.

The review panels will have representation from the academic and broader national/international research communities, as well as experts in governance and in the management and operation of similar research facilities in Canada and abroad.

The panels will review the 2023 competition proposal, reports of the 2023 Expert and Multidisciplinary Assessment committees, all reports submitted by the facility to the CFI up to that point, including the progress and performance reports, financial reports and budget updates, as well as any additional documentation requested by the CFI. These documents will provide experts with relevant information (quantitative and qualitative) to effectively address the areas of the review and afford a reasonable basis for its conclusions and recommendations.

The review will be conducted in conjunction with other key funding partners, as appropriate.

The dates and frequency of the reviews will be communicated to the facility, institutions, and funding partners well ahead of time, according to the facility's individual oversight plan.

Depending on the CFI's risk assessment of the facility, each external review will take the form of either a written review or a review by an ad-hoc or standing Expert Committee, as described below.

Written review

Facilities in the lowest risk category will undergo an external review at least once during the award period. The review will be conducted by a minimum of two experts who will each provide written comments to the CFI. Should the reviews diverge, a meeting among the selected experts will be convened to reach a consensus.

Expert Committee review

For facilities in medium risk categories, we will recruit an Expert Committee that will meet at least once during the award period. The meeting may include a site visit of the facility and a meeting with representatives from the facility, including its governance body, and the administrative institution. The meeting will occur either in person or virtually.

Standing Expert Committee review

For facilities in the highest risk category, we will recruit experts who will be expected to serve on the committee for the duration of the award. The Standing Expert Committee will meet annually starting in year two of the award period. One of those meetings may include a site visit of the facility as well as meetings with representatives from the facility, including its governance body, and the administrative institution. The question-and-answer sessions will occur either in person or virtually.

Internal documentation produced for or by the facility

To reduce reporting burden and duplication, as well as to promote transparency and accountability, we ask that facilities share relevant internal documents with the CFI such as meeting minutes and materials seen by their governance body and/or committees such as reports of the facility's scientific advisory committee.

The sharing of community planning tools, summary reports or proceedings from major community events, whether organized by the facility or not, will be welcome as these will help us gain better knowledge of the context of the facility.

Depending on the facility's assigned risk category, the CFI may also request to observe meetings of its Board of Directors or equivalent governance body, in agreement with the facility.

The submission of documents and right to observe meetings will be discussed with the facility in establishing its individual oversight plan.

Note that information collected in this manner will not be made public by the CFI without permission from the facility.

Community events

We are planning to hold workshops and/or other community events, either virtually or in person, that will regularly bring together key facility and institutional representatives throughout the funding cycle.

These events will serve to establish a forum for:

- Sharing knowledge and experience in achieving excellence in governance, management and operations and other best practices
- Identifying gaps and challenges
- Providing feedback to the CFI.

They may also provide, for example, an opportunity for more mature facilities, or those with more experience with the MSIF, to help those newer to the program. We may also invite guest speakers with experience in the management and funding of large-scale facilities from Canada and abroad to contribute different perspectives and practices to the group that could be implemented in their own facilities.

These events will also contribute to relationship building across the community of facilities, with the CFI and other funding partners, as well as with other similar facilities in Canada and elsewhere. We will organize these events in consultation with facilities and institutions to identify potential dates, locations (if in person), key topics to be addressed and potential guest speakers.

Agreements

Unless similar agreements are already in place for the length of the six-year funding cycle, the facility and its administrative institution should establish an agreement, such as a memorandum of understanding, clarifying each party's roles and responsibilities in the operation, management and governance of the facility, and in reporting to the CFI. The agreements are not meant to be legally binding.

For distributed facilities, an interinstitutional agreement between the administrative institution, the other institutions and the facility must be in place to specify the roles and responsibilities of each party in the management of the funds. Good communication between the facility and associated institutions is essential.

Appendix A – Facilities funded through the 2023 competition of the Major Science Initiatives Fund

Facilities eligible for CFI funding at 60 percent of total O&M costs

Project title	Project leader	Applicant institution	Collaborating institution(s) (if applicable)
Canadian Light Source Inc.	Gianluigi Botton	University of Saskatchewan	
Canadian Research Icebreaker <i>Amundsen</i>	Marcel M.B. Babin	Université Laval	University of Manitoba
Ocean Networks Canada	Kate Moran	University of Victoria	
Ocean Tracking Network	Sara J. Iverson	Dalhousie University	
SNOLAB	Clarence J. Virtue	Queen's University	University of Alberta, Université de Montréal, Carleton University, Laurentian University
Vaccine and Infectious Disease Organization	Volker Gerdts	University of Saskatchewan	

Facilities eligible for CFI funding at 40 percent of total O&M costs

Project title	Project leader	Applicant institution	Collaborating institution(s) (if applicable)
Advanced Laser Light Source	François Légaré	Université du Québec – Institut national de la recherche scientifique	
Canadian Cancer Trials Group Operations and Statistics Centre at Queen's University	Janet E. Dancey	Queen's University	
Canadian Research Data Centre Network	Natalie Harrower	McMaster University	Carleton University, Dalhousie University, Institute for Circumpolar Health Research, McGill University, Memorial University of Newfoundland, Nipissing University, Queen's University, Simon Fraser University, The University of British Columbia, Western University, UBC Okanagan, University of Alberta, University of Calgary, University of Guelph, University of Lethbridge, University of Manitoba, University of New Brunswick, University of Northern British Columbia, University of Ottawa,

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			University of Prince Edward Island, University of Regina, University of Saskatchewan, University of Toronto, University of Victoria, University of Waterloo, University of Windsor, Université Laval, Université de Moncton, Université de Montréal, Université de Sherbrooke, Université du Québec à Montréal, York University
Centre for Biodiversity Genomics	Paul D.N. Hebert	University of Guelph	
CGEn - Canada's national facility for genome sequencing and analysis	Naveed Aziz	The Hospital for Sick Children	The University of British Columbia, McGill University
Coalition Publica	Tanja Niemann	Université de Montréal	Simon Fraser University, Université Laval, Université du Québec à Montréal
The Global Water Futures Observatories	John Pomeroy	University of Saskatchewan	Trent University, University of Windsor, University of Waterloo, The University of Western Ontario, Wilfrid Laurier University, University of Toronto, McMaster University, Carleton University, CHU Sainte-Justine, McMaster University, Simon Fraser University, Institut Armand-Frappier, McGill University, The Hospital for Sick Children
GlycoNet Integrated Services	Warren W. Wakarchuk	University of Alberta	
SuperDARN Canada: The Canadian Component of the Super Dual Auroral Radar Network, A Global Space Weather Collaboration	Kathryn McWilliams	University of Saskatchewan	
The André E. Lalonde Accelerator Mass Spectrometry Facility for Environmental Radionuclides	Brett Walker	University of Ottawa	Dalhousie University
The Metabolomics Innovation Centre	Liang Li	University of Alberta	Concordia University, McMaster University, The University of British Columbia, University of Victoria, McGill University

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The World's Freshwater Laboratory	Matthew McCandless	International Institute for Sustainable Development Experimental Lakes Area Inc.	
Wind Engineering, Energy and Environment Research Facility (WindEEE)	Girma T. Bitsuamlak	Western University	

Appendix B – Eligibility and assessment criteria for the 2023 competition of the Major Science Initiatives Fund

Facilities that sought funding through the 2023 competition had to first demonstrate that they met eight criteria to be eligible to apply. However, facilities funded in the 2017 competition were automatically eligible to apply to the 2023 competition and did not need to demonstrate their eligibility.

Proposals from facilities deemed eligible to apply to the 2023 competition were reviewed to determine the degree to which they met the six assessment criteria and the competition objectives overall (see [Objectives of the 2023 competition](#)).

For more information regarding the eligibility and assessment criteria, competition objectives and review process, please consult the [call for proposals](#).

Eligibility criteria

Highly specialized capabilities

The facility provides highly specialized equipment, services, resources, or scientific and technical personnel that:

- Are not readily available at most institutions
- Serve both basic and applied research in multiple fields or offer discipline-specific infrastructure with specialized capabilities not offered elsewhere
- Would represent a serious setback for Canada if they were lost.

User community

There is a demonstrated demand for the facility's equipment, services, resources and scientific and technical personnel from a research community that:

- Represents a critical mass of researchers in an area of research strength for Canada and reflects the diversity of the country's research community
- Is typically pan-Canadian and multidisciplinary
- Can be multi-sectoral, including the private sector, and international in scope.

Appropriate governance model

The facility has as an established governance model appropriate to its size and complexity, with a clearly defined national mandate, and a structure and procedures to address:

- Accountability, legal duties and responsibilities
- Financial controls
- Policy formulation and strategic planning, including stakeholder communications
- Oversight of facility performance.

Appropriate management structure and practices

The facility has a management structure and practices appropriate to its size and complexity to address:

- Operation and maintenance of the facility
- Human resources and succession planning
- Risks and risk mitigation
- Monitoring of performance

- Cybersecurity
- Data management.

Established access policy

Any interested user can request access to the facility through a publicly available user access policy. Access to limited resources is only granted following an appropriate selection process.

Additional supporting evidence:

- Access to limited resources is based on an open competition; the scientific excellence of the proposals is evaluated through independent merit review
- A defined fee schedule is publicly available
- Access to facility data is available to any interested researcher at no cost.

Substantial annual O&M costs

The facility has demonstrated annual eligible O&M costs exceeding \$1 million to support human and operational resources beyond what is typically available in Canadian research institutions.

Total O&M costs should include:

- Human resources
- Administrative costs
- Facility costs (electricity, heating, cooling, water, sewer, custodial, security, equipment repairs, as well as maintenance and repairs for the space)
- Supplies and consumables required to keep the facility in a state of research readiness.

Fully operational status

The facility is fully operational.

Ownership

The facility is owned by one or more CFI-eligible institutions.

Assessment criteria

Scientific excellence

The facility is used by researchers of the highest calibre and enables innovative and leading-edge research that leads to social, health, economic, or environmental benefits to Canadians. The research directions proposed in the facility's strategic plan are forward-looking and reflect the state-of-the-art in the supported fields.

International competitiveness

The facility's highly specialized equipment, services, resources, and scientific and technical personnel are internationally competitive and a high priority for the user community. The loss of these capabilities would be a setback to Canada.

Need for CFI funding

The requested funding is necessary to allow the facility to fully exploit its scientific and technical capabilities and to operate at an optimal level to address the needs of the user community.

Operations and user access

The facility is effectively and efficiently operated and has established mechanisms to ensure optimal use by the user community. Access to limited resources is only granted following an appropriate selection process.

Excellence in governance

The facility adopts best practices in governance, including long-term strategic planning, as appropriate to its size and complexity. Its needs are defined over the life of the facility in consultation with the user community.

Excellence in management

The facility adopts best practices in the management of its operations and risk mitigation (including cybersecurity) and of its financial, data and human resources, including equity, diversity and inclusion. The management team has the core competencies required.

Appendix C – Eligible and ineligible costs and eligible partner funding

Eligible and ineligible costs

Categories (as listed in the CFI Awards Management System (CAMS))	Descriptions and examples	
	Eligible costs	Ineligible costs
Administrative, scientific and technical support personnel	<p>Salaries of non-academic managers, professionals, administrative personnel, consultants and trainees (undergraduates, graduates and postdoctoral fellows) directly involved in the governance, management, operation and maintenance of the facility who provide services which benefit the pan-Canadian user community</p> <p>Examples of such costs include:</p> <ul style="list-style-type: none"> Personnel costs related to human resources, financial (including auditing), data management, procurement, legal, contracts management, accounting (even if provided by the host institution to the facility) Salaries of scientific and technical personnel employed by the facility (who are not also faculty members) for eligible O&M activities including technology development for improving facility services or enhancing core platforms (i.e., development of new protocols, integration of new tools, methodologies, optimization) and for Information Technology development and support (e.g., cybersecurity) Portion of the salary of students (e.g., summer or co-op) for eligible O&M activities. For example, skilled trades or technology development for improving facility services or enhancing core platforms Portion of the salary of students (e.g., summer or co-op) for tasks related to the administration of the facility (e.g., accounting) Fees for hiring consultants for strategic planning purposes 	<p>Administrative personnel not directly related to the governance, management, operation and maintenance of the facility (e.g., institutional research office, library and finance services)</p> <p>Examples of such costs include:</p> <ul style="list-style-type: none"> Portion of the salary of trainees (i.e., undergraduate or graduate students, postdoctoral fellows) for conducting research activities not related to the facility's general O&M Salaries for faculty members Scientific internships and exchanges for research activities Costs associated with teaching release Remuneration of Board members
Extended warranties/service contracts	<p>Extended warranties and/or service contracts and extensions to warranty coverage and software upgrades</p>	
Replacement parts and minor upgrades	<ul style="list-style-type: none"> Replacement parts and replacement of an item (including taxes and shipping) needing repair 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. This could also include add-ons, minor tools or components required 	

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	for the improvement of existing technologies at the facility or for technology and service development activities that lead to enhanced facility services for researchers	
Services	<p>Services that directly support the facility</p> <p>Examples of such costs include:</p> <ul style="list-style-type: none"> Electricity, security, cleaning, telephone, internet, license fees for delivery of facility's services, permits etc. 	
Supplies and consumables	Supplies and consumables required to keep the facility in a state of readiness for research, independent of the number of researchers actually using the resource, and not associated with specific research projects	
Communications and outreach activities	<ul style="list-style-type: none"> Strategic planning costs (e.g., hosting meetings to consult stakeholders/planning sessions, etc.) Hosting regional/national networking events for users Communication products for the facility Development of website to book facility resources or for data access 	
Administrative costs (excluding personnel)	<ul style="list-style-type: none"> Insurance directly related to the facility Audit fees Regulatory compliance costs (e.g., certification, compliance audits, etc.) Incorporation cost (e.g., legal/incorporation cost) and strategic planning cost Meetings of the Board of Directors and facility governance committees, such as the finance committee, nominating committee, international advisory committee, user committee, etc., and related travel (including costs of carbon offsets for travel) 	
Training and professional development	<ul style="list-style-type: none"> Training for the main operators of the facility infrastructure Group training sessions for facility personnel and/or users of the facility infrastructure Statutory training, regulatory specified training (e.g., environment, health and safety) and associated certification costs for facility personnel Travel (including costs of carbon offsets for travel) to attend conferences or visit other facilities for training purposes of facility personnel Other professional development activities for facility personnel 	
Contingency reserve	An amount not to exceed 10 percent of a facility's annual eligible expenses can be included in the budget as contingency. This contingency fund will be retained at the CFI, and can only be claimed to cover eligible expenses arising from unforeseen events. Use of these funds will require approval from the CFI.	The contingency reserve may not be used to cover cost overruns in other budget categories. In other words, it should be distinct from regular contingency to accommodate price fluctuations.

<p>Other operating and maintenance costs</p>	<ul style="list-style-type: none"> • Purchase of credits through a carbon offset program² • Ramp down of facility activities toward the final decommissioning of the facility. Examples of such costs include: <ul style="list-style-type: none"> • Facility staff severance packages, legal fees, audit fees, etc. 	<ul style="list-style-type: none"> • Decommissioning costs of the facility infrastructure • Equipment and major construction/renovation costs deemed eligible under an infrastructure award • Buying or leasing of real property • Any cost to conduct research activities • Expenses related to intellectual property • Housing and rental fees (e.g., facility-run lodging for users) • Transportation to and from the facility for users
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Eligible partner funding

Any partner may contribute to a facility’s eligible O&M costs, including the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council of Canada, the Social Sciences and Humanities Research Council, departments and agencies of the federal, provincial, territorial and municipal governments, firms and corporations, institutions and other users (e.g., through user fees), and international sources of funding.

² Institutions are required to follow their usual purchasing and applicable institutional policies and procedures when selecting a carbon offset program. You must document and keep on file the methodology used to determine the total amount of carbon offset costs reported to the CFI and be prepared to provide this information upon request.
