

CANADA FOUNDATION FOR INNOVATION

Corporate plan 2022–23

January 2022

INNOVATION

Canada Foundation
for Innovation

Fondation canadienne
pour l'innovation



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About the Canada Foundation for Innovation

The Canada Foundation for Innovation (CFI) makes financial contributions to Canada's universities, colleges, research hospitals and non-profit research organizations to increase their capability to carry out high-quality research.

The CFI invests in infrastructure that researchers need to think big, innovate and push the boundaries of knowledge. It helps institutions to attract and retain the world's top talent, to train the next generation of researchers and to support world-class research that strengthens the economy and improves the quality of life for all Canadians.

A promising future, now
25 years of investing in ideas that change our world

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This report should be cited as: The Canada Foundation for Innovation, 2022. Corporate plan 2022–23. Ottawa, Ontario.

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1.0 The role of the Canada Foundation for Innovation

The Canada Foundation for Innovation (CFI) is a non-profit corporation created by the Government of Canada through the 1997 Budget Implementation Act. The CFI's mandate is to benefit Canadians by strengthening the capability and capacity of Canadian universities, colleges, research hospitals and non-profit research institutions to carry out world-class research and develop cutting-edge technologies.

For 25 years, the CFI has been investing in the infrastructure that Canada's best researchers require to conduct leading-edge research. The CFI generally funds up to 40 percent of the cost of any given infrastructure project. Institutions, in partnership with provincial and other governments, the private sector and other public and non-profit organizations, secure the remaining 60 percent of the required funding.

By supporting the country's capacity for world-class research, the CFI plays a vital role in producing social, economic, environmental and health benefits for Canadians.

The Government of Canada has charged the CFI to pursue the following objectives:

- Support economic growth and job creation, as well as health and environmental quality through innovation
- Increase Canada's capability to carry out important world-class scientific research and technology development
- Expand research and job opportunities by providing support through research infrastructure for the development of highly qualified personnel
- Promote productive networks and collaboration among Canadian universities, colleges, research hospitals, non-profit research institutions and the private sector.

Through its funding activities, the Government of Canada expects the CFI to enhance the capacity of universities, colleges, research hospitals and non-profit research institutions to:

- Attract and retain the world's top research talent
- Train the next generation of researchers
- Enable researchers to undertake world-class research and technology developments that lead to social, economic and environmental benefits for Canada
- Support private-sector innovation and commercialization.

1.1 Funding and contribution agreements

The CFI currently operates under two funding agreements and four contribution agreements with the Government of Canada, under the authority of [Innovation, Science and Economic Development Canada \(ISED\)](#) and the Minister of Innovation, Science and Industry.

- The first funding agreement specified the conditions under which all funds allocated to the CFI between 1997 and 2009, totalling \$4.39 billion, were to be distributed to eligible recipients. These sums generated an additional \$1.7 billion in interest income that the CFI directed to project funding and operational expenditures.
- In July 2010, the CFI signed a second funding agreement with the Government of Canada for \$600 million, which had been allocated in the 2009 federal budget. We have committed all the funding available under this agreement.
- In March 2014, the CFI signed a contribution agreement with the Government of Canada for \$499.85 million allocated through the Economic Action Plan 2012. We have committed all the funding available under this agreement.

- In September 2015, the CFI signed a contribution agreement with the Government of Canada for \$1.33 billion. We are now completing the funding competitions according to this contribution agreement.
- In January 2019, the CFI signed a contribution agreement that represented a fundamental change in the way the Government of Canada invests in research infrastructure. Following the announcement in the 2018 federal budget, we began transitioning to a permanent funding model that will take effect in 2023–24. Through the 2019 Contribution Agreement and four subsequent amendments signed in 2020–21 and 2021–22, the Government of Canada provided the CFI with \$4.31 billion over 13 years commencing in 2018–19, including permanent funding at an ongoing level of up to \$462 million per year starting in 2023–24. We are currently delivering funding competitions according to this contribution agreement.
- Negotiations are ongoing with the Government of Canada on a new \$495.96 million contribution agreement to deliver the Biosciences Research Infrastructure Fund (BRIF). The first funding competition for this fund was launched in autumn 2021 and the results will be announced in 2022.

See "[Appendix 1: Financial charts](#)" for details on how we are implementing the financial aspects of these agreements.



Our commitment to equity, diversity and inclusion

The CFI is committed to the principles of equity, diversity and inclusion (EDI). In all our activities, we recognize that a breadth of perspectives, skills and experiences contributes to excellence in research.

Equity: We aim to ensure all CFI-eligible institutions have opportunity to access and benefit from our programs and CFI-funded infrastructure through our well established, fair and impartial practices.

Diversity: We value attributes that allow institutions and their researchers — from any background and from anywhere — to succeed. This includes individual attributes such as gender, language, culture and career stage; institutional

attributes such as size, type and location; and attributes that encompass the full spectrum of research, from basic to applied and across all disciplines.

Inclusion: We encourage a culture of collaboration, partnership, contributions and engagement among diverse groups of people, institutions and areas of research to maximize the potential of Canada's research ecosystem.

We believe that nurturing an equitable, diverse and inclusive culture is the responsibility of every member of the research ecosystem, including funders, institutions, researchers, experts and reviewers.

1.2 Strategic directions

The CFI has always sought to support Canada's research community by being attentive to its evolving needs and the expectations of the Government of Canada.

Our 2018–23 [Strategic roadmap](#) outlines four strategic directions that are focused on major trends: convergence, collaboration, international engagement and diversity.

Our four strategic directions reflect the CFI's mandate and its changing role in research infrastructure funding:

- Support the full range of research infrastructures Canada's research institutions require to achieve excellence
- Spark innovation by strengthening linkages and encouraging collaboration among research institutions, the private sector and not-for-profit organizations
- Support global research to find solutions to Canada's and the world's most pressing challenges
- Strengthen Canada's global competitive advantage by meeting the infrastructure needs of researchers throughout their careers.

In 2022–23, the CFI will again engage with a wide range of stakeholders as it works to develop its next strategic roadmap.



The CFI suite of funds

Biosciences Research Infrastructure Fund:

Launched in 2021, this new fund was established to support the bioscience infrastructure needs of postsecondary institutions and research hospitals by providing high-performance tools, innovative research spaces and biocontainment facilities

College Fund (previously College-Industry Innovation Fund):

Provides colleges with research infrastructure to foster partnerships with the public, private or not-for-profit sectors that lead to innovation

Exceptional Opportunities Fund: Provides institutions the opportunity to seek funding for exceptional and time-sensitive initiatives that would otherwise be missed within regular competition cycles

Infrastructure Operating Fund: Provides institutions funding that covers a portion of the operating and maintenance costs of CFI-funded research infrastructure to ensure its optimal use

Innovation Fund: Provides funding for world-class, cutting-edge research infrastructure across all disciplines and areas of research

John R. Evans Leaders Fund: Provides ongoing and consistent support for institutions to secure the infrastructure necessary to attract and retain top research talent

Major Science Initiatives Fund: Provides unique, large-scale national research facilities with the operating and maintenance support necessary to produce excellent research and technology development

2.0 Short- and medium-term outputs and outcomes from 2021–22

2.1 Operating under COVID-19

As the global pandemic continued through 2021–22, CFI staff continued working remotely. Despite the ongoing uncertainty caused by the pandemic and its impact on working arrangements and the CFI's operations, we did not delay any of our major activities or program delivery.

The CFI's critical role in supporting science and research during this exceptional period was recognized by the injection of \$500 million in new funding in Budget 2021 to launch the Biosciences Research Infrastructure Fund (BRIF) as part of [Canada's Biomanufacturing and Life Sciences Strategy](#). In addition, the budget allocated \$250 million over four years, starting in 2022–23, to create the Tri-agency's Canada Biomedical Research Fund (CBRF), which will be administered by SSHRC.

2.2 Investing in research infrastructure

Throughout 2021–22, we ran multiple funding competitions, including the new Biosciences Research Infrastructure Fund, a revised College Fund, the Major Science Initiatives Fund, the Innovation Fund, as well as continuing support through the John R. Evans Leaders Fund and the Infrastructure Operating Fund.

2.2.1 Biosciences Research Infrastructure Fund

The CFI launched the first Biosciences Research Infrastructure Fund (BRIF) competition on September 21, 2021. This competition allows for an investment of up to \$115 million for infrastructure in containment level 3 (CL3) and containment level 4 (CL4) facilities in research hospitals and postsecondary institutions, and associated large animal facilities capable of working with infectious materials.

The objectives of this competition are to:

- Address immediate infrastructure needs in postsecondary institutions and affiliated research hospitals to support pandemic preparedness and respond to emerging health threats, consistent with Canada's Biomanufacturing and Life Sciences Strategy
- Support the development of strong linkages among researchers working in a variety of settings, including government laboratories, and users of research results in all sectors
- Create an environment to attract and train highly qualified personnel to help meet the needs of the biomanufacturing and life sciences sector.

2.2.2 College Fund

Following an independent evaluation of the former College-Industry Innovation Fund, which was completed in 2020, the fund was redesigned and renamed the College Fund. The main changes to the fund include:

- **Revised objectives:** To more broadly address the needs of the college research community, we revised the objectives of the College Fund to embrace the full spectrum of innovation. The College Fund now supports colleges in developing partnerships with the public and not-for-profit sectors, as well as with the private sector, on applied research projects that lead to business, health or social innovation in Canada.
- **New equity, diversity and inclusion considerations:** We updated the criterion relating to the composition of project teams to ensure research teams foster an inclusive environment.

- **Streamlined administration:** Colleges can now submit up to three proposals per competition. In addition, to reduce the burden on both applicants and reviewers for proposals requesting \$250,000 or less, we have reduced the number of factors research teams need to address as part of their proposals.

The CFI launched the draft call for proposals for the new College Fund on December 2, 2021, and institutions were invited to share their feedback. We launched the final call for proposals on January 18, 2022

2.2.3 Exceptional Opportunities Fund

The Board of Directors gave conditional approval in July 2021 for one funding request through the Exceptional Opportunities Fund.

2.2.4 Infrastructure Operating Fund

Institutions received a 30 percent supplement to awards from the John R. Evans Leaders Fund, the Innovation Fund and the College Fund through the Infrastructure Operating Fund (IOF).

2.2.5 Innovation Fund

On October 28, 2021, we released the draft call for proposals on the 2023 Innovation Fund competition, followed by the final call for proposals on November 24, 2021.

Through this competition, we will invest up to \$400 million in capital funding and \$120 million for associated operating costs through the IOF.

The objectives of the 2023 competition are to:

- Enable internationally competitive research or technology development through the equitable participation of expert team members
- Enhance and optimize the capacity of institutions and research communities to conduct the proposed research or technology development program(s) over the useful life of the infrastructure
- Lead to social, health, environmental and/or economic benefits for Canadians.

Changes made for the 2023 Innovation Fund competition include the addition of new EDI competition objectives, the addition of the new “Team composition” assessment criteria and a reference to the National Security Guidelines for Research Partnerships.

Proposals for the competition are due in June 2022 and funding decisions will be made in March 2023.

2.2.6 John R. Evans Leaders Fund

Through the John R. Evans Leaders Fund (JELF), the CFI will award up to \$800,000 for a research project. With matching funding of 60 percent, this allows institutions to propose projects with a capital cost of up to \$2 million. There is \$210 million allocated to the JELF that will be distributed between April 2020 and March 2023.

2.2.7 Major Science Initiatives Fund

On July 14, 2021, the CFI launched the 2023–29 Major Science Initiatives (MSI) Fund competition. With a total budget of \$660 million, the competition will support the operating and maintenance needs of state-of-the-art national research facilities from April 1, 2023, to March 31, 2029.

Through the MSI Fund, the CFI aims to:

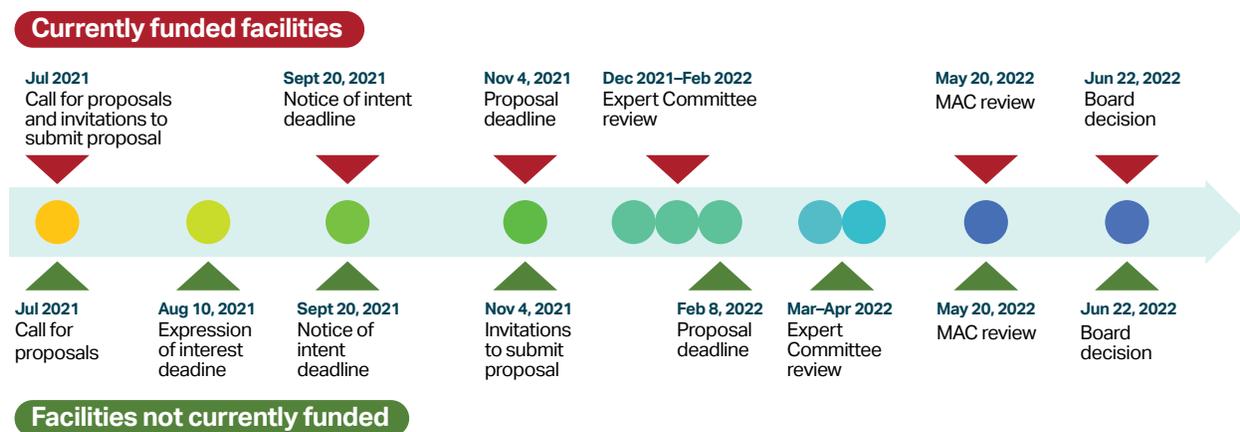
- Secure and strengthen state-of-the-art national research facilities that enable Canadian researchers to undertake world-class research and technology development that leads to social, health, economic or environmental benefits for Canadians
- Enable funded facilities to operate at an optimal level and to have their scientific and technical capabilities fully exploited
- Promote the adoption of best practices in governance and management, including long-term strategic and operational planning in keeping with the scale and complexity of the facility.

We received proposals on November 4, 2021 from the 16 facilities funded in the 2017 MSI Fund competition. Expert Committee reviews will take place between December 2021 and February 2022.

On February 8, 2022, we will receive proposals from facilities not currently funded through the MSI Fund, and which were invited to apply. Expert Committees will review those proposals in March and April 2022.

The Multidisciplinary Assessment Committee will review all the Expert Committee recommendations the week of May 20, 2022. The CFI Board of Directors will make final funding decisions in June 2022 (see Figure 1).

Figure 1: Milestones for the 2023–29 MSI Fund competition



2.3 Managing the financial aspects of the CFI's activities

The finance team is responsible for all of the financial aspects of the organization's activities. These include general accounting functions (i.e., bookkeeping, payments, budgeting and cash-flow management), award finalization processes and payment of awards to institutions.

The finance team is also responsible for ensuring that institutions have appropriate processes and controls in place for the management of CFI funds, and that they spend those funds appropriately.

2.3.1 Investment portfolio

Following standard practice, the senior management team and the Board of Directors' Investment Committee reviewed the CFI's investment strategy and investment policy, and presented the results and recommendations to the Board of Directors in November 2021.

2.3.2 Institutional monitoring visits

The purpose of monitoring visits is to ensure that institutions receiving funding have proper practices and processes in place to manage awards. They also allow the identification of good practices used by institutions. The monitoring visits planned for 2021–22 were postponed to 2022–23 based on our institutional risk assessment and competing priorities.

2.3.3 Contribution audits

The finance team coordinated nine contribution audits of CFI-funded projects during 2021–22. The audits included a mix of low- to high-risk projects, including those where the CFI investment is \$10 million or more.

2.3.4 Financial reports

The finance team reviewed over 1,000 financial reports in 2021–22. These included both interim and final financial reports, as well as annual reports on expenditures claimed under the IOF.

2.4 Communicating the value of CFI funding for Canada

2.4.1 Marking the CFI's 25th anniversary

In 2021–22, the CFI marked its 25th anniversary — a significant milestone for Canada's research community.

The tagline for our anniversary campaign — "A promising future, now: 25 years of investing in ideas that change the world" — reflected how the CFI has helped Canada build tremendous research capacity that has inspired cutting-edge research.

The occasion formed the foundation of our communications activities, in which the CFI focused on communicating to the Canadian public the value and impact of CFI funding and the importance of the Government of Canada's ongoing investments in our national research enterprise. Activities included:

- A refreshed brand that was incorporated into our updated website, [Innovation.ca](https://www.innovation.ca) in September 2021
- Publication of special sections in *The Globe and Mail* and seven French-language dailies in Quebec and New Brunswick in November 2021. Supported by advertising, they were produced at no cost to the CFI
- Videos from researchers in CFI-funded labs across the country who reflect on the impact CFI contributions have had on their work and the potential it has to affect future generations. We promoted these videos across our social media channels.

2.4.2 Survey of young adults

Part of ensuring Canada's ability to prepare for future challenges is engaging the next generation in research. Young adults are navigating a rapidly changing world where climate change, social justice and the economic and societal aftermath of the pandemic will be the defining events of their youth. But with change comes an opportunity for this generation to contribute to a better world through research and discovery.

To help understand how research can help forge the future this generation wants, the CFI collaborated with Acfas and worked with national polling firm Ipsos to shed light on the attitudes 18- to 24-year-old Canadians have toward science and the factors that shape them.

Ipsos surveyed a sample of 1,500 people across the country with questions around the sources of information they access and which sources have the greatest influence on their attitudes toward four science-related issues: COVID-19 vaccine safety, environmental sustainability, climate change and the importance of science, technology, engineering and math (STEM) education for the future.

The results, released in December 2021, suggest that science matters to this cohort, but that young adults are navigating an extremely complex and diverse information ecosystem where they are inevitably exposed to fake news and anti-science information.

This presents increasingly difficult challenges for science communicators and educators: How can they effectively reach those who do not have the tools or the interest to fully understand science-related issues? And, how can they counter misinformation? Policy makers, ministries of education and economic development organizations also have a role to play in taking up this challenge in order to build a more science-literate society.

2.4.3 Research Facilities Navigator

The CFI created the Research Facilities Navigator to help drive innovation in Canada by connecting academia, industry and government with the research expertise, equipment and services they need to succeed. In November 2021, we rebranded the online directory to provide an enhanced visitor experience and to better reflect the state-of-the-art facilities it features.

There were more facilities added to the Research Facilities Navigator and its use increased as we promoted the equipment and expertise available in these labs.

The CFI launched a partnership with Mitacs, introducing a new CFI-Mitacs Business Development and Partnerships Officer who began work on collaborative initiatives between the two organizations. One initiative included maximizing the use of the Navigator by Mitacs Business Development Officers, and connecting the labs listed in the Navigator with Mitacs funding.

The Navigator team also continued to foster connections with similar lab listings in other countries — including the UK, U.S. and Australia — with the goal of sharing information and investigating potential collaborations.

2.4.4 Equity, diversity and inclusion in communications

To make our communications as inclusive as possible, the communications team made a concerted effort to adhere to clear language principles in all of our products, ranging from documentation for funding competitions to website copy to public reports. The CFI's web refresh project also offered an opportunity to improve the accessibility on our website.

2.5 Hosting the International Conference on Research Infrastructures

In 2021, Canada welcomed the International Conference on Research Infrastructures (ICRI). Supported with funding from the European Union, the conference was hosted by the CFI, in partnership with CIHR, NSERC and SSHRC, and with additional support from Laboratories Canada and the National Research Council of Canada. It was the first time the event was organized by a country in North America. Originally planned as a live event in Ottawa in September 2020, due to the pandemic, it was instead held virtually June 1–3, 2021.

The meeting brought together close to 650 attendees, speakers and panelists from 50 countries spanning all continents and representing a broad spectrum of disciplines and sectors of activity. As in previous ICRI meetings, the plenaries and parallel sessions led to wide-ranging conversations about the role of research infrastructures and the major challenges facing the global research enterprise. The final conference report was posted on the ICRI 2021 website in September 2021.

The program committee for ICRI 2021 made a concerted effort to ensure there was gender, geographic and disciplinary diversity for all plenary panels and parallel sessions. Notably, women moderated all of the plenary panels, and 40 percent of plenary speakers were women. For the parallel sessions, the proportion of women presenters and speakers was 30 percent.

As part of the program committee, the CFI will continue to play an active role in the planning of ICRI 2022, which will take place in the Czech Republic in October 2022.

2.6 Analyzing CFI performance, outcomes and impacts

In 2021–22, the Performance, Analytics and Evaluation (PAE) team continued to lead projects that explore the outcomes and impacts of CFI investments in research infrastructure. The 2021 Report on results provided a summary of the outputs and outcomes achieved through CFI-funded infrastructure. It builds on responses from the 1,515 project progress reports we received in 2020–21.

2.6.1 CFI evaluation

In fiscal year 2019–20, ISED's Audit and Evaluation Branch completed an evaluation of the CFI. The CFI undergoes this type of evaluation every five years as a requirement under the Financial Administration Act and the federal Policy on Results. The report, published on the ISED website in May 2021, included a management response and action plan. It also included five recommendations that touched on program design and delivery, operations and maintenance of funded infrastructure, and collaboration and coordination between the CFI and stakeholders:

- Broadening access to the College Fund
- Reviewing the scope/criteria for eligible research infrastructure costs
- Improving program application and review processes
- Improving the efficiency and effectiveness of the Infrastructure Operating Fund
- Examining opportunities to enhance collaboration and coordination with stakeholders.

All five recommendations were addressed and closed in 2021–22.

2.6.2 Improving data collection

We continued to improve the quality of our data collection and performance measurement capability. Among other things, we did this by:

- Revising questions developed to collect self-identification information related to equity, diversity and inclusion. These revised questions now allow for harmonized data collection efforts across several federal funders, including the CFI, allowing for more robust analysis and comparison.
- Revising the data collection process to assess the progress of, and results achieved by, College Fund projects. Previously assessed through onsite visits and interviews, the updated approach now includes the administration of an online questionnaire to all funded projects. The questionnaire will be given to project administrators for a period of four years after funded infrastructure becomes operational.

2.6.3 Performance measurement strategy for new biosciences funds

With the development of the CFI's BRIF and the Tri-agency's CBRF, we helped develop a joint performance measurement model for both funds. The model covers how activities undertaken by the CFI and the Tri-agency will be translated into results that support the achievement of Canada's Biomufacturing and Life Sciences Strategy.

3.0 Successes and remaining challenges from 2021–22

3.1 Equity, diversity and inclusion

In 2021–22, we sought to build on our commitment to the values of equity, diversity and inclusion (EDI) based on the recognition that a breadth of perspectives, skills and experiences is essential to research success in finding answers to some of today's most pressing challenges. This aligns with the Government of Canada's commitment to excellence in research and research training for the social and economic wellbeing of people in Canada.

3.1.1 Supporting the priorities of the Canada Research Coordinating Committee

As a member of the Canada Research Coordinating Committee (CRCC), the CFI will continue to participate in interagency committees and working groups on EDI to support the CRCC priority of achieving a more equitable, diverse and inclusive research enterprise in Canada. We will continue to contribute to achieving the EDI objectives outlined in the performance framework and the CRCC's annual progress report.

3.1.2 Encouraging diversity in competitions, and measuring it

To gain a better picture of the involvement of underrepresented groups in CFI competitions, starting in 2017, we began collecting self-identification data on reviewers and applicants through a questionnaire. This information allowed us to establish a baseline of representation for equity designated groups among those who participate in our review process and those who apply for and receive funding.

In the 2020 Innovation Fund competition, we changed our criteria to allow for co-leadership of a project to encourage more diversity in leadership. Under this co-leadership model, we saw an increase in the proportion of women as team leaders. In the 2020 competition, women represented 27 percent of team leaders in proposals versus 15 percent in the 2017 competition. We have maintained the co-leadership criteria for the 2023 Innovation Fund competition.

In 2021, we presented a summary of the underrepresented groups who were among those who participated in the review process and those who applied for and received funding in the 2020 Innovation Fund and the last four years of JELF competitions.

3.1.3 Equity, Diversity and Inclusion Committee

In 2021, the CFI established an Equity, Diversity and Inclusion Committee to provide advice to management on the realization of our commitment to EDI. In 2022–23, the EDI Committee will develop a corporate action plan to help achieve our commitments to the principles of EDI in our activities.

3.2 Supporting international collaboration

In 2021–22, the CFI developed international activities through bilateral initiatives and participation in international dialogues. Building on the 2019 Letter of Understanding with the UK Science and Technology Facilities Council (STFC), we met on several occasions with United Kingdom Research and Innovation (UKRI) to explore areas for collaboration. As a result, the CFI's Research Facilities Navigator is now featured on the UKRI Infrastructure Portal.

The CFI participated in international sessions organized by the Canada Research Coordinating Committee (CRCC). They involved Antoine Petit, President and CEO of the Conseil national de recherche scientifique (CNRS) (France), Sethuraman Panchanathan, Director, National Science Foundation (NSF) (United States), and Katja Becker, President, Deutsche Forschungsgemeinschaft (DFG) (Germany). The sessions offered us an opportunity to present CFI activities and lay the foundation for future international collaboration. We will continue to work with CRCC to identify other opportunities to reach and engage with organizations outside Canada that support science and research. The CFI also chaired a committee of scholars across the country to elaborate on the framework for international partnerships accepted by the CRCC.

In addition, the CFI's President and CEO sits on the Comité de pilotage scientifique for the Agence nationale de recherche (France).

We continue to participate in activities organized by Global Affairs Canada, including meetings of joint science and technology coordinating committees with the UK and Germany; discussions about possible Canadian participation in the European Union's Horizon 2020 research funding initiative; and future collaborations on science, technology and innovation with the United States and other countries.

The CFI is also engaged in the work of other international forums, including expert committees of the OECD's Global Science Forum (GSF). A CFI representative notably co-chairs the GSF's Expert Group on Very Large Research Infrastructures.

3.3 Ensuring our cybersecurity

Cybersecurity remains a high priority for the CFI. In 2021–22, we implemented several measures contained in a threat-risk assessment and cybersecurity maturity assessment we undertook in the previous fiscal year. Among the measures were:

- Mandatory cyber security courses for all staff
- Regular vulnerability and penetration tests against all systems
- Work with a third-party security firm to help assure policies and practices were aligned with industry best practices and recommendations. This included an extensive review of our internal systems.

In 2022–23, the CFI will continue to apply the utmost scrutiny to the security of its infrastructure, systems and processes. Planned activities include active monitoring, partnerships within federal security groups, continuous improvement, and regular and proactive application of security updates. We also plan to carry out a continuous program of security reviews, audits and assessments of all our IT systems.

3.4 Safeguarding research

On July 12, 2021, the ministers of Science, Innovation and Industry, Health, and Public Safety announced the National Security Guidelines for Research Partnerships. In a joint letter with the presidents of the three granting agencies, the CFI's President and CEO expressed CFI support for the government's approach to safeguarding publicly funded research in Canada. The CFI worked collaboratively with the three granting agencies and others, including the U15 and Universities Canada, on the implementation of the guidelines.

The guidelines outline the research security requirements that researchers and institutions must address in order to qualify for funding from the three granting agencies and the CFI.

3.5 Developing the Northern Research Infrastructure Fund

In 2021–22, CFI staff continued working toward the launch of the Northern Research Infrastructure Fund. As part of this work, we engaged with representatives of Canada's Indigenous Peoples, the three northern postsecondary institutions, territorial governments, along with other stakeholders to determine the most appropriate design for the new fund. The discussions focused on how the Northern Research Infrastructure Fund can best meet the needs of northern institutions as they develop their research capabilities.

4.0 Planned activities and implementation scheduled for 2022–23

4.1 Developing a vision for the future

In 2022–23, the CFI will begin work on its third strategic roadmap. Developed in consultation with our principal stakeholders, this roadmap will lay out the directions the CFI will adopt to meet the current and future needs of Canada’s research community and institutions. It will also serve to spark new, innovative explorations of emerging fields of research and enhanced collaboration among researchers across the country and globally.

During 2022–23, the CFI will also examine its suite of programs to ensure that collectively they are allowing the organization to meet its legislated mandate. This examination will be done in the context of:

- The transition to the permanent funding model that will take effect in 2023–24
- The impact of the CFI’s funding on the research community’s ability to conduct excellent, world-class research
- New and emerging areas of research
- The evolving nature of Canada’s research institutions.

4.2 Investing in research infrastructure

4.2.1 Biosciences Research Infrastructure Fund

A second competition of the BRIF is planned for 2022–23. The CFI is working with the Tri-agency Institutional Programs Secretariat (TIPS) to deliver the CBRF and the remaining \$350 million allocated to BRIF through an integrated competition. This will maximize the impact of Canada’s Biomanufacturing and Life Sciences Strategy and ensure investments under the two programs complement and reinforce each other. The integrated competition will focus on bio-innovation ecosystem priorities and themes and will invite proposals for applied research, training and infrastructure.

The CBRF supports high-risk, applied research, training and talent development as part of a suite of investments to support a resilient, robust domestic biomanufacturing sector in Canada. This fund contributes to the pipeline of new technologies and supports the translation of academic research into applications and commercial products.

The CBRF and BRIF are based on an ecosystem approach, designed to build on existing assets, infrastructure, partnerships and the strengths of institutions, and to support targeted investments for maximum impact. The integrated program delivery features a two-stage competitive process:

- Selection of three to five research hubs (co-led by the CFI and TIPS, and administered by TIPS)
- National call for proposed partnered research and infrastructure projects associated with the selected research hubs (co-led by the CFI and TIPS).

Research hubs integrate research organizations, including institutional, not-for-profit, and private and/or public organizations. One eligible institution serves as the anchor for the hub.

Building on existing capacity and a track record of investing in people, research and infrastructure, each hub pursues its research program of high-risk, applied biomedical research, training and talent development, and associated infrastructure to support the end-to-end biomanufacturing pipeline, in alignment with Canada’s Biomanufacturing and Life Sciences Strategy. For instance, a hub’s research program could include addressing gaps in funding for the precompetitive development of promising technologies and promoting their transfer to Canadian companies.

The call for proposals for the CBRF will launch in early 2022 with the selection of research hubs in summer of 2022. The selected hubs will then be invited to submit proposals for applied research, training and infrastructure projects later in 2022.

4.2.2 College Fund

Proposals for the next College Fund competition are expected in May 2022. The Board of Directors will make final funding decisions in November 2022.

4.2.3 2023 Innovation Fund

Proposals for the 2023 Innovation Fund competition are due in June 2022. Expert Committee meetings will take place from July to November 2022. Multidisciplinary Assessment Committees will meet in January 2023, and the Special Multidisciplinary Assessment Committee will convene in February 2023. The Board of Directors will make final funding decisions in March 2023.

4.2.4 John R. Evans Leaders Fund

We anticipate that up to \$125 million, plus associated IOF funding, will be awarded through JELF in 2022–23.

4.2.5 Major Science Initiatives Fund

Following final decisions made by the Board of Directors in June 2022, institutions and provincial and other funding partners will be informed of the results of the 2023–29 MSI Fund competition.

We will initiate the finalization process in July 2022, nine months in advance of the new funding cycle. This process involves reviewing award conditions and budgets, discussing timelines with facilities for finalizing and meeting those conditions, identifying potential short-term risks and challenges, and establishing our expectations.

4.3 Managing the financial aspects of the CFI's activities

In 2022–23, the finance team will continue its regular activities, including general accounting functions, award finalization processes and payment of awards to institutions.

The finance team will also continue to ensure that institutions have appropriate processes and controls in place for managing CFI funds, and that they spend those funds appropriately.

4.3.1 The CFI investment portfolio

Following standard practice, the CFI's senior management and its Board of Directors' Investment Committee will review the organization's investment strategy and investment policy in fall 2022. Management will then present the results of this review and any subsequent recommendations to the Board of Directors.

4.3.2 Institutional monitoring visits

Over the course of fiscal year 2022–23, and depending on travel restrictions, the finance team is planning to perform three to five monitoring visits. The purpose of these monitoring visits is to ensure that institutions receiving funding have proper practices and processes in place to manage awards and to share good practices.

4.3.3 Contribution audits

The finance team is planning to conduct five to eight contribution audits of CFI-funded projects during 2022–23. As usual, these audits will include a mix of low- to high-risk projects, including those where the CFI investment is \$10 million or more.

4.3.4 Financial reports

The finance team expects to review more than 1,100 financial reports in 2022–23. These include both interim and final financial reports, and annual reports on expenditures claimed under the IOF.

4.4 Communicating the value of CFI's funding for Canada

In 2022–23, the CFI will communicate the value of Government of Canada investments in science and innovation by promoting the results of the first research infrastructure competitions stemming from Budget 2021. As we emerge from a global pandemic, we will also reflect on how Canadian research can respond to other pressing global challenges, such as climate change, which are top priorities for both citizens and governments around the world.

Given the significant investments made through the CFI by the Government of Canada, and those made by funding partners, for infrastructure at universities, colleges, research hospitals and non-profit research organizations across Canada, we will continue to demonstrate the CFI's value and the outcomes of our investments in our activities, and will continue to promote EDI in all our communications.

4.4.1 Promotion of investments in climate change

We will strive to highlight the work that researchers and students in CFI-funded facilities are doing to respond to climate change, mitigate its impact and innovate for the future in order to safeguard the health, wellbeing and economy of Canada.

4.4.2 Support for Canada's Biomanufacturing Strategy

As we roll out the BRIF competitions related to the Government of Canada's Biomanufacturing and Life Sciences Strategy, we will promote the value of research in creating a robust, competitive and innovative domestic biomanufacturing and life sciences sector. We will also support the work of the other contributing organizations to the strategy.

4.4.3 Continued youth engagement

Building on the results of the survey we conducted in 2021–22 and other activities we initiated as part of our 25th anniversary, we will continue to explore new ways to engage with the next generation of researchers and innovators.

4.4.4 Raising the profile for the Research Facilities Navigator

We will continue to support the continuous improvement and promotion of the Navigator, with the goal of fostering productive partnerships between researchers and innovators in all sectors.

We will also maintain our partnership with Mitacs to provide new opportunities for researchers to collaborate with innovators in all sectors. We will continue to seek opportunities to raise the Navigator's

profile nationally by partnering with organizations that deliver services and resources that support innovators in Canada, and continue conversations with countries with similar research facility databases to raise our profile internationally.

4.5 Analyzing CFI performance, outcomes and impacts

4.5.1 Review of performance, analytics and evaluation activities

In 2022–23, we will review and redefine the mandate and deliverables of the CFI's Performance, Analytics and Evaluation (PAE) team, with a view toward supporting management in strategic decision making, program improvement, and exploring and outlining results. The team will do this through robust performance measurement, high-quality data analysis, and support in the delivery of internal reviews, assessments, evaluations and commissioned special studies.

4.5.2 Organizational performance measurement

The CFI will measure its performance against its performance measurement model, and will continue to help to establish the new performance measurement model for the CBRF-BRIF. We will work with Tri-agency partners to ensure that appropriate data collection and analysis mechanisms are in place to monitor the implementation of the funds, and to contemplate the measurement of results they achieve.

4.5.3 Thematic studies

We will examine our contributions and their impact on themes such as support to world-class researchers, innovation, and addressing environmental sustainability and climate change.

4.5.4 Stakeholder survey

We will undertake in 2022 our fourth survey of CFI stakeholders (administrators and researchers at eligible institutions, federal and provincial governments, and other funders and partners in the Canadian science and technology ecosystem). The main objectives of the survey are to capture stakeholder views regarding the CFI's progress in fulfilling its legislated mandate and the effectiveness and efficiency of activities and funds.

4.5.5 Development of new methods and review of best practices

The CFI will conduct a review of best practices in measuring the socioeconomic impact of research infrastructure and other publicly funded infrastructure with a view to identify evolving approaches to assess impact. Improved assessment will support management decision-making around program design and delivery, and will help to assess and communicate the overall impact of CFI funding. It can also help inform future opportunities, needs and subsequent decisions around funding for science and research infrastructure.

Appendix 1: Financial charts

Table 1: Investment plan (commitments) for contributions under each agreement

First funding agreement (\$4,390M)*							
	Cumulative March 31, 2021 (\$M)	2021–22 (\$M)	2022–23 (\$M)	2023–24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Commitments** (Actual)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	
Automotive Partnerships Canada	9						9
Canada Research Chairs	194						194
Career Awards	6						6
College Research Development Fund	16						16
Cyberinfrastructure Initiative	70						70
Digging into Data/Discovery Frontiers	1						1
Exceptional Opportunities Fund and other	23						23
Exceptional Opportunities Fund – COVID-19 (universities)	27						27
Exceptional Opportunities Fund – COVID-19 (colleges, polytechnics and Cégeps)	1						1
Exceptional Opportunities Fund 2021		15					15
Infrastructure Operating Fund	1,038		1	1	3		1,043
Innovation Fund (1998–2005)	1,758						1,758
Innovation Fund 2015	54						54
Innovation Fund 2017	2						2
International funds	202						202
John R. Evans Leaders Fund (and Leaders Opportunity/ New Opportunity funds)	887						887
Leading Edge/ New Initiatives funds	831						831
Major Science Initiatives Fund 2014 special competition	24						24
National Platforms Fund	84						84
Northern Research Infrastructure Fund			4	4	12		20
Research Development Fund	35						35
Research Hospital Fund	488						488
Thirty Meter Telescope	25						25
Operating expenditures	260	1	2				263
Contingency for wind-down expenses						10	10
To be determined/unallocated						3	3
Total	6,035	16	7	5	15	13	6,091

2010 Funding Agreement (\$600M)*

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Commitments** (Actual)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	
College-Industry Innovation Fund	25						25
Infrastructure Operating Fund	97						97
John R. Evans Leaders Fund	139						139
Leading Edge/ New Initiatives funds	158						158
Major Science Initiatives Fund	183						183
To be determined/unallocated						1	1
Total	602	0	0	0	0	1	603

2014 Contribution Agreement (\$499.85M)*

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Commitments** (Actual)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	
College-Industry Innovation Fund	39						39
Infrastructure Operating Fund	116						116
Innovation Fund 2015	206						206
John R. Evans Leaders Fund	138						138
To be determined/unallocated						2	2
Total	499	0	0	0	0	2	501

2015 Contribution Agreement (\$1,330M)*

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Commitments** (Actual)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	
College-Industry Innovation Fund	27	11	7				45
Infrastructure Operating Fund	205	3	3				211
Innovation Fund 2017	426						426
John R. Evans Leaders Fund	248						248
Major Science Initiatives Fund	400						400
To be determined/unallocated						2	2
Total	1,306	14	10	0	0	2	1,332

2019 Contribution Agreement (\$4,314.3M)*

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Commitments** (Actual)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	
College Fund			8	15	75		98
Infrastructure Operating Fund	128	22	160	30	390		730
Innovation Fund 2020	400						400
Innovation Fund 2023			400				400
Innovation Fund 2025					400		400
Innovation Fund 2027					400		400
John R. Evans Leaders Fund	31	74	105	85	425		720
Major Science Initiatives Fund – top-up	158						158
Major Science Initiatives Fund (2017-23)	50	5					55
Major Science Initiatives Fund (2023-29)			660				660
Exceptional Opportunities Fund (contingency)			25				25
Funds set aside for Digital Research Infrastructure and John R. Evans Leaders Fund			18		32		50
Operating expenditures		12	14	16	123		165
To be determined/unallocated					54		54
Total	767	113	1,390	146	1,899	0	4,315

2022 Contribution Agreement (\$495.96M)**

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Commitments** (Actual)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	Commitments (Projected)	
Biosciences Research Infrastructure Fund competition 1			115				115
Biosciences Research Infrastructure Fund competition 2			260				260
Infrastructure Operating Fund			113				113
Operating expenditures		1	2	2	3		8
Total	0	1	490	2	3	0	496

* Interest income generated from funding provided through each of the contribution and funding agreements and directed to project funding is as follows: \$1.7 billion from the first funding agreement; \$3.1 million from the 2010 Funding Agreement; \$1.4 million from the 2014 Contribution Agreement; \$1.6 million from the 2015 Contribution Agreement; and \$0.6 million from the 2019 Contribution Agreement. There are no revenues anticipated in future years from sources other than interest income.

** Actual committed amounts are net of amounts that will be unused by eligible recipients, as confirmed through final financial reports for infrastructure projects submitted as of September 30, 2021.

*** As at January 28, 2022, the 2022 Contribution Agreement had not yet been signed. This agreement relates to the Biosciences Research Infrastructure Fund and we expect it to be signed in the coming weeks.

Table 2: Planned expenditures (disbursements) detailed by fund

First funding agreement (\$4,390M)							
	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Expenditures (Actual)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	
Automotive Partnerships Canada Fund	9						9
Canada Research Chairs	194						194
Career Awards	6						6
College Research Development Fund	16						16
Cyberinfrastructure Initiative	65	3	2				70
Digging into Data/ Discovery Frontiers	1						1
Exceptional Opportunities Fund and other	23						23
Exceptional Opportunities Fund – COVID-19 (universities)	24	3					27
Exceptional Opportunities Fund – COVID-19 (colleges, polytechnics and Cégeps)	1						1
Exceptional Opportunities Fund 2021		1	3	4	7		15
Infrastructure Operating Fund	1,011	9	18		5		1,043
Innovation Fund (1998–2005)	1,758						1,758
Innovation Fund 2015	49	3	2				54
Innovation Fund 2017	2						2
International funds	202						202
John R. Evans Leaders Fund (and Leaders Opportunity/ New Opportunity funds)	876	9	2				887
Leading Edge/ New Initiatives funds	829	1	1				831
Major Science Initiatives Fund 2014 special competition	24						24
National Platforms Fund	84						84
Northern Research Infrastructure Fund				4	16		20
Research Development Fund	35						35
Research Hospital Fund	488						488
Thirty Meter Telescope	25						25
Operating expenditures	260	1	2				263
Contingency for wind-down expenses						10	10
To be determined/unallocated						3	3
Total	5,982	30	30	8	28	13	6,091

2010 Funding Agreement (\$600M)

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Expenditures (Actual)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	
College-Industry Innovation Fund	25						25
Infrastructure Operating Fund	97						97
John R. Evans Leaders Fund	139						139
Leading Edge/ New Initiatives funds	157	1					158
Major Science Initiatives Fund	181	2					183
To be determined/unallocated						1	1
Total	599	3	0	0	0	1	603

2014 Contribution Agreement (\$499.85M)

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Expenditures (Actual)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	
College-Industry Innovation Fund	35	2	2				39
Infrastructure Operating Fund	85	23	8				116
Innovation Fund 2015	196	3	7				206
John R. Evans Leaders Fund	137		1				138
To be determined/unallocated						2	2
Total	453	28	18	0	0	2	501

2015 Contribution Agreement (\$1,330M)

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Expenditures (Actual)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	
College-Industry Innovation Fund	8	11	16	7	3		45
Infrastructure Operating Fund	35	26	43	80	27		211
Innovation Fund 2017	292	45	20	26	43		426
John R. Evans Leaders Fund	206	22	11	2	7		248
Major Science Initiatives Fund	312	83	5				400
To be determined/unallocated						2	2
Total	853	187	95	115	80	2	1,332

2019 Contribution Agreement (\$4,314.3M)

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Expenditures (Actual)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	
College Fund			1	8	89		98
Infrastructure Operating Fund					730		730
Innovation Fund 2020		95	116	89	100		400
Innovation Fund 2023				40	360		400
Innovation Fund 2025					400		400
Innovation Fund 2027					400		400
John R. Evans Leaders Fund	1	29	94	91	505		720
Major Science Initiatives Fund – top-up	69	31	58				158
Major Science Initiatives Fund (2017-23)			55				55
Major Science Initiatives Fund (2023-29)				110	550		660
Exceptional Opportunities Fund (contingency)				25			25
Funds set aside for Digital Research Infrastructure and John R. Evans Leaders Fund			2	13	35		50
Operating expenditures		13	14	16	122		165
To be determined/allocated					54		54
Total	70	168	340	392	3,345	0	4,315

2022 Contribution Agreement (\$495.96M)*

	Cumulative March 31, 2021 (\$M)	2021-22 (\$M)	2022-23 (\$M)	2023-24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Fund	Expenditures (Actual)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	Expenditures (Projected)	
Biosciences Research Infrastructure Fund competition 1			20	38	57		115
Biosciences Research Infrastructure Fund competition 2				91	169		260
Infrastructure Operating Fund					113		113
Operating expenditures		1	2	2	3		8
Total	0	1	22	131	342	0	496

* January 28, 2022, the 2022 Contribution Agreement had not yet been signed. This agreement relates to the Biosciences Research Infrastructure Fund and we expect it to be signed in the coming weeks.

Table 3: Annual cash flow requirements

Cash flow requirements*							
	Cumulative March 31, 2021 (\$M)	2021–22 (\$M)	2022–23 (\$M)	2023–24 (\$M)	2024 and later (\$M)	To be determined (\$M)	Total (\$M)
Disbursements	Actual	Projected	Projected	Projected	Projected	Projected	
2010 Funding Agreement	599	3	0	0	0	1	603
2014 Contribution Agreement	453	28	18	0	0	2	501
2015 Contribution Agreement	853	187	95	115	80	2	1,332
2019 Contribution Agreement	70	168	340	392	3,345	0	4,315
2022 Contribution Agreement**	0	1	22	131	342	0	496
Total disbursements	1,975	387	475	638	3,767	5	7,247
Received from the Government	2,048	338					2,386
Generated interest income	7						7
Expected Government payments as per cash flow requirements***			444	638	3,772		4,854
Total funding available****	2,055	338	444	638	3,772	0	7,247
Difference for the period	80	-49	-31	0	5	-5	0
Cumulative difference	80	31	0	0	5	0	0

* All funds for the first funding agreement and the 2010 Funding Agreement were received from the Government of Canada. Therefore, there are no future cash flow requirements for these agreements.

** As at January 28, 2022, the 2022 Contribution Agreement had not yet been signed. This agreement relates to the Biosciences Research Infrastructure Fund and we expect it to be signed in the coming weeks.

*** This reflects the cash flow requirements.

**** Of the amount of \$444 million for 2022–23, \$222 million is needed in early April 2022 to cover expenses of April 2022 to September 2022. The balance of \$222 million can be paid during summer 2022. Of the amount of \$638 million for 2023–24, \$319 million is needed in early April 2023 to cover expenses of April 2023 to September 2023. The balance of \$319 million can be paid during summer 2023.

There are currently no amounts owing from the CFI to the Government of Canada.

Appendix 2: Key risks and mitigation measures

In 2021, we engaged KPMG LLP to assist with the update of key risks facing the organization. As a result of this exercise, we identified eight primary risks and related mitigation measures. These are summarized in this appendix. Information on secondary risks is available upon request.

Strategic risks

Alignment with stakeholder expectations: Risk that the CFI is not agile enough to align its activities with the evolving needs and expectations of its stakeholders on issues such as biomanufacturing, post-pandemic needs, equity, diversity and inclusion, etc.

Mitigation measures:

- Regular, ongoing discussions are undertaken with Government of Canada (Innovation, Science and Economic Development (ISED) Canada) officials on the requirements for research infrastructure, the leveraging of benefits and impacts of CFI investments.
- The CFI regularly leads and participates in outreach and communications activities specifically with parliamentarians and provides them with evidence on the ways that infrastructure assists in attracting and retaining top research talent, enables world-class research and supports innovation.
- Material is issued to demonstrate how infrastructure funding has been and continues to be responsive to government priorities and research community requirements.
- Success stories and results of performance and evaluation assessments are disseminated to demonstrate the outcomes and impacts of investments.
- Responsibilities for conducting engagement activities have been defined within the management team.
- Funders are given opportunities to provide input on activities, processes and funding mechanisms.
- Funding mechanisms are periodically assessed for how they are addressing stakeholder needs and, when necessary, appropriate adjustments to the program architecture and fund delivery mechanisms are made.

Institutional/operational risks

Financial viability of institutions: Risk that institutions cannot sustain current and/or future CFI-funded infrastructure projects due to financial challenges, including cost escalations and COVID-19-related expenses

Mitigation measures:

- Institutional capacity is assessed by both the CFI and matching funders at the application phase.
- Payments are made to institutions based on forecasted project disbursements, and payments are re-profiled when there are significant spending delays.
- Spending is monitored for every project through review of financial reports.
- Risk-based monitoring of projects is conducted in accordance with the Tool for Risk Assessment and Management (TRAAM).

- Monitoring visits are conducted at institutions identified through a risk-based approach.
- Funding competitions are provided at recurring intervals through the Innovation Fund, which gives institutions the opportunity to choose optimal timing to submit proposals.

Matching funding: Risk that provincial funding is not secured or sustained in a timely manner due to changes in provincial government mandates, priorities and/or funding challenges

Mitigation measures:

- Provincial partners have opportunities to provide input on activities, processes and funding mechanisms.
- The priorities of provincial partners are taken into consideration in the application review process.
- The CFI communicates the value of the 40 percent funding it provides.
- The CFI communicates with the provinces on funding parameters and competition schedules to assist them in their planning.
- CFI funding is provided only when partner funding has been secured. There is flexibility on timelines when needed.

Operational risks

Reviewer engagement: Risk of expert reviewer fatigue, impacting the quality of the merit-review process

Mitigation measures:

- Reviewer recruitment activities will be intensified to increase the pool of potential reviewers.
- Documents for competitions are reviewed for clarity and conciseness to help reduce the burden on applicants and reviewers.
- Committee meetings are held via tele- and videoconference, which lessens the burden of travel for reviewers.

Information technology/information management risks

Security: Risk of security breach and loss of, or inappropriate access to, personal or confidential data (e.g., researcher data, banking, human resources or travel information)

Mitigation measures:

- Two extensive cybersecurity exercises were conducted in 2020–21 (Cybersecurity Threat Risk Analysis and Cybersecurity Maturity Assessment internal audit).
- Two security reviews were conducted on the CFI Awards Management System (CAMS).
- Quarterly vulnerability scans are done (internal IT and CAMS).
- The CFI is working with the Canadian Centre for Cyber Security to monitor the threat landscape and keep abreast of security best practices.
- Multi-layered filtering and protection is in place to screen email communications received.

- The CFI formally enrolled in a cybersecurity awareness program for staff, which includes regular simulated phishing tests. Staff are required to complete mandatory, ongoing training sessions on cybersecurity and IT risks to raise awareness.
- Multifactor authentication was implemented for staff to access CFI accounts.
- Increased monitoring and alerting was put in place, including a security event monitoring tool.
- Microsoft Data Loss Prevention policies are in place on the Office 365 environment to alert IT staff of bulk sharing of sensitive information (personally identifiable information and financial data).
- Several conditional access policies protect the CFI's Office 365 environment. Higher risk logins or users are required to further confirm their identity. Logins are allowed only from trusted locations.

Human resource risks

Wellbeing of employees: Risk that new ways of working (remote working, home spaces for work, coping with the pandemic, competing family demands) may have adverse effects on employee health, wellbeing, motivation, innovation and availability, impacting operations and/or productivity

Mitigation measures:

- Two employee surveys were conducted to assess the wellbeing of employees and identify concerns of staff. This allowed management to gain insight into employees' needs and interests and to gauge how the organization could approach a gradual return to the office during or after the pandemic.
- The CFI follows public health recommendations and will therefore keep offices closed until advised that it is safe to reopen.
- Employees were provided a special allowance to set up an appropriate workspace in their homes.
- Employees have flexible hours when needed because of family obligations.
- The CFI provided employees with four additional days off during the year to recognize exceptional efforts and extra hours worked since the start of the pandemic. CFI offices were closed between Christmas and the New Year.
- Employees were provided the option to carry over five more unused vacation days.
- Employees have unlimited access to an employee assistance program 24 hours a day, seven days a week.
- An operations committee (directors, vice-presidents and president) meets every week to discuss issues related to the pandemic and possible implications for the CFI and its employees.
- Several business units have periodic virtual get-togethers to allow employees to interact socially and keep in touch with their colleagues.
- Weekly newsletter updates ensures continuous communication and sharing of information with all staff.
- Management and human resources have participated in several webinars and are keeping informed of best practices to promote employee wellbeing throughout the pandemic.
- Supervisors regularly check with staff to ensure they are aware of concerns and can adjust accordingly.

Attraction and retention of talent: Risk that the CFI's culture and internal processes are not sufficiently flexible and adaptable to attract and retain talented employees in a highly competitive job market

Mitigation measures:

- The CFI monitors the employment landscape and good practices adopted by other organizations (news articles, webinars and updates from human resources consultants).
- The CFI offers competitive salaries and benefits (pension plan, wellness fund, vacation days, medical and dental insurance).
- Work-life balance is promoted, including the ability to work flexible hours.
- Current human resources policies will be reviewed and updated, and new ones will be put in place (e.g., remote work policy).

Leadership continuity: Risk of losing corporate memory or disrupting activities and operations due to unanticipated turnover in key positions

Mitigation measures:

- Several key positions have built-in redundancy (i.e., task sharing).
- All positions are documented with a profile.
- An extensive network of individuals with deep knowledge of the organization is available to address temporary gaps (former employees, Board of Directors and institutional contacts).
- A succession planning exercise will be conducted in 2022–23.

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