



Ingenium

Canada's Museums of Science and Innovation
Musées des sciences et de l'innovation du Canada

Summary of the **CORPORATE PLAN** 2020–2021 to 2024–2025

Summary of the Operating and Capital Budgets 2020–2021

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EXECUTIVE SUMMARY

Ingenium – Canada’s Museums of Science and Innovation (Ingenium or the Corporation) safeguards the national science and technology collection and operates the Canada Science and Technology Museum (CSTM) the Canada Aviation and Space Museum (CASM) and the Canada Agriculture and Food Museum (CAFM).

Ingenium’s outreach initiatives expand its ability to reach, connect, and engage across Canada, and abroad, including through travelling exhibitions; artifact loans; programming at public events; conference presentations and research publications; digital experiences: virtual exhibitions and tours, games and mobile apps; online platforms; and national awareness programs.

Over 2020-2021, Ingenium will pursue the first year of its new strategic plan 2020-2025, with a focus on carrying out the activities listed under the three strategic goals (SGs) below:

SG 1 – Collaborate to Innovate: Ingenium will help Canadians build the confidence and skills they need to become innovators. We will pursue this strategic goal by developing and maintaining sustainable partnerships in the STEAM (science, technology, engineering, arts and mathematics) ecosystem, by engaging audiences on key issues of our time, and by enhancing our offerings with the dimensions of innovation culture (e.g. creative problem-solving, risk-taking, learning from failure).

SG 2 – Access for All: Ingenium will make our experiences more accessible and meaningful for more audiences, especially those who have traditionally faced barriers. We will pursue this strategic goal by improving the accessibility of our experiences and access to our collection, championing accessibility best practices, developing creative and exploratory digital experiences, and engaging diverse communities – including Indigenous communities – in collaboration and co-creation.

SG 3 – Strengthen our Foundations: Ingenium will focus on delivering quality visitor experiences and ensuring its long-term sustainability. We will pursue this strategic goal by strengthening our workplace culture, unlocking the Ingenium Centre’s potential, improving the care and research of the national collection, attracting and retaining visitors, pursuing capital investments, increasing the profitability of commercial operations, and growing long-term funding relationships.

To facilitate the delivery of these new strategic goals and to continue its ongoing business of operating museums, curating and caring for the national collection, the majority of the Corporation’s spending will be on salaries and facilities. Its operating budget for 2020-2021 is \$38.94 million (cash basis), funded from appropriations, revenues, sponsorships and contributions. Its capital budget of \$7.05 million for 2020-2021 will support health and safety-related projects as well as lifecycle repairs and replacements for capital assets. The Corporation’s cash equity will be fully used over 2020-2021 to cover payments in lieu of taxes associated with the new Ingenium Centre that became payable in mid-2019-2020; and higher costs for operating the Ingenium Centre than expected.

As the corporate plan was developed prior to the COVID-19 outbreak, an overview of pandemic impacts on Ingenium’s business lines and activities over 2020-2021 is provided in the Appendix.

1.0 CORPORATE OVERVIEW

Ingenium – Canada’s Museums of Science and Innovation¹ (“Ingenium” or “the Corporation”) was established as a Crown corporation with the passage of the *Museums Act*, 1990. In addition to its enabling legislation, Part X of the *Financial Administration Act* sets out its authority and accountability framework as an agent Crown corporation.

As a consolidated Crown corporation, Ingenium relies on parliamentary-voted appropriations as its primary source of revenue. The remainder of its operational budget is provided by operational revenues and contributed income. The Ingenium Foundation, a registered charity, provides philanthropic support to the Corporation. Detailed information is included in Section 4.0 Financial Discussion.

The *Museums Act* sets out the public policy role for all national museums, as well as the Corporation’s mandate. As a cultural Crown corporation, the Corporation operates at arm’s length from government with regard to operating and programming decisions.

PUBLIC POLICY ROLE	<p>“plays an essential role, individually and together with other Museums and like institutions, in preserving and promoting the heritage of Canada and all its peoples throughout Canada and abroad, and in contributing to the collective memory and sense of identity of all Canadians;” and</p> <p>“is a source of inspiration, research, learning and entertainment that belongs to all Canadians and provides, in both official languages, a service that is essential to Canadian culture and available to all.”</p>
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MANDATE	<p>“To foster scientific and technological literacy throughout Canada by establishing, maintaining, and developing a collection of scientific and technological objects, with special but not exclusive reference to Canada, and by demonstrating the products and processes of science and technology and their economic, social and cultural relationships with society.”</p>
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VISION	Ingenium ignites ingenuity
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MISSION	Ingenium is a catalyst for unlocking the curious and creative minds of a nation of innovators.
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VALUES	Creativity	Inclusivity	Collaboration	Accountability
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The Corporation’s programs are intended to benefit all Canadians, with our primary users being families with young children, students, educators, and researchers. It is one of four national museum corporations operating in the National Capital Region (the others being the Canadian Museum of History, the Canadian

¹ The Corporation’s legal name is the National Museum of Science and Technology. Ingenium – Canada’s Museums of Science and Innovation, used publicly in communications, other than when the legal name is required. “Ingenium” or “the Corporation” refers to the governing body of the museums.

Museum of Nature and the National Gallery of Canada). Other federal bodies also deliver science programs.

1.1 Main Activities and Principal Programs

The Corporation grows and preserves a national collection of science and technology artifacts and archival materials. It governs and operates three national museums in the execution of its mandate: the Canada Science and Technology Museum (CSTM), the Canada Aviation and Space Museum (CASM), and the Canada Agriculture and Food Museum (CAFM). The museums and collection are housed in 18 buildings in three sites in Ottawa. All three museum sites have space for exhibitions, programs, facility rentals and offices.

1.1.1 The Museums

The Canada Science and Technology Museum is Canada's only comprehensive science and technology museum. It reopened in 2017 to a surge of popularity and very positive reviews. Visitors can engage with 11 permanent exhibitions featuring over 3,000 artifacts, interactives, augmented reality experiences, a maker studio, demo stage, educational and public programs, a temporary exhibit hall, and mobile apps.

The Canada Agriculture and Food Museum inspires visitors to engage in a unique experience: a demonstration working farm featuring hundreds of animals including heritage breeds, a dairy operation and honeybees. The Museum's operations, exhibitions and programs showcase the evolution of farming and the important relationships between the environment, science, technology, agriculture and the food and products we consume.

The Canada Aviation and Space Museum, located next to a working airfield, invites visitors to explore the impact of flight and space exploration on the transformation and development of Canada and the contemporary world. The CASM's programming and exhibitions bring stories of significant Canadian contributions to aviation and aerospace to life, and stimulate a lasting interest in these fields.

1.1.2 The Collection and the Ingenium Centre

The Corporation stewards an extensive collection of scientific and technological objects emblematic of Canadian ingenuity, including over 116,000 3D artifacts and more than 2.1 million 2-D and archival materials. It is particularly rich in the areas of communication, manufacturing, natural and renewable resources, domestic and industrial technologies, scientific instrumentation and transportation. Its aviation collection is deemed among the best in the world. The Corporation curates and conducts research on the collection, resulting in compelling stories of how human innovation contributed to our modern world.

The Ingenium Centre is a purpose-built facility that houses the national science and technology collection in specialized environments to ensure its long-term preservation. It has reunited the collection with the staff that cares for it, as well as corporate services, creating synergies that will lead to more efficient practices and processes, and opportunities to create new forms and dissemination of heritage content. A new research institute complements the Centre's library and archives, conservation labs, and workshops. Once the collection move and unpacking is completed, the Ingenium Centre will significantly enhance both the physical and virtual access to the collection. Similarly, once the fit-up is complete, the Digital Innovation Lab will enable the Corporation to leverage partnerships to create exploratory, creative projects to connect Canadians with their heritage.

1.1.3 Outreach Initiatives

The interpretation of the collection informs and influences the Corporation’s exhibitions and programming. The Corporation’s outreach initiatives expand its ability to reach, connect, and engage across Canada, and represent Canadian science and technology innovation internationally. Outreach activities include:

- classroom resources and training teachers which support curricula;
- travelling exhibitions, displays, and artifact loans;
- programming at public events (e.g., fairs, libraries) and community outreach;
- conference presentations and research publications sharing expertise;
- digital experiences: virtual exhibitions and tours, games and mobile apps;
- online platforms: the Ingenium Channel (an aggregator and interpreter of science and technology information), Open Heritage, Open Archives, and Open Data; and
- national programs: *Let’s Talk Energy*, and *Women in STEM*.

1.2 Governance Structure

1.2.1 Board of Trustees

The *Museums Act* provides for a Board of Trustees, consisting of up to 11 trustees (including a chair and a vice-chair), appointed by the Minister of Canadian Heritage with the approval of the Governor in Council. Incumbents continue in office until they resign or a replacement appointment has been made.

The Board serves as the Corporation’s governing body and is accountable to Parliament for the affairs of the Corporation through the Minister of Canadian Heritage. The trustees, acting collectively as the Board, are responsible for providing strategic guidance to management and for overseeing the business management, activities and affairs of the Corporation, ensuring that all the duties conferred on the Corporation by the *Museums Act* and Part X of the *Financial Administration Act* are carried out.

The full Board meets between four to six times per year. The Board also engages the public on an annual basis, communicating its mandate, priorities, and financial and programming results and plans at the annual public meeting.

Name / Province	Term length	Term period	Biography
Neil Russon, NB Chair	4 years	May 9, 2019 – May 8, 2023	https://ingeniumcanada.org/corporation/board-of-trustees#neil-russon
Marian K. Brown, BC Vice-Chair	4 years	June 30, 2019 – June 29, 2023	https://ingeniumcanada.org/corporation/board-of-trustees#marian-k-brown
Dr. Matthew A. Lafrenière, ON	3 years	May 21, 2019 – May 20, 2022	https://ingeniumcanada.org/corporation/board-of-trustees#matthew-a-lafreniere
Dr. Michael Geist, ON	4 years	March 1, 2018 - February 28, 2022	https://ingeniumcanada.org/corporation/board-of-trustees#drmichael-geist
Christian Idicula, AB	4 years	March 1, 2018 - February 28, 2022	https://ingeniumcanada.org/corporation/board-of-trustees#christian-idicula

<i>Name / Province</i>	<i>Term length</i>	<i>Term period</i>	<i>Biography</i>
Radosveta Ilieva, QC	3 years	October 27, 2017 - October 26, 2020	https://ingeniumcanada.org/corporation/board-of-trustees#radosveta-ilieva
Paul Johnston, ON	4 years	June 1, 2018 - May 31, 2022	https://ingeniumcanada.org/corporation/board-of-trustees#paul-d-johnston
Heather Kennedy, AB	3 years	June 13, 2018 - June 12, 2021	https://ingeniumcanada.org/corporation/board-of-trustees#heather-kennedy
Andréanne Leduc, QC	4 years	October 27, 2017- October 26, 2021	https://ingeniumcanada.org/corporation/board-of-trustees#andreeanne-leduc
Virginia McLaughlin, ON	2 years (reappointment)	February 21, 2018 - February 20, 2020	https://ingeniumcanada.org/corporation/board-of-trustees#virginia-mcLaughlin
Dr. Marianne Sadar, BC	4 years	October 27, 2017- October 26, 2021	https://ingeniumcanada.org/corporation/board-of-trustees#dr-marianne-sadar

1.2.2 Board Committees

The Board is supported by four committees: the executive committee; the governance committee; the finance, audit and risk management committee; and the major facilities committee. Each committee is governed by its own terms of reference. Committees meet on a quarterly basis. Each committee is accountable to the full Board through regular reporting that communicates activities and decisions, ensures timely and effective risk signalling, and facilitates responsiveness between the committees. The President and CEO of the Corporation is a non-voting member of all four committees.

The **executive committee** establishes the annual performance objectives of the President and CEO, in accordance with the government’s performance management program for chief executive officers of Crown corporations. The Board of Trustees is presented with quarterly reports on the CEO’s performance. At year end, the Board prepares a written assessment of the CEO’s performance and makes a recommendation to the Minister of Canadian Heritage with respect to a performance rating.

This committee also exercises full authority under exceptional circumstances should the full Board of Trustees be unable to meet in a timely fashion. The executive committee’s membership consists of the Board’s chair, the vice-chair and two additional trustees.

The **finance, audit and risk management (FARM) committee** oversees the Corporation’s financial management controls, its practices and its information systems. The committee reviews and advises the Board of Trustees on the Corporation’s five-year operating and capital plans, as well as the annual and quarterly financial statements. In addition to providing oversight of the risk management policies and practices within the Corporation, the FARM committee also selects internal audits and reviews and advises the Board of Trustees on plans and reports from internal and external auditors. The committee is composed of no fewer than four trustees plus the Chair of the Board.

The **governance committee (GC)** monitors and reviews the governance of the Corporation regarding best practices for corporate governance and stewardship, and recommends appropriate changes to enhance corporate functioning and decision making.

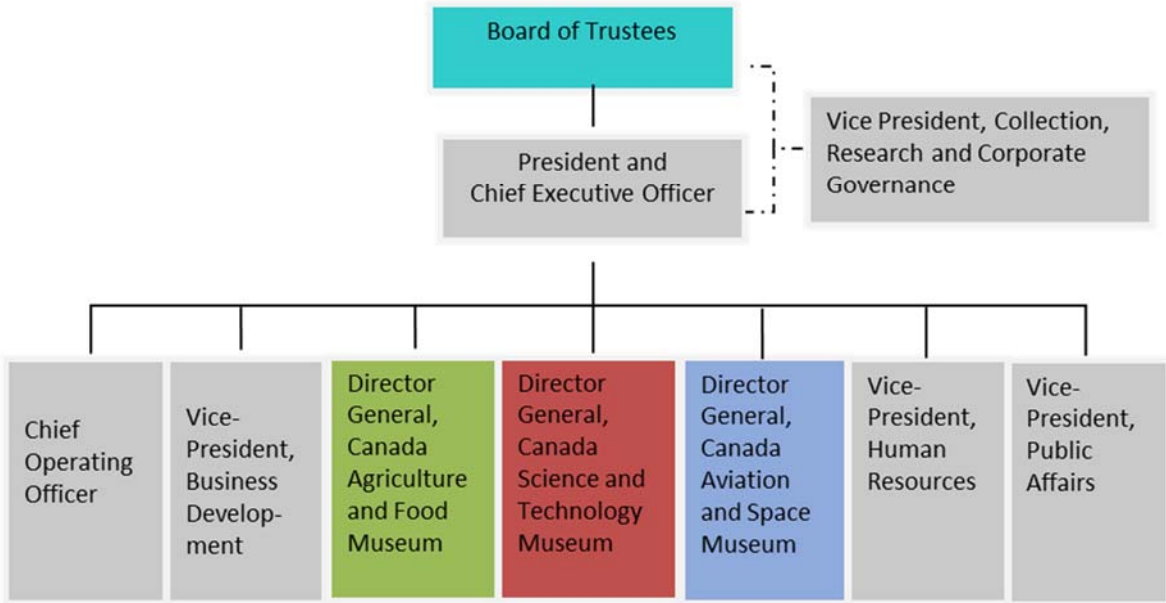
The GC establishes and implements a formal training and in-depth orientation program. Training opportunities in areas such as corporate governance, museology and heritage conservation, and finance are offered to all Trustees to assist them in carrying out their roles effectively.

The GC reviews the Board’s committee structure and oversees the Board’s self-evaluation process. The Board annually assesses its capacity and evaluates its performance in an effort to strengthen governance practices. The assessment is based on the results of Board and committee effectiveness surveys that are completed anonymously by Board members. The chair of the Board informs the responsible minister of the surveys’ general results.

The GC supports the Board’s succession planning by ensuring that the Board’s skills matrix is regularly updated and identifying any gap in skills, experience or representation. The gaps are communicated to government in the form of a needs assessment for future appointments, as well as information about potential candidates. The GC is comprised of no fewer than four trustees plus the Chair of the Board.

The **major facilities committee (MFC)** is an ad-hoc committee that provides enhanced oversight of the Corporation’s major infrastructure projects, as well as the long-term infrastructure plans for the CSTM, CASM and CAFM. The MFC is composed of no fewer than four trustees plus the Chair of the Board.

1.2.3 Executive Management



Compensation for Senior Executives is tied to performance results. Performance and at-risk pay for the CEO is determined by the performance agreement established, reviewed, and approved by the Board of Trustees. The current CEO – Christina Tessier – was appointed on June 11, 2018 for a five-year term ending on June 10, 2023.

2.0 OPERATING ENVIRONMENT

2.1 Key Internal Environment Factors

Ingenium's greatest strength is its knowledgeable and experienced staff of 236 full-time equivalent employees (FTEs) in 2020-2021, including term positions associated with specific projects or initiatives, including those funded by sponsors and partner agreements and by government for program and exhibition development and delivery and for the collection move. All permanent and term staff are covered by the public service pension and benefits plan. Most employees are unionized, as part of the Public Service Alliance of Canada.

Similar to the high-turnover service industry, a portion of the museums' front of house staff, many of whom are youth, work on a part-time or casual basis. The Corporation considers casual and part-time staff before seeking outside candidates when full-time frontline positions become available. It also offers mutually valuable internships, co-ops, and research fellowships to college and university students. These opportunities grow the pool of heritage professionals. The Corporation monitors the retirement eligibility of staff in critical positions and provides training and learning opportunities according to the succession plan. A strong volunteer base also supports the Corporation's activities: an average of 340 volunteers contribute 22,500 hours of time each year, including the Bytown Railway Society, which cares for the collection's locomotives.

While the Corporation's base funding has remained steady at about \$27 million annually for the last decade, it has benefited from significant federal investments in infrastructure, including funds to rebuild the CSTM and renew its exhibitions; to address health and safety recapitalization required across its sites; and to build the Ingenium Centre. These capital investments are helping to resolve many of the long-standing issues with the state of its facilities and collection care, as well as enabling the Corporation to showcase more artifacts in more relevant exhibits and programs.

The Corporation's reputation as a trusted source for content will continue to serve to expand its network of collaborators, domestically and internationally, with a focus on cost-sharing, a strategy that is showing success with the development of the *One Sky, Many Worlds: Indigenous Voices in Astronomy* travelling exhibition being co-developed with Indigenous communities and partners around the world. Its working relationships with the creative sector, technology firms and academia to develop open platforms, 3D resources, games and augmented reality apps, have positioned it as a digital leader in the heritage sector and will be further leveraged through the Digital Innovation Lab.

2.2 Key External Environment Factors

Technology: Given the rapid pace of technological change and growing experimentation with virtual, augmented, and mixed reality, museums have an increasing opportunity to create personalized and tailored experiences for on-site and virtual visitors.

Economy and tourism: The stable Canadian economy, coupled with average incomes in the National Capital Region being higher than the national norm, means that people are more likely to have and spend disposable income on museum experiences. Tourism rates are projected to be lower than average over the planning period due to the closure of Parliament's Centre Block – a major tourist draw for Ottawa – until 2029.

Competition: There is increasing competition in the sponsorship and philanthropic markets, with an average net increase of 360 charities in Canada annually. The Corporation must remain an appealing opportunity for the philanthropic sector. Additionally, the four national museums in the NCR have similar audiences.

Audience expectations: To remain relevant to the Canadian public, the Corporation must evolve to meet the needs of changing demographics, cultural differences, and the growing expectation that public institutions like museums contribute to addressing social issues and responding to community needs. Through partnerships that amplify reach and impact, the Corporation can facilitate and increase national conversations about contemporary science, technology, and innovation topics. The Corporation also has the opportunity to apply the principles of social impact as lenses to make content and experiences more accessible and relevant for more diverse audiences. The Corporation can leverage current offerings such as school programs adapted for the needs of groups from Autism Spectrum Disorder programs and adapted museum sites and experiences for visitors with disabilities.

2.3 Compliance, alignment, audits, and reviews

2.3.1 Compliance with legislative and policy requirements

The Corporation strengthened its compliance monitoring and reporting program in 2019-2020 to better support our Board of Trustees' oversight of the Corporation's compliance with legislative and policy requirements. There have been no incidents of non-compliance.

2.3.2 Alignment with Government Priorities

The Corporation's plans align with government direction and key priorities, particularly those related to its mandate and the subject matter of the museums: Diverse and Inclusive Canada; Canada in the World; Creative Canada; Environment and Climate Change; Indigenous Peoples; Jobs and Innovation; and Fair and Open Government.

2.3.3 Audits

The Office of the Auditor General of Canada (OAG) conducts an annual attestation audit, as well as a special examination at least once every 10 years, pursuant to the *Financial Administration Act*.

The OAG completed a special examination of the Corporation from November 2017 to April 2018, which became public on March 18, 2019 and is [available online](#). The OAG examined the Corporation's systems and practices with respect to corporate governance; strategic and operational planning; risk management; collection management; and exhibition and program development. The OAG made a total of nine recommendations for improvement in these areas, all of which will be addressed by 2021-2022.

The Corporation conducts internal audits as well. An internal audit of the accessibility of the built environment at the Canada Aviation and Space Museum was completed on March 5, 2019 through the

Risk Hansen Foundation Accessibility Certification (RHFAC) program. The museum was rated as RHFAC Accessibility Certified².

Based on the RHFAC recommendations, the Corporation is implementing an action plan that will be completed by March 31, 2021. Activities include improving the accessibility of the employee entrance, lighting levels, seating in the museum, and directional signage, and ensuring that new and updated exhibitions comply with the Corporation's Accessibility Standards.

² An organization with an overall score of 60% or greater is rated "Accessibility Certified." An organization must score 80% or greater to be rated "Accessibility Certified Gold". Additional information about this evaluation process is available at <https://www.rickhansen.com/become-accessible/rating-certification>

3.0 GOALS, ACTIVITIES, RISKS, EXPECTED RESULTS, AND PERFORMANCE INDICATORS

In November 2019, the Corporation launched a new Strategic Plan for 2020-2025. Over 2020-2021, the Corporation will pursue the first year of its five-year strategic plan covering the period from 2020-2021 to 2024-2025.

The new five-year strategic framework is a response to societal factors that are making museums – especially science and innovation museums – more critical than ever. Society has a declining belief in science and a declining level of trust in many traditional institutions such as the media. Science museums like ours remain a vital and trusted link between science and Canadians, and so must play a key role in rebuilding belief and trust.

We identified three key factors that will drive this work: collaborating with partners to expand reach and impact, democratizing museums by providing greater access and by co-creating, and remaining focused on the Corporation’s long-term sustainability and relevance. Based on these factors, we developed three Strategic Goals that will guide resource allocation to achieve program outcomes in the pursuit of the Corporation’s mandate:

1. Collaborate to innovate: Inspiring Canadian ingenuity
2. Access for all: Pushing the boundaries of engagement
3. Strengthen our foundations: Ensuring long-term financial sustainability

The Corporation has identified strategies and major activities, with key deliverables and implementation milestones, that demonstrate how it will make measurable progress on each Strategic Goal. The strategic goals and activities and financial plan presented herein, were approved by the Board of Trustees in November 2019. A new performance measurement framework is being implemented to measure the achievement of the new Strategic Plan. Indicator profiles and targets will be defined by early 2020-2021.

Note: All Key Deliverables and Implementation Milestones marked with an asterisk (*) are currently unfunded.

3.1 Strategic Goal 1: Collaborate to Innovate

Collaboration with academia, government, industry, and cultural institutions enables the Corporation to reach Canadians in more ways, with enhanced and expanded content. We leverage our expertise to help others communicate and interpret highly technical STEAM (science, technology, engineering, arts and mathematics) subject-matter in a meaningful way for the public as well as share our content across the country. Outreach, including travelling exhibitions and digital products, are means through which Ingenium shares Canada’s innovation story and Canadian perspectives nationally and internationally. This increase in public knowledge can help growth in these fields in various ways, such as nurturing innovation competencies among youth and encouraging their enrollment in relevant academic disciplines.

Participation in national and international partnerships and networks provides Canada’s cultural sector professionals opportunities to engage on the world stage, increasing Canada’s profile and respect for Canadian expertise and perspectives in the international landscape. These mutually beneficial relationships support progress on our common goal: to inspire and support Canadians to innovate.

Strategies	Major Activities	Key Deliverables and Implementation Milestones
<p>Be a leader and partner of choice across the STEAM ecosystem</p>	<p>Build and leverage sustainable partnerships that grow the STEAM skills pipeline</p>	<p>Develop a partnership plan to select partners that advance our shared STEAM goals (2020-2021)</p> <p>Expand Living Lab (applied user-centered research) model across our sites:</p> <ul style="list-style-type: none"> • Expand CAFM academic partnerships beyond the National Capital Region (2020-2022) • Expand CASM Virtual Technology Lab (2020-2022) • Expand University of Ottawa Living Lab partnership at CSTM to include other research areas (2021-2023) • Establish the Digital Innovation Lab in the Ingenium Centre (2020-2021)* <p>Enable partners and educators to engage youth in STEAM:</p> <ul style="list-style-type: none"> • Create a plan to scale up and share our youth STEAM programs (2020-2021) • Enhance professional development opportunities for teachers and other educators by expanding the Summer Institute for Elementary Teachers and launching mini-courses at the museums (2021-2024) • Increase CASM programming with a focus on aerospace, autonomous vehicles, and astronomy (2020-2025) <p>Leverage the Aerospace Network to deliver programs that inspire interest in aerospace disciplines/careers (2020-2025):</p> <ul style="list-style-type: none"> • Expand the national reach of aerospace-related educational resources developed with partners • Host annual job fair and other career exploration opportunities • Launch Air Traffic Control exhibition that engages youth with aerospace career (2020-2021)
<p>Bridge science, technology, and society of key issues of our time</p>	<p>Leverage our platforms, expertise and partnerships to engage Canadians on key issues of our time</p>	<p>Develop a Science Engagement framework (2020-2022) that guides:</p> <ul style="list-style-type: none"> • The use of science capital principles to communicate and shape our learning content, interpretation, training, programming, and special events (start in 2022) • The formalization of the new model for <i>Let's Talk Energy</i> (ongoing) <p>Identify key research partnerships, both national and international (2020-2021), and formalize these research partnerships through joint projects, publications, conferences, fellowships and visiting researchers (2021-2025)</p> <p>Collaborate on research related to communicating climate change (2020-2022) and understanding the social impact of energy and resources (2020-2022)</p> <p>Develop a 5-year plan for traveling exhibitions and outreach, that will support the development and reach of traveling exhibitions, nationally and internationally, on topics such as on AI* (2020-2024), human impacts on the planet* (2021-2024), Aquaculture* (2022-2025), Soil Health* (2021-2024)</p>

		Develop and deliver programs that will highlight the International Year of Plant Health (2020), UN Decade of Ocean Science (2021-2030), and 75 th Anniversary of VE Day (2020)
Empower a culture of Canadian innovation	Embed the dimensions of innovation culture within our offerings	<p>Identify opportunities to integrate (2021-2022), and undertake integration of (2022-2024), key innovation competencies (creativity, risk-taking, problem-solving, resilience) and inquiry-based learning in our programs</p> <p>Share Canadian innovators' stories of success, failure, and perseverance:</p> <ul style="list-style-type: none"> • Highlight Women in STEM initiative at the Frankfurt Book Fair (2020-2021) • Launch and expand opportunities for innovators and entrepreneurs to engage with visitors such as through onsite demonstrations, lecture series, and citizen science (2020-2022) • Conduct research that tell stories of Canadian innovation with emphasis on understanding the process of innovation, including Crowdfunding in Canada (2020-2021), electronic music (2020-2023), and deindustrialization* (2021-2025)

Outcomes	Indicators	2018-19 (actual)		2019-20 (forecast)		2020-21
		Target	Actual	Target	Forecast	Target
Youth have expanded access to STEAM-related learning (short)	Individuals trained to deliver STEAM content	New indicator introduced in 2020-2021				TBD
	Youth participation in STEAM learning	New indicator introduced in 2020-2021				TBD
Growth of our partnerships and networks in the STEAM ecosystem (short)	Growth of partnership and network agreements	New indicator introduced in 2020-2021				TBD
Strengthened capacity of the STEAM ecosystem (medium)	Capacity-building among partners	New indicator introduced in 2020-2021				TBD
Canadians have a trusted source of information on key issues of our time (short)	Audience trust	New indicator introduced in 2020-2021				TBD
	Media coverage	New indicator introduced in 2020-2021				TBD
Our audiences feel confident engaging with key issues of our time (medium)	Audience confidence engaging with key issues	New indicator introduced in 2020-2021				TBD
Strengthened Canadian culture of innovation (ultimate)	Audience exhibiting innovation tendencies	New indicator introduced in 2020-2021				TBD
	Audience knowledge of Canadian innovation and innovators	New indicator introduced in 2020-2021				TBD

3.2 Strategic Goal 2: Access for All

The Corporation is committed to pushing the boundaries of engagement with all Canadians. We will leverage our national platform to model inclusive cultural experiences across Canada. We will reduce physical, cognitive, sensory, and socioeconomic barriers to enable more visitors to enjoy our sites and experiences. We will leverage digital technologies to develop, adapt, and share our offerings and collection with Canadians from coast to coast to coast. We will work with diverse communities to respect and reflect Canada’s diversity in our offerings, including collaborations with Indigenous communities to represent First Nations, Inuit, and Métis cultures and ways of knowing, through further development of the national collection, programming, and services. Engaging with traditionally under-represented groups in museums and integrating their histories and objects presents a more inclusive and more complete interpretation of Canadian innovation.

<i>Strategies</i>	<i>Major Activities</i>	<i>Key Deliverables and Implementation Milestones</i>
Champion physical, cognitive, sensory, and socioeconomic accessibility	Make our experiences more accessible and share our accessibility best practices	<p>Launch and adapt programming for specific groups and communities:</p> <ul style="list-style-type: none"> Expand free/subsidized programming to welcome visitors from different socioeconomic situations (2020-2021) Adapt programming to welcome audiences with sensory processing disorders and their families (2021-2025) <p>Improve physical accessibility across our sites:</p> <ul style="list-style-type: none"> Conduct CAFM Accessibility Audit (2023-2024) Implement recommendations from the CASM Accessibility Audit in partnership with impacted communities (2020-2025) Research and test accessible wayfinding standards (2020-2021) and implement (2021-2025) Complete the remedial lighting and sound work at CSTM (until 2021) <p>Form an external Advisory Board to support our internal Accessibility Working Group (2020-2021)</p> <p>Contribute as a Founding Member of the Canadian Accessibility Network (2020-2021)</p> <p>Collaborate on projects with Carleton University’s Access Living Lab (2020-2021)</p> <p>Publish Ingenium Channel articles highlighting our experiences with accessibility to inspire and support other institutions (2020-2025)</p>
Harness the power of digital to connect with Canadians	Develop creative and exploratory digital experiences to engage Canadians in meaningful ways	<p>Launch the Digital Innovation Lab Strategy (2020-2021):</p> <ul style="list-style-type: none"> Undertake pilot projects that facilitate digital collection projects (e.g. 3D modeling, mixed reality, AI) Identify key partnerships that will support our efforts to engage all Canadians <p>Leverage digital opportunities to bring our educational content across Canada:</p> <ul style="list-style-type: none"> Evaluate the Connected North educational content pilot program and adapt and expand offerings (2020-2021)

		<ul style="list-style-type: none"> • Incorporate a guideline to include a digital component or presence for our programs and exhibitions as part of exhibition and program development process (2020-2021)
	Enhance discoverability and information about our collection	<p>Develop a prototype of a modern API (Application Programming Interface) for enhancing collection access, collaboration, and engagement digitally (2020-2021)</p> <p>Identify key collections that are popular with audiences and well-suited to 2D and 3D scanning and sharing through open platforms (2021-2025).</p> <p>Establish a data governance framework to create accurate and trusted open data sets, data visualizations and other data products (2020-2023)</p>
Respect and include diverse voices and communities	Engage with diverse communities to co-create stories, experiences, and collections	<p>Develop a community engagement model that guides our engagement efforts:</p> <ul style="list-style-type: none"> • Create welcoming experiences and programs with underrepresented groups including, recent immigrants, 2SLGBTQQIA individuals, and Official Languages minorities (2020-2021) • Advance collaborative research with communities to uncover new layers of meaning in the collection that reflect diverse perspectives (2020-2025)
	Honour Indigenous ways of knowing in a spirit of reconciliation	<p>Pursue an Indigenous astronomy research partnership, deliver the international Indigenous astronomy conference in 2020*, and develop a travelling exhibition* (2020-2023)</p> <p>Pursue a multi-year Indigenous collaborative foodways and natural resources research projects and exhibitions (funding-dependent, 2021-2024)</p> <p>Develop an Indigenous communities engagement strategy (2020-2021) and work with communities to:</p> <ul style="list-style-type: none"> • Co-host an Indigenous Science Fair (2021) • Improve our youth and intergenerational knowledge-sharing programs (2021-2025) • Increase the recognition of Indigenous peoples’ contributions in aviation (2020-2025) • Address the Truth and Reconciliation recommendation (69 and 70) for improving the description of collection objects (start in 2021)

Outcomes	Indicators	2018-19 (actual)		2019-20 (forecast)		2020-21
		Target	Actual	Target	Forecast	Target
Enhanced accessibility of our museum sites and programs (short)	Visitor and partner perception of accessibility	New indicator introduced in 2020-2021				TBD
Canadians have access to our offerings and collection through innovative digital means (short)	Virtual connections and engagements	Revised indicator introduced in 2020-2021				TBD
	Digital availability of selected collections	New indicator introduced in 2020-2021				TBD
Members of diverse communities are engaged in shaping museum experiences and the collection (short)	Collaborations with diverse communities	New indicator introduced in 2020-2021				TBD
Collaborations with Indigenous communities are activated throughout Canada (short)	Collaborations with Indigenous communities	New indicator introduced in 2020-2021				TBD
Canadians who traditionally faced barriers participated in onsite and online museum experiences (medium)	Visitorship representation	New indicator introduced in 2020-2021				TBD
	Canadian regions engaged	New indicator introduced in 2020-2021				TBD
Diverse communities feel a sense of belonging in our experiences (ultimate)	Sense of belonging among audiences from diverse communities	New indicator introduced in 2020-2021				TBD

3.3 Strategic Goal 3: Strengthen our Foundations

The Corporation’s success rests on core foundations: our team, our collection, our financial resources, our offerings, and our infrastructure. By strengthening these foundations, we are ensuring that the resources are in place to achieve successful program outcomes aligned with our Strategic Plan.

We will provide our team with the training and support they need to live our shared values: collaboration, inclusivity, creativity, and accountability. We will leverage the opportunity of the new Ingenium Centre to better research, preserve, and share the collection. The collection rationalization project is meant to ensure the Corporation’s resources are used effectively and efficiently to care for the best representation of the collection, and to increase public access to it. We will secure the museums as destinations of choice for local visitors and tourists by improving our understanding of, and response to, audiences and by focusing our site investments. By establishing a sustainable, long-term capital replacement plan and pursuing the funding for its implementation, the Corporation will make the capital investments needed for sustainability of its assets and optimal program delivery. We will grow our long-term funding partnerships in order to deliver on our Strategic Plan and to work towards long-term financial sustainability.

<i>Strategies</i>	<i>Major Activities</i>	<i>Key Deliverables and Implementation Milestones</i>
Empower our team to live our shared values	Strengthen our workplace culture	<p>Implement a staff engagement plan for the Strategic Plan 2020-2025:</p> <ul style="list-style-type: none"> • Revise peer recognition program to reflect new Corporate values (2020-2021) • Provide training on Corporate values, risk-taking, and innovation (starting in 2020) <p>Support a staff-led Learning Network (2021-2023) to facilitate communities of practice, working groups and training on themes of equity, diversity, inclusivity, and accessibility; digital skills and corporate values</p> <p>Develop a recruitment strategy that encourages individuals from underrepresented communities to apply for positions as well as for our fellowships and internships programs and volunteer positions (2020-2021)</p> <p>Amend existing or create new tools and processes that support a diverse workforce (2021-2022)</p>
Unlock the full potential of the Ingenium Centre and national collection	Establish the Ingenium Centre as a centre of excellence for collections care, research and access	<p>Develop a 5-year plan that establishes the Research Institute as a leader in material culture research (2020-2021)</p> <p>Expand programs that leverage the collection to support the next generation of heritage professionals (e.g. Adjunct Curators, fellowships, visiting scholars) (2020-2022)</p> <p>Complete the collection move into the Ingenium Centre (through 2022)</p> <p>Develop a Collection Access Strategy (2020-2021) that includes:</p> <ul style="list-style-type: none"> • A plan addressing the collection cataloguing backlog and secure funding for implementation (2021-2023) • Launch of thematic collection tours in the Ingenium Centre (2021-2022)
Secure the museums as destinations of choice	Attract new visitors and increase repeat visitation	<p>Create (2020-2021) an Audience Development plan to inform the development of offerings for new audiences</p> <p>Develop a 3-year Exhibition Plan in 2020-2021 including Game Changers (2020), Air Traffic Control (2020-2021), Food Security* (2020-2024), Soil Health* (2020-2021), One Sky, Many Stories: Indigenous Astronomy* (2020-2021), Aquaculture* (2020-2024), Indigenous Foodways* (2023-2024), Accessibility* (2023-2024), as well as hosting externally-produced exhibitions</p> <p>Improve the availability and quality of amenities at our sites to meet visitor needs and expectations (2020-2022)</p> <p>Target new groups for our educational programming and camps including home schools, community centres, youth associations, school boards (2020-2023)</p>
	Pursue capital investments for	Establish a sustainable, long-term capital replacement plan (2020-2021) and pursue funding for its implementation (starting in 2021)

	optimal program delivery	Develop funding strategies (2020-2022) to realize the master site plans for the three museums: <ul style="list-style-type: none"> • A food innovation centre* (<i>working name</i>)(2024-2025) • Aerospace Campus* (including conservation labs) (2024-2025) • STEAM Park* (2024-2025)
Increase and diversify revenue, sponsorship, and philanthropic giving	Increase the profitability of commercial operations	Identify new sources of revenue and new markets for our offerings, such as: <ul style="list-style-type: none"> • Collection-based products for retail and wholesale (2021-2022) • Unique venue rentals experiences for the business meeting and retreat market (2020-2021) • Non-traditional venues for traveling exhibitions (2020-2021) Develop a marketing strategy to align resources with the most profitable commercial operations (2021-2023)
	Grow multi-year funding relationships	Develop a strategy with the Foundation to increase the donor base and philanthropic giving in support of the Strategic Plan (2020-2021) <p>Secure sustainable funding for the Research Institute (2020-2023) through grants and other contributions</p> Align partnership development with 3-year exhibition and programming plans (rolling, ongoing)

Outcomes	Indicators	2018-19 (actual)		2019-20 (forecast)		2020-21
		Target	Actual	Target	Forecast	Target
Staff feel that our organization is a great place to work (Short)	Employee engagement	No survey undertaken this year.		70%	TBD	70%
A collaborative, creative, inclusive, and accountable workforce (medium)	Staff exhibiting our shared values	New indicator introduced in 2020-2021				TBD
	Workforce representation	New indicator introduced in 2020-2021				TBD
The national collection is better preserved, researched, and accessible (short)	Collection moved to the Ingenium Centre	New indicator introduced in 2019-2020	Moved 25% Rehoused 15%	Moved 15% Rehoused 6%	Moved 60% Rehoused 26%	
	Research sharing opportunities	New indicator introduced in 2020-2021				TBD
	Collection documentation	New indicator introduced in 2020-2021				TBD
Canadians experience a deeper engagement with the national collection (medium)	Access to the collection on site	New indicator introduced in 2020-2021				TBD
Our museum experiences encourage local residents and tourists to visit and revisit (short)	Visitorship and Membership	938,000	938,000	893,000	804,000	808,000
	General and tourism market share	25%	28%	25%	25%	TBD
	Admission value	New indicator introduced in 2020-2021				TBD

Outcomes	Indicators	2018-19 (actual)		2019-20 (forecast)		2020-21
		Target	Actual	Target	Forecast	Target
	Asset condition	New indicator introduced in 2020-2021				TBD
Our business model is aligned to the needs of the Strategic Plan (short)	Profitability of commercial operations	New indicator introduced in 2020-2021				TBD
	Operating revenue	\$9.9M	\$11.38M	\$9.07M	\$9.29M	\$7.725M
	Contributions (cash)	\$1.6M	\$3.1M	\$1.6M	\$2.0M	\$1.6M
	Duration of financial partnerships	New indicator introduced in 2020-2021				TBD
The collection and museums are sustainable and relevant for present and future generations (long)	Care of the collection	New indicator introduced in 2020-2021				TBD
	Exhibition renewal	New indicator introduced in 2020-2021				TBD

3.4 Corporate Risks

Since 2017, the Corporation has been implementing an integrated risk management framework that is consistent with applicable standards and follows the International Standards Organization (ISO) 3100 – Risk Management. The framework defines the Corporation’s responsibilities, risk management methodology, and time-bound commitments. Based on this framework, the Corporation captures risks to the organization in a risk register, evaluates the risks based on likelihood and impact, and establishes the treatment action plans for the risks that are beyond the Corporation’s tolerance threshold within a corporate risk profile.

For 2020-2021, six prominent risks are included in the corporate risk profile:

- Government funding:** The risk that Ingenium will not receive sufficient government funding due to escalating costs and the lack of indexation, and new unfunded costs (to complete the Ingenium Centre, PILT costs for the CSTM and the Ingenium Centre).
- Sponsorships, contributions and philanthropy:** The risk that Ingenium will not be able to obtain the required level of sponsorships and contributions (including philanthropic giving) from third-parties due to limited fundraising capacity and perception that as a federal institution, it should be funded by government.
- Workforce capacity:** The risk that Ingenium will not have a sufficient number of staff with the skills and knowledge required to deliver on the aspirations of the Strategic Plan 2020-2025, given the new strategies and goals of the strategic plan where internal experience is limited, the current lack of workforce diversity, and the limited salary and training funds to invest in developing workforce capacity.

- **Collection movement:** The risk that collection objects will be damaged during their transport to other sites (through loans or travelling exhibitions programs), or during the collection move to the Ingenium Centre due to the lack of capital funding to maintain and recapitalize facilities; fragility, age, condition and composition of some collection objects; and significant catalogue backlog and lack of resources to address it.
- **Creative digital infrastructure:** The risk that Ingenium will not be able to acquire and/or maintain the required creative digital infrastructure (including the Digital Innovation Lab, the digital video canopy at CSTM, digital wayfinding, and digital interactives and experiences), due to insufficient capital funding to keep pace with rapid technological evolution and growing audience expectations for engaging experiences.
- **Built infrastructure:** The risk that Ingenium’s built infrastructure will fall into disrepair and/or not meet growing operational needs and/or become non-compliant due to evolving building and government accessibility requirements and codes and insufficient capital funding to invest in its broad and complex real property portfolio, which includes public buildings.

4.0 FINANCIAL DISCUSSION AND BUDGETS

4.1 Financial Overview

4.1.1 Major assumptions with respect to funding and revenues

The Corporation assumes that it will receive a stable level of government funding over 2020-2021 to 2024-2025, at a base level of appropriations of \$27.3 million annually, excluding potential future economic salary increases. It also assumes that it will receive the remaining temporary capital funds of \$3.25 million approved in federal budget 2016 to complete health and safety-related infrastructure projects through 2020-2021. However, the base level of appropriations does not address inflationary pressures and unfunded operations that pose a growing financial issue for the Corporation.

While about 73% of the Corporation's operating budget is funded through parliamentary-voted appropriations, another 22% is generated through operational revenues, and just under 5% is contributed income. The Corporation's ability to generate revenues and contributions is essential to the successful delivery of the corporate plan activities.

The largest portion of operating revenues is generated by charging fees on museum activities and services, including admissions and educational programs, boutique sales, thematic experiences, parking, facility rentals and concessions. As such, operating revenues are highly correlated to the visitor attendance at the museums.

Attendance includes paying visitors, through gate admission, memberships, programs and events, as well as those who visit using free passes, during free admission periods, or site users when there is no fee. The following table provides a breakdown of attendance by museum.

Table 1 – Visitor Attendance

	2016-2017	2017-2018	2018-2019	2019-2020		2020-2021
	Actuals			Budget	Forecast	Projection
CSTM	0	278,000	509,000	449,000	375,000	365,000
CASM	279,000	279,000	227,000	233,000	227,000	233,000
CAFM	218,000	218,000	202,000	211,000	202,000	210,000
Total	497,000	775,000	938,000	893,000	804,000	808,000

Over 2018-2019, the first full fiscal year of operations of the renewed Canada Science and Technology Museum, the Corporation set an all-time record for attendance. The Corporation had expected the attendance at the Canada Science and Technology Museum to start to level off in 2019-2020, following its first complete year of operation (November 2017 to November 2018). In fact, the leveling off has occurred faster than expected, as the attendance to mid-year of only 240,000 visitors at CSTM caused the Corporation to reduce its forecasted attendance by 74,000 visitors. This revised forecast is also partially due to the lower than expected attendance at the special exhibition entitled *Leonardo da Vinci – 500 Years of Genius*, which was presented from May to September 2019 at the CSTM, whereas the critically-acclaimed *The Art of the Brick* special exhibition presented during summer 2018, during the re-opening year of the CSTM, exceeded its attendance target.

Starting in 2020-2021, the Corporation expects to sustain visitation at CSTM at 365,000, which is 18% higher than the average number of visitors in the years prior to closure, when the CSTM attracted an average of 300,000 visitors per year.

Both the Canada Agriculture and Food Museum (CAFM) and Canada Aviation and Space Museum (CASM) saw elevated attendance during the CSTM's closure. Their attendance is also leveling off, although anticipated to remain higher than prior to closure thanks to enhanced spaces: temporary exhibition space carved out at CASM allows it to host aviation and space-themed exhibitions on its floor to diversify its content offerings, while the CAFM continues to expand offerings with the Learning Centre, which re-opened in 2013 as a year-round venue with classrooms, temporary exhibition space, and meeting rooms. With attendance figures expected to balance off to a new baseline as of 2020-2021, revenues are also expected to remain relatively stable over the period.

Sponsorships and contributions peaked in 2017-2018 as the Corporation recognized raised funds used for the CSTM renewal. The \$1.6 million contribution target for 2020-2021 is deemed feasible given the Corporation's expanding pool of collaborators and its track-record of successful initiatives and programs. The projection of \$1.8 million annually in contributions through 2024-2025, reflects an increase that is expected to be garnered by providing new research, exhibition and programming collaborations with the new Ingenium Centre.

4.1.2 Major assumptions with respect to expenses

For 2020-2021, the Corporation projects a deficit attributable to unfunded payments in lieu of taxes of an estimated \$1.5 million and elevated facilities costs associated with operating the Ingenium Centre while operating two leased facilities, which will be covered by using its unrestricted equity. Over the remaining planning period, the Corporation presents balanced budgets by significantly reducing program and facilities expenses to absorb the PILT of \$1.5 million annually, as well as the lease cost of \$1.4 million annually unless it receives additional PILT funding and Ingenium acquires the balance of racking required for the Ingenium Centre to house the entire collection enabling it to vacate all the leased facilities.

About half of the Corporation's budget will be spent on salaries for museum staff to welcome visitors, develop and deliver programs and services, and care for its collection and other assets, and a quarter will be absorbed by mandatory costs associated with safely and securely operating its facilities. In 2020-2021, these expenses will spike as the Corporation simultaneously operates the new Ingenium Centre and the two leased facilities, one of which will be vacated in late 2020.

The health and safety-related infrastructure projects funded through Budget 2016 are expected to be completed by March 2021. The capital expenditures will return to a base level of \$0.8 million per year as of 2021-2022, representing only 0.003% of the total value of capital assets. The temporary capital funding received since 2015 for the CSTM renewal, the construction of the Ingenium Centre, and to address health and safety-related projects, have led to significant increase in the value of the Corporation's asset portfolio and amortization levels.

Debt: The Corporation is carrying a loan repayment obligation for the \$4.2 million it received from the Management Reserve in 2008 to renovate the CASM with a new entrance lobby, a multi-purpose auditorium, classrooms, cafeteria, expanded boutique, and library and archival storage. According to the terms of the loan, the Corporation is expected to repay it within 25 years, using the net operating income from the expected increase in revenues and fundraising for these new spaces.

Key comparisons: The Corporation's appropriations to revenues ratio is on par with the average of the national museums. Like them, the Corporation seeks to increase its revenues and fund-raising to off-set the growing impact of inflationary costs. This is a more substantial pressure for the Corporation, which operates 18 buildings, while the other national museums are responsible for an average of two buildings. The Corporation operates three distinct museums, which requires many more hosts, guides, and on-site operational resources. Given its limited funding, the Corporation spends less per square meter on building operations, and invests less in recapitalization, than the international benchmark for museum and heritage facilities.

4.2 Financial Statements

The *pro forma* financial statements have been prepared in accordance with Section 4200 series of the Canadian Public Sector Accounting Standards applicable to government-not-for-profit organizations. They are consistent with those reported in the institution's annual report. The Corporation applies the deferral method of accounting for contributions for not-for-profit organizations, hence, the statements are presented on the accrual basis of accounting. They display revenues by source and expenses by activity, consistent with the Corporation's core responsibilities reported in the *Main Estimates*.

Table 2 – Statement of Financial Position

<i>(in thousands of \$)</i>	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023	2023- 2024	2024- 2025
	<i>Actual</i>	<i>Forecast</i>	<i>Budget</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>
ASSETS							
Current assets							
Cash and cash equivalents	\$49,196	\$15,027	\$9,469	\$10,959	\$12,550	\$14,140	\$15,730
Accounts receivable:							
- Government departments	\$3,767	\$1,200	\$900	\$900	\$900	\$900	\$900
- Trade	\$418	\$375	\$375	\$375	\$375	\$375	\$375
Inventories	\$551	\$600	\$600	\$600	\$600	\$600	\$600
Prepaid expenses	\$945	\$400	\$400	\$400	\$400	\$400	\$400
	<u>\$54,877</u>	<u>\$17,602</u>	<u>\$11,744</u>	<u>\$13,234</u>	<u>\$14,825</u>	<u>\$16,415</u>	<u>\$18,005</u>
Other assets							
Collection	\$1	\$1	\$1	\$1	\$1	\$1	\$1
Capital assets	\$254,642	\$267,667	\$262,217	\$250,517	\$238,816	\$227,116	\$215,416
TOTAL ASSETS	<u>\$309,520</u>	<u>\$285,270</u>	<u>\$273,962</u>	<u>\$263,752</u>	<u>\$253,642</u>	<u>\$243,532</u>	<u>\$233,422</u>
LIABILITIES AND EQUITY							
Current liabilities							
Accounts payable and accrued liabilities	\$17,683	\$4,150	\$5,650	\$7,150	\$8,650	\$10,150	\$11,650
Current portion of employee future benefits	\$447	\$270	\$260	\$250	\$240	\$230	\$220
Deferred revenue	\$32,259	\$10,159	\$4,659	\$4,559	\$4,559	\$4,559	\$4,559
	<u>\$50,389</u>	<u>\$14,579</u>	<u>\$10,569</u>	<u>\$11,959</u>	<u>\$13,449</u>	<u>\$14,939</u>	<u>\$16,429</u>
Other liabilities							
Employee future benefits	\$292	\$120	\$120	\$120	\$120	\$120	\$120
Long-term advance	\$4,208	\$4,208	\$4,208	\$4,208	\$4,208	\$4,208	\$4,208
Deferred capital funding	\$241,188	\$254,313	\$248,963	\$237,363	\$225,763	\$214,163	\$202,563
	<u>\$296,077</u>	<u>\$273,220</u>	<u>\$263,860</u>	<u>\$253,650</u>	<u>\$243,540</u>	<u>\$233,430</u>	<u>\$223,320</u>
Net assets							

Unrestricted	\$3,341	\$1,948	\$0	\$0	\$0	\$0	\$0
Investment in Capital	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102
	\$13,443	\$12,050	\$9,717	\$10,102	\$10,102	\$10,102	\$10,102
TOTAL LIABILITIES AND NET ASSETS	\$309,520	\$285,270	\$273,962	\$263,752	\$253,642	\$243,532	\$233,422

Table 3 – Income Statement

<i>(in thousands of \$)</i>	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023	2023- 2024	2024- 2025
	<i>Actual</i>	<i>Forecast</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>
REVENUE							
Admission and programs							
Science and Technology	\$3,648	\$2,700	\$1,800	\$1,820	\$1,840	\$1,860	\$1,880
Aviation and Space	\$942	\$920	\$920	\$920	\$925	\$930	\$935
Agriculture and Food	\$882	\$900	\$905	\$910	\$915	\$920	\$925
Boutique Sales	\$1,294	\$1,250	\$1,100	\$1,125	\$1,150	\$1,175	\$1,200
Facility Rentals and concessions	\$606	\$570	\$570	\$575	\$580	\$585	\$590
Parking	\$1,289	\$800	\$800	\$805	\$810	\$815	\$820
Membership	\$1,499	\$950	\$950	\$950	\$960	\$970	\$980
Farm Operations	\$348	\$360	\$340	\$330	\$330	\$330	\$330
Thematic Experiences	\$75	\$90	\$90	\$90	\$90	\$90	\$90
Other	\$794	\$750	\$250	\$300	\$300	\$300	\$300
Total operating revenue	\$11,377	\$9,290	\$7,725	\$7,755	\$7,830	\$7,895	\$7,950
Contributions	\$3,095	\$2,000	\$1,600	\$1,800	\$1,800	\$1,800	\$1,800
Interest	\$1,766	\$600	\$150	\$150	\$100	\$75	\$75
TOTAL REVENUE	\$16,238	\$11,890	\$9,475	\$9,775	\$9,800	\$9,850	\$9,925
EXPENSES							
Heritage preservation and research	\$5,839	\$7,500	\$6,800	\$5,100	\$5,050	\$5,050	\$5,050
Exhibits, programs and outreach	\$20,343	\$18,100	\$16,300	\$15,567	\$15,467	\$15,467	\$15,467
Internal services	\$8,557	\$8,200	\$8,225	\$8,225	\$8,250	\$8,250	\$8,250
Museum and collection buildings	\$17,855	\$19,300	\$21,515	\$20,000	\$20,050	\$20,100	\$20,150
TOTAL EXPENSES	\$52,594	\$53,100	\$52,840	\$48,792	\$48,717	\$48,767	\$48,842
Net Results of operations before government funding	-\$36,356	-\$41,210	-\$43,365	-\$39,017	-\$38,917	-\$38,917	-\$38,917
Parliamentary Appropriation*	\$36,583	\$39,817	\$41,417	\$39,017	\$38,917	\$38,917	\$38,917
Net earnings (Loss)	\$227	-\$1,393	-\$1,948	\$0	\$0	\$0	\$0

* See table 6

Table 4 – Statement of Cash Flows

<i>(in thousands of \$)</i>	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023	2023- 2024	2024- 2025
	<i>Actual</i>	<i>Forecast</i>	<i>Budget</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>
OPERATING ACTIVITIES							
Cash received (clients)	\$13,791	\$11,900	\$8,026	\$7,825	\$7,901	\$7,975	\$8,050
Parliamentary Appropriations received for operations	\$27,294	\$29,417	\$29,017	\$26,619	\$26,519	\$26,517	\$26,517
Cash paid to suppliers	-\$22,632	-\$55,986	-\$38,850	-\$34,802	-\$34,726	-\$34,777	-\$34,852
Payments related to salary and benefits	-\$23,212	-\$19,550	-\$19,550	-\$19,550	-\$19,549	-\$19,548	-\$19,548
Cash Received from the Foundation	\$233	\$2,000	\$1,600	\$1,800	\$1,800	\$1,800	\$1,800
Interest received	\$1,862	\$600	\$150	\$150	\$100	\$75	\$75
Net cash flows generated from/used for Operating activities	-\$2,664	-\$12,069	-\$57	\$1,592	\$1,594	\$1,590	\$1,590
CAPITAL ACTIVITIES							
Payments related to capital acquisitions	-\$78,858	-\$23,525	-\$7,050	-\$800	-\$800	-\$800	-\$800
Net Cash used through Capital Activities	-\$78,858	-\$23,525	-\$7,050	-\$800	-\$800	-\$800	-\$800
FINANCING ACTIVITIES							
Funding for acquisition of capital assets	\$3,724	\$1,425	\$1,549	\$698	\$797	\$800	\$800
Net cash flows from Financing activities	\$3,724	\$1,425	\$1,549	\$698	\$797	\$800	\$800
Increase (Decrease) in Cash and short-term investments	-\$77,798	-\$34,169	-\$5,558	\$1,490	\$1,591	\$1,590	\$1,590
Cash and cash equivalents, beginning of year	\$126,994	\$49,196	\$15,027	\$9,469	\$10,959	\$12,550	\$14,140
Cash and cash equivalents, end of year	\$49,196	\$15,027	\$9,469	\$10,959	\$12,550	\$14,140	\$15,730

Table 5 – Changes in Net Assets

<i>(in thousands of \$)</i>	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023	2023- 2024	2024- 2025
	<i>Actual</i>	<i>Forecast</i>	<i>Budget</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>
Investment in capital assets, beginning of period	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102
Changes in investment in capital assets	-	-	-	-	-	-	-
Investment in capital assets, end of period	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102
Unrestricted net assets, beginning of period	\$3,114	\$3,341	\$1,948	\$0	\$0	\$0	\$0
Surplus (loss) for the period	\$227	-\$1,393	-\$1,948	\$0	\$0	\$0	\$0
Unrestricted net assets, end of period	\$3,341	\$1,948	\$0	\$0	\$0	\$0	\$0
Net assets, end of period	\$13,443	\$12,050	\$10,102	\$10,102	\$10,102	\$10,102	\$10,102

Table 6 – Parliamentary Funding

<i>(in thousands of \$)</i>	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023	2023- 2024	2024- 2025
	<i>Actual</i>	<i>Forecast</i>	<i>Budget</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>	<i>Projection</i>
Base Appropriations	\$27,308	\$27,317	\$27,317	\$27,317	\$27,317	\$27,317	\$27,317
One-time funding (collection move)	\$85	\$0	\$0	\$0	\$0	\$0	\$0
Health and safety projects	\$2,850	\$3,525	\$3,250	\$0	\$0	\$0	\$0
Sub-Total <i>Main Estimates</i>	\$30,243	\$30,842	\$30,567	\$27,317	\$27,317	\$27,317	\$27,317
Deferred appropriations used in current year	\$79,201	\$22,100	\$5,500	\$100	\$0	\$0	\$0
Appropriations approved in current year for specific projects in future years	-\$2,467	\$0	\$0	\$0	\$0	\$0	\$0
Amount used to purchase capital assets	-\$77,476	-\$23,525	-\$7,050	-\$800	-\$800	-\$800	-\$800
Amortization of deferred Capital funding	\$7,082	\$10,400	\$12,400	\$12,400	\$12,400	\$12,400	\$12,400
Appropriations reported in Statements	\$36,583	\$39,817	\$41,417	\$39,017	\$38,917	\$38,917	\$38,917

4.2.1 Notes supporting the financial assumptions

Parliamentary Appropriations: The Corporation assumes it will continue to receive the base level of appropriations over the period of \$27.317 million annually (cash basis), ignoring any potential future economic salary increase. In addition, the Corporation will receive the final portion of the funds committed in federal budget 2016 to complete health and safety-related capital projects in 2020-2021.

The majority of deferred appropriations spent in 2018-2019 and 2019-2020 were the capital funds received in 2016-2017 and 2017-2018 for the construction of the new Ingenium Centre. The operating funds associated with the collection move into the Ingenium Centre and vacating the current leases are being spent through 2021-2022.

Detailed Revenue Assumptions

Admission revenue: The admission gate revenue projection for 2020-2021 is based on attendance leveling off to a new base level after the re-opening of CSTM and excludes any additional-fee special exhibition as none are currently planned over the period. The Corporation assumes that total paid visitation at all three museums will be 20% higher than the average prior to the CSTM closure, which is mainly attributable to the renewed CSTM exhibitions and improvements made at the other sites.

Programming revenue: Visitors also come to the museums through programming activities, including education programs for school groups, seasonal camps, guided tours and birthday parties. The majority of revenues in this category are generated from school programs, with approximately a dozen offered at each museum, and its popular camps, which provide unique experiences such as scientific experiments and farm animal care. With CSTM now offering a full and diverse suite of programs and camps, revenues in this category have grown significantly since 2018-2019, and the Corporation assumes it will be able to maintain program participation and revenue levels over the planning period.

Membership revenue: The Corporation offers a tiered membership program, with categories for families, seniors, students, major donors and others. Membership privileges include: unlimited admission to the

CSTM, CASM and CAFM; a discount on renewal; discounts in the museums' gift shops and cafeterias; early registration to summer camps, and exclusive members-only events and tours. An aggressive membership campaign coinciding with the re-opening the CSTM and presentation of the *Art of the Brick* special exhibition yielded a record-high number of new and reactivated memberships over 2017 and 2018. From the peak, the Corporation assumes a renewal rate of 45% and new membership rate of 25% in 2019-2020. The Corporation is preparing to launch new membership categories in 2020-2021, including a membership that allows members to bring a guest. Over the planning period, the Corporation expects to maintain its membership level and generate consistent amount of membership revenues.

Retail revenue: The CASM and CSTM have on-site boutiques, complemented by a corporate online retail site that sells books, toys games, giftware, apparel, and branded merchandise related to the content of each museum. The Corporation's average retail revenue per visitor was approximately \$2 per visitor. The decline in projected revenue in 2020-2021 compared to recent years is due to there being no special exhibition presented at the museums in 2020-2021, as well as reflecting the new base level of attendance.

Parking revenue: Parking at the museum sites is available at a maximum charge of \$8 per day. The Corporation share the parking revenue with a third party which monitors the lots, collects parking fees, and maintains the meters. The parking revenues spiked in 2018-2019, coinciding with the record summer attendance at the three museums, the presentation of the *Art of the Brick* special exhibition at CSTM, and with fees from a temporary parking lot created on the CSTM site to serve workers during the Ingenium Centre construction. Over the planning period, the parking revenues are expected to level off at \$800,000 annually aligned with the new base level of expected attendance at the museums.

Facility rentals revenue: The calculation of facility rentals revenue uses a fee-per-event model plus a profit-sharing model with an on-site food services provider at CASM and CSTM. Preferred caterers also pay an annual fee. The awareness of rental spaces in the CAFM Learning Centre, the CASM and the renewed CSTM has grown rapidly in recent years. A new facility rental marketing and sales strategy was implemented in 2018, coinciding with the availability of new rental spaces in the re-opened CSTM, assuming that these revenues would grow over the planning period. However, the CASM experienced a sharp decline of facility rentals in 2019. While the Corporation is studying the reasons for this decline, it has lowered its facility rentals revenue projections for the planning period to a level that is assumed to be more attainable.

Thematic experiences revenue: Visitors may participate in unique experiences at the CAFM and CASM for an additional fee. The CASM has the most success with these experiences; about 1,000 simulator rides and 2,500 aircraft rides are taken annually, with rides provided by pilots associated with the Rockliffe Flying Club. The Corporation assumes sustained participation in these experiences over the period.

Farm operations revenue: The CAFM includes a demonstration working farm which generates revenues from milk production. While year-over-year milk production is consistent, the projected revenue for 2019-2020 was lowered to reflect an anticipated decrease in Canadian milk prices expected due to increased importation of milk products stemming from trade negotiations. Farm operations revenues in 2020-2021, and over the remaining period, are projected to be consistent with previous results.

Other (miscellaneous) revenue: The revenues in this category depend heavily on the production and uptake of travelling exhibitions and the number of special events at the museums. Licensing and copyright fees are also recognized as revenues in this category. Since the closure of CSTM, the

Corporation has been ramping up its travelling exhibition program, which is mainly funded by sponsors and partners who seek to leverage the Corporation's national networks. The increasing popularity of its travelling exhibitions program, coupled with proceeds of the sales of surplus assets as part of the collection, general warehouse and office move, among other miscellaneous revenues, led to a significant increase in revenues. With the staff move completed in 2020, the miscellaneous revenues are expected to level off at \$300,000 annually for the remaining planning period.

Sponsorships and contributions: The Corporation expects to continue to generate sponsorships and contributions over the planning period. These include in-kind and financial contributions from the Ingenium Foundation, a registered charity and separate legal entity, which is dedicated to providing access to the Corporation's exhibitions and educational programs, as well as funds to care for the national science and technology collection. In-kind contributions include support from employees of other government organizations for which the fair market value can be determined. The Corporation's fundraising capacity faces an increasingly competitive sponsorship and philanthropic sector.

Interest revenue: The short-term cash balance is invested in low-risk vehicles (i.e. GICs) with an expected yield of 1.5%. The cash balance that was carried in recent years was associated with the capital funds in reserve to complete the Ingenium Centre and health and safety-related infrastructure recapitalization projects, as well as some interest income on its own equity. As the Corporation uses these funds to complete these infrastructure projects, its interest revenue will decrease significantly over the period.

Description of the Core Responsibilities

Heritage Preservation and Research includes all activities dedicated to developing and caring for the collection, such as cataloguing and conserving artifacts and archives, conducting historical research, and providing library and information management services. It also includes the costs for preparing the collection and moving it to the new Ingenium Centre. Curatorial, conservation and collection staff salaries are included here.

Exhibitions, Programs and Outreach includes all the activities dedicated to the interpretation of the collection and the demonstration of scientific and technological processes through exhibitions, national initiatives, educational resources and outreach offerings. Salaries of the museums' staff are included in this category.

Museum and Collection Buildings refers to all of the activities to operate and care for the accommodations and physical environments that are required to house, protect and display the collection; the technical conservation and collection laboratories; the public museum facilities; and administration space for staff. This includes the salaries for facilities management staff.

Internal services support all of the Corporation's activities, including those that pertain to governance and management of resources and activities, as well as compliance and reporting. It involves the efforts to increase revenue generation through sponsorships and commercial activities, and the administrative support provided to the Ingenium Foundation.

4.3 Operating Budget

The table below shows the Corporation's operating budget by key activity on an accrual basis. Expenses are forecasted to increase in 2019-2020 from the original budget, mainly due to activities associated with the new Ingenium Centre: utilities costs to operate the Centre are higher than originally expected; the acquisition of office furniture, materials and supplies for the staff move into the Centre; accelerated rationalization efforts in advance of the collection move; and for professional movers to move the oversized and extra-large artifacts and the extensive library and archival materials into the Centre. The artifact move will continue through late 2021.

The fiscal year 2018-2019 was an exceptional year for FTEs at the Corporation with the re-opening of the CSTM and hosting a popular special exhibition, *The Art of the Brick*. After 2020-2021, salary costs are expected to decline as special projects are completed, to align with the attendance level expected over the period (see Table 1 above).

Facilities costs will peak in 2020-2021 as the Corporation operates the Ingenium Centre as well as the leased facilities housing the collection until the move is complete. Collection management expenses have temporarily dropped recently as the Corporation has suspended new acquisitions while it focuses on moving the collection. Over the remaining period, expenses in all categories will level-off or decline in order to absorb operating pressures, such as unfunded PILT, and inflationary and market price pressures across its operating and programming activities.

Table 7 – Operating Budget by Major Activity

<i>(in thousands of \$)</i>	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
	<i>Actuals</i>	<i>Forecast</i>	<i>Budget</i>	<i>Projections</i>			
Personnel costs	23,276	22,000	21,300	20,300	20,300	20,300	20,300
Facilities non-discretionary costs	11,510	11,045	11,355	9,930	9,980	10,030	10,080
Mold remediation	170	-	-	-	-	-	-
Collection moving	502	1,900	1,500	100	-	-	-
Amortization	7,823	10,500	12,500	12,500	12,500	12,500	12,500
Collection development and management	796	600	625	625	650	650	650
Programming and exhibitions	5,546	4,055	2,710	2,467	2,397	2,397	2,422
Internal services support	1,650	1,650	1,650	1,670	1,690	1,690	1,690
Advertising	674	700	600	600	600	600	600
Gift shop products	647	650	600	650	620	600	600
Total accrual basis	52,594	53,100	52,840	48,792	48,717	48,767	48,842

4.4 Capital Budget

The capital budget for 2020-2021 will be used to complete health and safety-related recapitalization projects through 2021, thanks to special funding from federal budget 2016. The Corporation will use a base capital budget of \$800,000 to make essential lifecycle repairs and replacements to critical corporate assets, including its building systems, information technology (IT) systems, laboratory and material handling equipment, and furniture and fixtures.

With audience expectations for digital and interactive cultural content forms increasing and technology advancing rapidly, appropriate physical and digital technology equipment is a necessity that requires constant upgrades. The Corporation also continues to focus investments in digital infrastructure and technology that support program delivery and lead to operational efficiencies. Hence, the largest portion of the base capital budget will be spent on IT technology, with a significant portion allotted for the acquisition of new data servers, and the roll-out the Exhibition Management System at CASM and CAFM (2019-2023). This will allow museum staff to more effectively manage exhibitions' digital components that will improve visitor experience on-site, as well as continue to effectively conduct our national reach.

The Corporation's capital budget on a cash basis is presented in the context of a five-year capital spending outlook in the table below.

Table 8 – Capital Budget

<i>(in thousands of \$)</i>	2018- 2019 <i>Actual</i>	2019- 2020 <i>Forecast</i>	2020- 2021 <i>Budget</i>	2021- 2022	2022- 2023	2023- 2024	2024- 2025
				<i>Projections</i>			
<i>Heritage preservation & research</i>							
Technical equipment	9	150	50	50	50	50	50
<i>Subtotal</i>	<i>9</i>	<i>150</i>	<i>50</i>	<i>50</i>	<i>50</i>	<i>50</i>	<i>50</i>
<i>Exhibitions, programs & outreach</i>							
Farm equipment	0	0	50	50	50	50	50
Permanent exhibitions	1,029	500	0	0	0	0	0
<i>Subtotal</i>	<i>1,029</i>	<i>500</i>	<i>50</i>	<i>50</i>	<i>50</i>	<i>50</i>	<i>50</i>
<i>Museum and collection buildings</i>							
Ingenium Centre	76,665	19,875	-	-	-	-	-
Health & Safety projects	377	2,800	6,250	-	-	-	-
CSTM Lifecycle repairs	212	0	150	150	150	150	150
CASM Lifecycle repairs	0	0	125	125	125	125	125
CAFM Lifecycle repairs	0	0	75	75	75	75	75
Security equipment	0	0	50	50	50	50	50
Tenant improvements	0	0	0	0	0	0	0
<i>Subtotal</i>	<i>77,254</i>	<i>22,675</i>	<i>6,650</i>	<i>400</i>	<i>400</i>	<i>400</i>	<i>400</i>
<i>Internal services</i>							
Fleet and other equipment	0	0	100	100	100	100	100
IT infrastructure	106	200	200	200	200	200	200
<i>Subtotal</i>	<i>106</i>	<i>200</i>	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>
Total (cash basis)	78,398	23,525	7,050	800	800	800	800

4.4.1 Health and Safety Projects

In 2016-2017, the government approved five-year capital funding of \$12.624 million for the Corporation to make repairs and recapitalize its facilities and equipment in order to address health and safety concerns and resolve deferred recapitalization. The majority of the Corporation's accumulated deferred capital repairs are being addressed with these funds.

Over 2019-2020, the Corporation completed multiple projects at the CASM, including a new roof membrane and replacement of the mechanical louvres system, a project that was carried over from 2018-

2019 due to winter weather conditions. The Corporation has made upgrades to equipment in buildings 193 and 194 (with dust collector, paint booth and replacement door seals), and in 2020-2021, it will undertake the building envelope repairs. It has also begun planning for the repairs of the runway perimeter fence, in order to complete the work in 2020-2021.

Two projects plan for the CAFM remain outstanding and have experienced delays: the replacement of the fire suppression systems for buildings 94 and 95 and the new parking and civil work for visitors. As these buildings are owned by the Department of Agriculture and Agri-food Canada and are considered heritage buildings, both the Department and the National Capital Commission (NCC) must give their permission for the Corporation to proceed with this work. This process is taking more time than anticipated, as the NCC has requested that the Corporation revise the master site plan for the CAFM. The Corporation expects to complete the plans in 2019-2020, in order for the work to be conducted over 2020-2021.

To date, all the projects have been completed within \pm 5-10% of their estimate, allowing the Corporation to remain within the overall allocation for these projects. The table below lists the projects, their status and their estimated cost.

Table 9 – Funded Health and Safety related projects

<i>Funded projects</i>	<i>Estimated cost</i>	<i>Fiscal Years</i>	<i>Status as of February 2020</i>
Roof patching, drain repairs and install roof-top HVAC units at 2380 and 2495 Lancaster	\$ 594,000	2016-17	Completed in 2016-17
Farm Operations Equipment Replacement at CAFM (feed silo and dairy production equipment)	\$ 875,000	2016-17	Completed in 2017-18
Install fire suppression and stand-by power for Buildings 94 and 95 at CAFM	\$ 1,100,000	2016-17	Partly done in 2017-18
Restoration of the Lighthouse on the CSTM site	\$ 180,000	2017-18	Completed in 2017-18
Upgrade elevator cabs and hydraulic systems in CASM main building	\$ 250,000	2017-18	Completed in 2018-19
Building lifecycle repairs and replacements, interior and exterior of CASM main building	\$ 2,825,000	2017-18 to 2019-20	Multiple projects all expected to be completed in 2019-20
Renovation of buildings 193 and 194 at CASM (roof, HVAC and fire, life and safety systems)	\$ 1,900,000	2018-19 to 2020-21	Work underway
Civil work at CAFM to enhance visitor access (entrance and parking relocation, new signage and lighting)	\$ 3,150,000	2018-19 to 2020-21	Planning is 90% complete; 1 year delay
Repair perimeter fence to secure airport runway at CASM	\$ 1,750,000	2020-21	Planning has begun
Total	\$12,624,000		

4.4.2 The Ingenium Centre

As part of the federal infrastructure initiative announced in federal budget 2016, the Corporation received capital funding totalling \$150.2 million, to construct a new purpose-built collections conservation centre to preserve and protect priceless Canadian heritage artifacts. This building provides specialized temperature and humidity controlled, sealed and secure artifact storage, as well as laboratories and workshops, library and archives and corporate offices. The Corporation will be the Centre's primary occupant, which will include space for the National Gallery of Canada (NGC), both are part of the Canadian Heritage Portfolio. Co-tenancy will build on natural synergies and lead to efficiencies.

Budget status

The construction estimate of \$150.2 million was derived from a 2010 order of magnitude ($\pm 50\%$) plus an inflation factor to 2016 dollars. The Corporation expects to use all the funding available for the project. As planning and design evolved, a number of issues arose that significantly increased the estimated cost of construction including extensive underground works and structural supports; high demand and cost for labour; and new US tariffs.

A number of the tender packages received bids well above estimates, including those for building envelope enclosure, interior finishes and racking and shelving. The contingency funds absorbed the essential costs increases, as well as unforeseen costs, like quantity increases on unit based contracts for structural works, change orders due on-site issues, design gaps and deficiency correction and remedial work as the construction advanced.

Table 10 – Capital Cost Breakdown for the Ingenium Centre Project

<i>(in thousands of \$)</i>	<i>2016-2017 Actual</i>	<i>2017-2018 Actual</i>	<i>2018-2019 Actual</i>	<i>2019-2020 Forecast</i>	Total project cost³
Base building construction	\$4,594	\$36,096	\$58,572	\$9,337	\$108,598
Interior fit-up	\$0	\$0	\$3,676	\$7,985	\$11,661
Professional services fees	\$2,750	\$8,867	\$3,840	\$1,070	\$16,527
Contingency	\$0	\$1,739	\$10,577	\$1,483	\$13,800
<i>Total per year</i>	<i>\$7,344</i>	<i>\$46,702</i>	<i>\$76,665</i>	<i>\$19,875</i>	\$150,586

The Corporation engaged in continuous re-scoping and value-engineering in order for the project to remain within its budget envelope. Later in 2019, with the success of its cost reduction and containment measures, and after releasing contingency funds that were not used for other construction packages that were completed, the Corporation proceeded to order racking and shelving to fit-up storage rooms on the third level with heavy duty, custom cantilever, motorized mobile system in order to condense its agricultural and transportation collections. It also acquired compact shelving to hold its library and archival materials in rooms on the first level.

With the current funds available, the project is able to meet a portion of its objectives: providing safer access to the collections; providing appropriate temperature and humidity-controlled and secure environments and new labs for preservation of the collection; consolidating staff with collections and labs for increased productivity and efficiency; and establishing a new research institute that will focus on the collection and Canada's material culture.

Schedule status

The project schedule was revised to account for unforeseen project complexities discovered during the planning, tendering, and construction phases. The base building was completed and building occupancy

³ In addition, \$803,000 has been spent in interior fit-up but is recorded as an operating expenses because the cost of each piece of furniture or equipment is below the capitalization threshold. Hence, the total project cost operating and capital is forecasted at \$151,389,000.

for staff was attained in August 2019. The commissioning and remedial activities and project close out activities will be completed in 2020. The final exterior works will also be completed in 2020 due to the early winter weather conditions.

The Corporation held a soft-opening in November 2019, coinciding with its Annual Public Meeting and the launch of its Strategic Plan 2020-2025. Reviews were positive. A formal public launch will occur once final deficiencies are corrected and a greater portion of the collection is moved.

Moving began in winter 2019, starting with the oversized artifacts on the ground floor, followed by the trains during the summer and staff as well as library and archives in the fall 2019. The installation of racking and shelving will continue well into 2020, while the move of the collection is expected to continue through late 2021.

APPENDIX: COVID-19 PANDEMIC IMPACTS

The following appendix provides an overview of the perceived COVID-19 pandemic impacts on the business lines and activities of Ingenium – Canada’s Museums of Science and Innovation and a summary of the actions undertaken by the Corporation to mitigate those impacts over 2020.

A.1 Impacts

A.1a Activities

All of Ingenium’s 18 buildings were closed to the public as of March 13, 2020, most notably the Canada Agriculture and Food Museum, the Canada Aviation and Space Museum, the Canada Science and Technology Museum, and the Ingenium Centre library and archives.

The museums reopened later in the summer, following the Government of Ontario’s announcement of Stage 2 of the province’s reopening plan. The museums reopened with a reduced weekly schedule of four or five visiting days per week and a small reduction in the hours of operation, with no change in fees. They re-opened in a staggered approach as shown below, as they adjusted to operations during the pandemic.

Canada Agriculture and Food Museum (CAFM): Members preview July 30 and 31;
Open to the public August 1, 2020

Canada Aviation and Space Museum (CASM): Members preview August 6 and 7;
Open to the public August 8, 2020

Canada Science and Technology Museum (CSTM): Members preview August 12 and 13;
Open to the public August 14, 2020

The Library and Archives situated at CASM and at the Ingenium Centre have not yet re-opened to the public on-site, although staff do respond to reference questions electronically.

The annual attendance target for the three museums has been revised from 808,000 to 92,800 visitors.

Despite the closures, the majority of the Corporation’s planned activities remain on track. Activities which experienced delay are those that had a significant on-site element that could not feasibly be developed or delivered virtually, or those that involved the on-site collection or on-site facilities.

Programming and Outreach:

The closure of the Corporation’s public sites delayed the development and expansion of the following on-site programming to 2021-2022:

- STEAM programs for youth
- Mini professional development opportunities for educators
- Job fairs and other STEAM career exploration opportunities
- Opportunities for innovators and entrepreneurs to engage with visitors
- Adapted programming for audiences with sensory processing disorders
- Indigenous science fair

The Corporation will also support the Frankfurt Book Fair rescheduled for October 2021 as per the decision by the Department of Canadian Heritage to defer Canada's host country status.

Following the closure, an enhanced online presence quickly became a priority and existing resources have been adapted to meet audience needs for online resources. The Corporation is using our platforms to help our audiences understand the science behind public health policy, to provide online learning resources for teachers and students, to provide positive distractions from the crisis, and to foster a strong sense of community across Canada.

On social media, the Corporation is promoting important science and public health updates and providing a mix of at-home activities and entertaining content. The Corporation supported families and students by providing quality science-at-home activity kits, videos, and educational resources, and made these free-of-charge downloads available to Canadians. These resources allowed students to continue to learn about STEAM despite schools being closed. Some components from programming that is typically offered on-site, such as activities from school programs, were adapted to be made available in virtual versions. Plans are underway to offer virtual field trips for the 2021-2022 school year and options are being explored to live stream other programming.

Staff have also adapted offerings to continue outreach programming during the pandemic. The Corporation continued its partnership with Connected North to deliver virtual programs to students in remote Indigenous communities. Based on educator feedback, the Corporation's Summer Institute for Elementary Teachers is being delivered online as an adapted workshop series. The Corporation also partnered with the Ottawa Food Bank to distribute 3,000 museum activity packages to families in need.

Strategic Planning:

Uncertainty surrounding the new realities and operating conditions for museums during and after COVID has also delayed the development of core documents that will support the realization of the Corporation's new Strategic Plan. The Science Engagement Framework will be developed in fiscal year 2021-2022. Work began in 2020 for the Digital Innovation Lab Strategy, the Indigenous Communities Engagement Strategy, and the Audience Development Plan, but their completions have been extended by a year to 2022. The Corporation remains committed to these foundational pieces over the planning period, and views these initiatives as having a significant impact that will reach beyond the current Strategic Plan.

Events:

The museums have successfully transformed popular and significant on-site events into virtual experiences, including Canada Day across all three sites. The Canada Agriculture and Food Museum held virtual celebrations for Easter and National Ice Cream Day. The Canada Aviation and Space Museum virtual programs and platforms included a VE Day 75th Anniversary Commemoration, its "Wings over Water" family summer programming, and the Government of Canada's Northern Lights program. The ceremony to celebrate the youth recipients of the Ingenium-NSERC (Natural Sciences and Engineering Research Council) STEAM Horizon Awards 2020 was held virtually on May 26. The Corporation's Indigenous Star Knowledge Symposium is being presented in a modified format blending online and on-the-land gatherings locally and internationally, including the first virtual event held in September 2020.

Exhibitions:

Due to the closure of the museums and project delays over the summer period, the *Eye in the Sky* exhibition, being developed in partnership with NAV Canada, will open at the Canada Aviation and Space Museum in 2021. The launch of the new *Soil Superheroes* exhibition at the Canada Agriculture and Food Museum has been rescheduled for fiscal year 2021-2022.

The Plan for Travelling Exhibitions Program is on track. While the majority of travelling exhibitions being developed are on track, *Artificial Intelligence* has been delayed to 2022-2024 and *Aquaculture* has been delayed to 2023-2025. The development of the plans to increase non-traditional venues for the Corporation's travelling exhibitions has been delayed until next fiscal year due to COVID-19 uncertainties.

The Corporation has also launched a special Curating under Quarantine (CuQ) initiative to respond to the COVID-19 pandemic in 'real-time' while considering which aspects from this pivotal moment in history will be significant for Canadians in the future. This multi-project initiative – including a webinar series, a project that documents industry reactions, and university research partnerships – uses a curatorial lens to collect, preserve, and share the COVID-19 experiences of the public and the museum community.

Facilities and Capital Activities:

Due to reduced access to the sites for staff, consultants, and stakeholders, starting dates have been delayed or extended for some major initiatives. The new dates are as follows:

- The expansion of the Living Lab model across our sites (2020-2023)
- The Corporation's fit-up of the Digital Innovation lab (2021-2022)
- The review of wayfinding at the museums (2021-2022)
- The development of the Corporation's long-term capital replacement plan (2021-2022)

At the time of the COVID-19 outbreak, Ingenium was in the process of preparing artifacts and beginning to move them from leased facilities to the Ingenium Centre. As this work is done on-site, the collection move activities were on hold from mid-March to mid-July 2020, until the collection move staff were allowed back on-site. The duration of the hold in collection move activities will cause important delays in the lease exit schedules. It also extends the expected additional months of unpacking, through 2023. Carrying the leases longer has financial implications.

The work to fit-up the Ingenium Centre with specialized, custom racking and shelving was also delayed by a few months as contract installers did not have access to the site.

Small infrastructure projects associated with alleviating health and safety concerns on the museums sites through funding from federal budget 2016, have also experienced delays in their planning and implementation as follows:

- the renovation of the small artifacts storage and conservation laboratory buildings 193 and 194 at the CASM site, which involves replacing the roof, mechanical systems (HVAC), and fire, life and safety systems, has been postponed to 2021-2022;
- the repairs and replacement of the airport runway perimeter fence at CASM will be delayed until spring 2021, as the work requires favourable weather conditions;

- the planning for new parking and civil work for visitors at the CAFM site was slowed, although a new master site plan is now in preparation, however the project will not break ground until 2021-2022.

A.1b Services

The Corporation has adapted its services and processes to mitigate the risk of COVID-19 exposure for visitors and staff. In order to reopen safely, the museums implemented the following health and safety measures aligned with municipal and provincial public health directives and guidelines:

- Visitors with COVID-19 symptoms are being asked to stay away.
- Site capacity has been reduced in order to ensure visitors can practice physical distancing. Hence, visitors must reserve their tickets in advance through our online ticketing portal in order to limit the number of visitors on-site at one time. Directional signage has been installed throughout the museum buildings and sites for physical distancing during their visit.
- Non-medical face masks are required to be worn.
- Additional hand-sanitizing stations have been installed throughout the museum sites.
- Heightened cleaning protocols have also been enacted, including more frequent cleaning and the disinfection of high-touch areas such as door handles, interactive experiences, and seating surfaces.

To support these measures, a large number of interactives are currently not accessible and areas of their sites that are highly tactile or which are too small for physical distancing are also closed as follows:

- Canada Agriculture and Food Museum: the Demonstration Kitchen, the second floor of the Learning Centre, as well as the play areas and hands-on items in the *Canola! Seeds of Innovation* and *Food Preservation* exhibitions and in the Soil Lab.
- Canada Aviation and Space Museum: the cafeteria, the *Life in Orbit: The International Space Station* and *Health in Space: Daring to Explore* exhibitions, demonstration areas, the RCAF Hall of Tribute, the library, the runway observation area, flight simulators and cockpits, and the preschool play area and outdoor play structure.
- Canada Science and Technology Museum: The Crazy Kitchen, ZOOOM (Children's Innovation Zone), the Exploratek maker space, and the cafeteria.

The closure of the museum and shift to online resources impacted the Corporation's web site traffic. Web pages featuring these online resources and COVID-19 information have seen a substantial increase in online visits, including the approximately 200% increase in traffic to the Ingenium Channel.

The Corporation's sites offer unique venue rentals for third-party hosted events, including conferences, corporate meetings, training, and social events like weddings and birthday parties. Due to the site closures, the majority of the events with signed agreements to be held in 2020 were cancelled and others were postponed to 2021.

The Corporation offers unique seasonal camps throughout the year for school-aged children, which are very popular. However, due to the pandemic, all spring break camps that were to be held in mid-March 2020 at the three museums were cancelled and customers refunded. The registration for summer 2020 camps had already launched in February 2020, with the majority sold-out within hours or days; these

registrations were also cancelled and refunded. Given the restrictions and logistics, the Corporation preferred to focus on preparing for public access at re-opening.

A.1c Financial Impacts

Loss of revenues:

The lengthy site closures, among the other public health measures taken to address the COVID-19 pandemic since March 2020, continue to have a negative impact on the Corporation's financial results. Given the uncertainty about the extent and duration of the COVID-19 pandemic, the key assumption supporting the financial projections is that the current containment measures will remain in effect through March 2021.

Revenue generation is highly correlated to visitor attendance at Ingenium's museums, with admission fees being the largest revenue source, followed by programming, memberships and commercial operations. The Corporation's ability to generate these revenues was nil during the site closures caused by the pandemic, as all on-site activities were cancelled, including educational programs, events, and seasonal camps.

Also notable, the museums were closed during the most profitable months of the fiscal year, which extends the reach of the financial impact of the revenue losses. April through August see the highest attendance at the museums, when there is peak demand for educational and public programming, kids camps, special events and travelling exhibitions. In fact, 70% of its annual revenues are garnered over the spring and summer, which is also during the popular tourist season in Canada's Capital Region. Since the museums reopened in August, they have not been welcoming the full complement of visitors. This is because of the limitations on public gatherings, the number of people in public spaces, and to respect physical distancing requirements.

In early 2020, Ingenium counted over 12,000 member families, with the majority of renewals set to occur over the March-August period, which is the peak period for membership purchases. The Corporation has extended the length of current memberships by the amount of time the museums were closed.

Normally on a cost-recovery basis, Ingenium generates other revenues from travelling exhibitions, special events, licensing and copyright fees, and sales of surplus assets. Licensing and copyright fees were reduced dramatically. Sales of surplus assets were halted during closure. Travelling exhibition bookings were cancelled or postponed, as host organisations were also closed.

The Corporation relies on sponsorships, philanthropy, grants and third-party contributions to develop and deliver new or enhanced initiatives, exhibitions, and programs. The Corporation expects a contraction of its sponsorship and contribution pipeline over the fiscal year, as business, industry and the public feel the pinch of the reduced market activity, and are less likely to support Ingenium activities. There are long-term negative impacts of reduced exhibition and program renewal: the museums' content becomes outdated and loses relevance, leading to decreased attendance and revenues in the future.

For the reasons explained above, compared to the original budget set out in the Corporate Plan financial statements, the Corporation projects a loss of 81% in operating revenues and 55% loss of contributions over the course of the year. These revenue losses for the period were offset in part by operational savings, but to a greater extent by the COVID-19 relief government funding.

Operational Savings:

The closure of the Corporation's three museums sites, and the slowdown of some activities represent some minor operating cost savings over the fiscal year. These are briefly explained as follows:

- reduced travel and hospitality expenses mainly due to staff not attending planned conferences or external meetings and the Board of Trustees meetings taking place over videoconferencing rather than in person;
- reduced cost associated with merchandise that would have been sold in the boutiques at CASM and CSTM;
- reduction in the acquisition of materials for programs and events that would have taken place, including school and public programs, speaker series, birthday parties, kids camps;
- salary savings from reducing hours of museums floor staff and from some staff taking unpaid leave during the summer period .

There were no notable savings in building operations non-discretionary costs, such as utilities, because the projected cost in the corporate plan are lower than the actual costs, and so any savings were offset by higher-than-anticipated costs, resulting in nil impact. There are multiple reasons for this:

- The Corporation has many buildings primarily dedicated to collection storage, as well as the three museums which have artifacts on display, and these buildings are all more costly to operate than office space because of the requirement to maintain strict temperature and humidity controls for collection storage.
- CAFM operates a farm with animals that continued to need care and all building systems were required to remain operational.
- The Corporation had expected to move out of one of its leased facilities by the second quarter of the year. However, due to the closure, the collection could not be moved out and so the building is being operated for a longer period with temperature and humidity controls at conservation levels.

Following a thorough cost-benefit analysis, the Corporation decided to retain staff that could continue to contribute during the period of closure, those delivering critical services, and those with the skills and experience that would present a risk to lose and a burden to recruit and retrain for re-opening. The workforce has been retained to continue to develop and deliver programs and exhibitions; conducting curatorial and conservation research; caring for the collections, animals and the farm; internal and external communications; customer, members, sponsor and partner relations; creating and updating various policy instruments; fulfilling online boutique orders, and maintaining critical corporate services. Moreover, staff is significantly increasing and enhancing our digital platforms, content and outreach.

The Corporation also conducted a corporate-wide exercise to identify projects and activities that would benefit from additional temporary staff. Two dozen opportunities were identified, ranging from supporting the development of new survey tools, digitizing and documenting collection objects, and conducting historical research, to data entry in various systems. The temporary reassignment provides the opportunity for staff to build on their skills to gain new experiences, and strengthens the talent pool for future succession. These opportunities are being provided to permanent staff who cannot conduct their regular work offsite. Part-time and casual museum staff hours were reduced associated with the

temporary museum closures and reduced museum hours once re-opened, which will lead to minor salary savings for Ingenium.

A.1d Emergency funding received

On June 18, 2020, the Honourable Steven Guilbeault, Minister of Canadian Heritage, announced emergency funding totalling \$25.7 million for national museums and the National Battlefields Commission to help maintain essential services and to prepare to reopen their doors. Ingenium received \$5.339 million in funding to support operations in the absence of revenues and offset reopening expenses.

The vast majority of this emergency funding was used to cover salaries, allowing the Corporation to retain skilled and experienced staff to continue to interact with the public through social media platforms and distance learning, review and/or develop programs and exhibitions and other content, increase offerings on its digital platforms including a variety of educational and information resources, research and document the collection, develop new strategies and plans associated with the new Strategic Plan 2020-2025, as well as manage membership and partnership relations and conduct essential services and other corporate activities during closure.

A portion of the emergency funding was allocated to offset the building lease extension as a result of the significant collection move project delays during the building closure.

The balance of the emergency funding was used to offset the unforeseen costs incurred to facilitate staff telework, prepare sites for reopening, and secure the sites during closure. Costs were incurred to protect employees caring for the farm animals and other essential workers on-site during closure, and related to the reintegration of a limited number of employees to date. With the reopening of the museum sites and re-launch of some major projects at the workplace such as the collection move, the Corporation has put in place mitigation controls in order to reduce the risk of COVID-19 transmission. Where removing the risk of exposure entirely from the workplace was not possible, engineering and administration controls were implemented:

- increased frequency of building cleaning,
- provision of hand sanitizer and cleansing wipes,
- provision of personal protective equipment including masks and gloves,
- installation of plexiglass barriers at admissions and boutique counters,
- installation of directional signage,
- limitation of the number visitors inside the museum, and
- establishment of an online admission ticketing system to limit the number of visitors.