

Ingenium – Canada’s Museums of Science and Innovation

Annual Report 2018-2019



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Message from the Chair of Ingenium – Canada’s Museums of Science and Innovation, Dr Gary Polonsky

It has been another banner year for Ingenium – Canada’s Museums of Science and Innovation. Ingenium has now entered its second half-century, and the future of the corporation remains bright as it continues to share the stories of Canadian scientific and technological achievement, while exploring the creative and curious minds driving that achievement.

Through its many activities, from exhibitions and maker events to apps and summer camps, Ingenium celebrates the innovative spirit of Canadians everywhere. More to the point, Ingenium is actually helping to build that same spirit by encouraging people to think outside the box, through thought-provoking programs and educational initiatives.

During this fiscal year, the new Canada Science and Technology Museum marked its first anniversary. It is a source of pride to everyone at Ingenium that the Museum opened on time and on budget, and that it continues to enjoy rave reviews and record attendance.

Another major Ingenium undertaking this year has been the Collections Conservation Centre, which is now nearing completion. In late March 2019, several large artifacts were moved into the building, and the Centre should be fully operational by the end of next fiscal year.

Any well-managed corporation operates with clear strategic objectives, and I am pleased to say that Ingenium is continuing to hit its targets in the areas of Collection and Conservation, Education and Exhibitions, National Outreach, Sustainability and Profitability, and a Renewed and Innovative Infrastructure. There are few museum families in the world that can boast a working farm, a functional airstrip, and locomotives, all in the same city. There are also few museum families that can claim the same wide-ranging high-level scholarship, programming, and outreach.

It has been an honour to serve as Chair of Ingenium over the past several years. The staff of Ingenium is outstanding, its curators exceptional, and its management one of the best with whom I have ever had the pleasure to work.

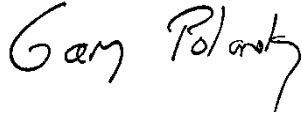
Acting President and CEO Fern Proulx shepherded the corporation admirably from March 2017 to June 2018. In his capable hands, Ingenium successfully launched the reinvented Canada Science and Technology Museum, and continued construction of the Collections Conservation Centre. With new President and CEO Christina Tessier now at the helm, I have no doubt that Ingenium will continue to go from strength to strength.

I would also like to thank my fellow trustees. It has been a joy to work with such a committed board, whose unwavering goal has been the continued success and well-being of the organization they serve. My thanks as well to all of Ingenium’s partners and volunteers, who enable us to accomplish more than we ever could on our own.

And particular thanks to the federal government for its continued support, without which none of this would be possible.

In conclusion, as this is my final year as Chair of the Board, I want to thank everyone for making this near-decade so memorable. In particular, I cite the entire staff of Ingenium who are among the most professional colleagues I have ever known.

Sincerely,

A handwritten signature in black ink that reads "Gary Polonsky". The signature is written in a cursive, slightly slanted style.

Dr Gary Polonsky,
Chair, Ingenium – Canada's Museums of Science and Innovation

Message from the President and CEO, Christina Tessier

It has been an outstanding year for Ingenium. As befits a suite of museums devoted to innovation, it has also been a year of new beginnings and of major long-term projects nearing completion.

On a personal level, it was an honour to be appointed CEO of Ingenium in June 2018. As Director General of the Canada Science and Technology Museum, I had seen firsthand what our stellar staff could accomplish, and I look forward with pleasure to shepherding Ingenium's many achievements in the years ahead.

This past year, we celebrated a full year in our new building at the Canada Science and Technology Museum. The reimagined Museum continues to earn rave reviews, and the boost that the renewal has given to Canada's oldest and most innovative science museum is incalculable.

Those who have visited the Science and Technology Museum site lately will also have seen Ingenium's massive new Collection Conservation Centre (C3) next door. As we near completion of this exceptional and much-needed facility, we are already moving in large artifacts, with plans to have the building fully operational before the end of the coming fiscal year.

Exhibitions and programming are key, of course, to attracting onsite visitors, and I am pleased to report that this year's initiatives have been successful in attracting record attendance of 936,648 across all three Museums.

New exhibitions have included **Plant Portraits: Native Plants of Canada** at the Canada Agriculture and Food Museum, **Health in Space: Daring to Explore** and **Canada in Space** at the Canada Aviation and Space Museum, and **Moving Stories** at the Canada Science and Technology Museum, which featured the Museum's own transportation collection.

Fresh new programs and special events remained a priority as well. A Blast-Off Breakfast at the Canada Aviation and Space Museum marked the launch of Canada's newest astronaut, David St-Jacques. We continued to refresh our array of travelling exhibitions, too, offering the new **Cipher|Decipher** and **Iron-Willed: Women in STEM** to venues across the country.

Inclusion and outreach are equally important. I am particularly excited about our partnership with an international travelling exhibition company for **One Sky, Many Worlds: Indigenous Voices in Astronomy**. Indigenous knowledge-keepers from around the world are leading creation of the exhibition's content, and we look forward to sharing Indigenous perspectives on science and technology with our visitors.

In a similar vein and to enhance Ingenium activities focusing on inclusion, we were pleased to launch several programs aimed at future innovators. The Elementary STEAM Residency Program offers hands-on sessions exploring various STEAM-related skills (Science, Technology, Engineering, Arts, and Mathematics). The STEAM Effect Project, for students ages 12 to 17, is a 12-week program for underserved youth, encouraging them to consider careers in STEAM. In addition, the Canada Agriculture and Food Museum began offering its

off-site AgVenture educational programs that targeted, among other groups, younger children in schools and daycares, from November through February.

Nor were the nuts and bolts of Museum operations neglected. Among other innovations, new practices improved commercial operations in our boutiques, and a new employee health-and-wellness initiative encouraged both physical well-being and a sense of team spirit.

All of the achievements of Ingenium over the past year are reflected in the pages of this annual report, which covers activities at all three Museums, as well as behind-the-scenes work in collection and conservation, business development, capital projects, corporate services, and more.

New beginnings, of course, require an underlying continuity, and in that regard Ingenium has been blessed. In addition to Fern Proulx's strong leadership as Interim CEO at the outset of this fiscal year, we have been fortunate to have the invaluable guidance and support of Dr Gary Polonsky as Chair of the Board of Trustees over the past decade.

As we close out this fiscal year, we are about to enter the final year of a five-year strategic plan. Looking ahead, I anticipate maintaining high levels of attendance for ongoing programming, temporary exhibitions, and special events. We will keep promoting women in STEM and young people in STEAM. And we will continue to partner on important initiatives with organizations across the science and technology spectrum to ensure that we remain as innovative, fresh, and relevant as ever.

It has been a great year for Ingenium. I take great pride in working with such a talented and dedicated staff, without whom we could never achieve as much as we do. My sincere thanks to the entire team for making this such a successful 12 months.

Thanks go as well to our many partners for supporting Ingenium in everything it does, from exhibitions and events, to capital projects and promotion. Among our partners, I would also like to single out our highly effective cadre of volunteers, who have worked with us on aircraft restoration, special events, summer day camps, and so much more.

Our Board members also deserve considerable credit for giving us the benefit of their expertise and advice, as well as unstinting support through some very busy years for Ingenium. And our sincere thanks to the Government of Canada for its ongoing support, which makes it possible for us to remain an important source of scientific and technological innovation, insight, and exploration for Canadians everywhere.



Christina Tessier,
President and CEO

Governance

Ingenium is governed by a Board of Trustees, appointed by the Minister of Canadian Heritage and Multiculturalism, with the approval of the Governor-in-Council. The Board is accountable to Parliament, through the Minister of Canadian Heritage and Multiculturalism, for Ingenium's business affairs.

The Board is composed of up to 11 Trustees, including a Chair and Vice-Chair, from across Canada. Trustees are collectively responsible for strategic leadership and accountability, management of Ingenium's business activities and affairs, and ensuring that all duties conferred upon Ingenium by the *Museums Act* and Part X of the *Financial Administration Act* are carried out. The full Board met six times during the 2018–2019 fiscal year. Among other work, the Board developed new Terms of reference for individual trustees and for the Board as a whole.

Four committees support the work of the Board: the Executive Committee; the Finance, Audit and Risk Management Committee; the Governance Committee; and the Major Facilities Committee.

In addition to meetings of the Board and Board Committees, Trustees take part in meetings with Management, as well as special activities on behalf of Ingenium. The Board also engages with the public at its Annual Public Meeting, during which it shares Ingenium's mandate, priorities, and fiscal management.

COMMITTEE STRUCTURE

Board Committees usually meet before each Board of Trustees meeting, or via teleconference, and report on their activities at Board meetings. The four Board Committees are described below.

Executive Committee

The Executive Committee (EC) consists of the Chair, the Vice-Chair, two additional Trustees designated by the Board, and the President and CEO, who sits as a non-voting member. This Committee establishes Ingenium's annual performance objectives, and has full authority to act when the full Board of Trustees is unable to meet in a timely fashion. The Executive Committee held three meetings during the 2018–2019 fiscal year.

Finance, Audit and Risk Management Committee

The Finance, Audit and Risk Management (FARM) Committee oversees Ingenium's financial management, its practices, and its information systems. This Committee reviews and advises the Board of Trustees on Ingenium's five-year operating and capital plans, as well as annual and quarterly financial statements. The FARM Committee also selects internal audits; reviews and advises the Board of Trustees on plans and reports from auditors; and oversees Ingenium's risk management policies and practices. The Committee comprises no fewer than four Trustees, in addition to the Chair of the Board and the President and CEO, who are non-voting members of the Committee. The FARM Committee held five meetings in 2018–2019.

Governance Committee

The Governance Committee (GC) monitors and reviews governance of Ingenium in relation to best practices, and recommends changes aimed at enhancing operational effectiveness. The GC also reviews the Board's committee structures and memberships, and ensures that a Board self-assessment process is in place. The Committee reviews and recommends nominations for trustee appointments and reappointments, and comprises no fewer than four Trustees, as well as the Chair of the Board and the President and CEO, who are non-voting members. The GC held five meetings in 2018–2019.

Major Facilities Committee

The Major Facilities Committee (MFC) was formed to provide additional Board oversight for the renewal of the Canada Science and Technology Museum, and the construction of the new Collections Conservation Centre. The Committee comprises no fewer than four Trustees, as well as the Chair of the Board. The President and CEO is a non-voting member of the Committee. The MFC held eight meetings in 2018-2019.

Board of Trustees

Name, Region

Term – BOARD COMMITTEES

Dr Gary Polonsky, Ontario

January 14, 2010 to January 13, 2018* – Board Chair, EC (Chair), FARM, GC, MFC

Replaced by

Neil Russon, New Brunswick

May 9, 2019 to May 8, 2023 – Board Chair, EC (Chair), FARM, GC, MFC

Jim Silye, Alberta

June 18, 2010 to June 17, 2018* – Board Vice-Chair, EC, FARM, MFC

Replaced by

Marian K. Brown – Board Vice-Chair

June 30, 2019 to June 29, 2023

Dr C. David Desjardins, New Brunswick

February 5, 2015 to February 4, 2019* – GC, FARM

Replaced by

Matthew A. Lafrenière, Ontario

May 21, 2019 to May 20, 2022

Michael A. Geist, Ontario

March 1, 2018 to February 28, 2022 – GC

A. Christian Idicula, Alberta

March 1, 2018 to February 28, 2022 – FARM

Radosveta Ilieva, Quebec

October 27, 2017 to October 26, 2020 – FARM

Paul Johnston, Ontario
June 1, 2018 to May 31, 2022 – FARM (Chair), GC

Heather Kennedy, Alberta
June 13, 2018 to June 12, 2021 – GC, MFC (Chair)

Andréanne Leduc, Quebec
October 27, 2017 to October 26, 2021 – MFC

Virginia McLaughlin, Ontario
December 18, 2009 to February 20, 2020 – EC, GC (Chair), MFC

Dr Marianne D. Sadar, British Columbia
October 27, 2017 to October 26, 2021 – GC

*Although the terms of Chair Dr Gary Polonsky, Vice-Chair Jim Silye, and Trustee Dr C. David Desjardins expired in 2018 and 2019, they continued to serve on the Board until their successors were appointed, as per the *Museums Act*.

Executive Management

Ingenium’s daily operations are managed by its President and Chief Executive Officer, supported by an executive team listed below.



Overview of Ingenium – Canada’s Museums of Science and Innovation

Vision

To inspire Canadians to celebrate and engage with their scientific, technological and innovative past, present and future in a place where innovations of the past meet the future.

Mission

To collect, explore, and engage through science, technology, and engineering.

Mandate

Ingenium – Canada’s Museums of Science and Innovation was established as an autonomous Crown corporation on July 1, 1990, under the *Museums Act*. As stated in the Act, the mandate of Ingenium is:

“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.”

Ingenium – Canada’s Museums of Science and Innovation includes the Canada Agriculture and Food Museum, the Canada Aviation and Space Museum, and the Canada Science and Technology Museum. Ingenium and its three Museums are located in Canada’s Capital Region. Together, the three Museums are responsible for preserving Canada’s scientific and technological heritage, while also promoting, celebrating, and sharing knowledge of that heritage.

Canada Agriculture and Food Museum

The Canada Agriculture and Food Museum (CAFM) is one of the few agricultural museums in the world to be located on a working farm near the heart of a major city. As Canada’s national museum of agricultural science and technology, the Museum maintains a wide range of animals, including many rare breeds of poultry and livestock, along with numerous farm-to-plate displays, including a bee colony and a dairy operation.

Sustainable farming and the environment are key issues for the Museum as well. A biodigester, a soil lab, and various energy-related modules showcase made-in-Canada technologies designed to improve energy efficiency while reducing the ecological impact of farming in this country.

Educational programming and exhibitions support the Museum’s operations in various ways, reinforcing the importance of balancing efficient food production with the need to reduce agriculture’s environmental footprint. Throughout the year, the Museum presents cooking and food-preparation workshops, family festivals with an agricultural theme, exhibitions, school programs, and social events exploring everything from cuisines around the world to the science of agri-food.

To ensure that the Museum's content remains accessible to as wide an audience as possible, activities and educational tools are made available online, as is a mobile app, travelling exhibitions, and Edukits for teachers. The Museum also maintains an active social media presence on Twitter, YouTube, Instagram, and Facebook, enabling it to connect with Canadians young and old, across multiple platforms, wherever they may live.

Canada Aviation and Space Museum

As Canada's national museum of aerospace technology, the Canada Aviation and Space Museum (CASM) is home to one of the world's finest collections of aircraft. In addition to maintaining rare planes—often the last of their kind—expert volunteers continue their precise restorations of iconic aircraft.

The Museum is located next to a working airport, making it possible for the Museum to offer rides in period aircraft, while also encouraging women and girls to take to the skies. In addition, the Museum is able to welcome vintage planes to its airfield, along with special events that include parachute demonstrations.

In addition, the Museum is known for the quality of its exhibitions and programming. Live links to Canadian astronauts in Space, informative permanent displays, and a special legacy project honouring air force veterans are key initiatives, as is a celebration of renowned Inuk pilot Johnny May.

Commemoration of important historical events is a priority as well. Special programming, apps, and exhibitions were produced for the First World War centenary and, throughout the year, the Museum acknowledges the achievements and sacrifices of Canadian aviators through special events, workshops, concerts and more.

The Museum maintains an active social media presence through the Ingenium Channel, and has produced a number of highly popular apps and games, transporting players from Mars to the International Space Station to the Western Front. Exploring flight in all its forms, the Museum encourages visitors to dream of soaring into the wild blue yonder, and to the stars beyond.

Canada Science and Technology Museum

The Canada Science and Technology Museum (CSTM) is one of the oldest museums of its kind in the world. It was the first science museum in the country to feature interactive exhibitions and programming, and remains Canada's largest and most comprehensive science and technology museum.

Since the opening of its reimagined facility in November 2017, the Museum has continued to garner international praise and public acclaim. While retaining many of its most popular features—including an updated Crazy Kitchen and its impressive steam locomotives—the Museum has enhanced its displays and added considerably to its public space.

The Museum continues to offer thematic exhibitions featuring objects from its collections, and provides popular programming for visitors of all ages and all walks of life, including

maker events, summer camps, and educational sessions. In addition, the Museum reaches out to Canadians everywhere through online initiatives that include a series of popular downloadable science experiments.

The Museum maintains an active social media presence, featuring YouTube videos on topics ranging from the Spanish flu to sailing ships, as well as entertaining Twitter, Instagram, and Facebook posts via the Ingenium Channel. In addition to online outreach, curators and other members of staff present their research at conferences, on television and radio, and in publications.

Sharing stories of Canadian scientific achievement over the centuries, the Canada Science and Technology Museum explores a national narrative of outstanding innovation, from traditional Indigenous technologies to nanobots and clean energy.

Together, Ingenium's three Museums examine the impact of science and technology on everyday life. From the animals we raise, to the skies above, to the technologies behind everything from Space travel to medicine, the Museums explore the history of Canadian innovation, and its promise for the future.

Highlights of the Museums and Ingenium

Canada Agriculture and Food Museum – Kerry-Leigh Burchill, Director General

From farm to table, field to fork, the Canada Agriculture and Food Museum (CAFM) explores the science and innovation behind farming and the food industry. It has been another outstanding year for the Museum, with sold-out special events and summer camps, and record attendance for some of our most popular seasonal programming. More than 202,000 visits were made to the Museum in 2018-2019.

Outreach at the regional, national, and international levels remained a key priority for the Museum as well. More than 126,000 people in the National Capital Region were served with hands-on educational demonstrations and activities in their communities as the Museum team offered programming at fairs during the summer, educational sessions in local schools, and a new AgVenture mobile education program that serves schools, community centres, seniors residences, and cultural events. CAFM staff were asked to present educational programs in other provinces in support of national efforts to celebrate the sciences and technologies that support agriculture which in turn supports our quality of life. Additionally, the CAFM team was also extremely proud to have our three travelling exhibitions seen by more than 650,000 visitors this year in the Northwest Territories, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, and Nova Scotia. **Canola: A Story of Canadian Innovation, Space to Spoon and A Taste of Science** are already booked at several venues each in the coming year as well.

Relevant and engaging exhibitions remain an important way in which we connect with visitors. Early in the fiscal year, we hosted **Plant Portraits: Native Plants of Canada**—a provincial version of a national and international art competition called Art of the Plant. Presented in partnership with the Ottawa Society of Botanical Artists, the exhibition was on view in the Museum’s Learning Centre, and was seen by an estimated 103,770 visitors. There was also a photographic display of archival images of the horses and tractors of the Central Experimental Farm from the national collection

Soil Garden and Soil Lab incorporated new information on the science behind soil health, and included new interpretive panels on pollution tracking, garden plots, and seasonal demonstrations. In a similar vein, the Museum’s Discovery Park added three new displays on agricultural technology, including a special collaboration with Algonquin College on new hive-installed bee-monitoring software.

With a national mandate to foster scientific literacy, the Museum team worked with partners and educators across the country to encourage the use of digital learning resources. Seventeen STEM-based Educational Activity Kits were downloaded more than 67,000 times – supporting 1.3 million students (Kindergarten through Secondary School) with national curriculum content. The Museum’s Bee Odyssey app has been downloaded more than 138,000 times in 182 countries. Another national/international project was launched in March with Ingenium’s first ever Google Expedition offer – a virtual field trip for students around the world to “tour” the dairy operation at the Museum.

Celebrating the animals, the Museum’s most popular draw, new interpretive panels were added to the Dairy Barn and to the cattle-grazing field. In addition, the Museum offered daily demonstrations about animal husbandry, technologies used on farms, and the realities of contemporary agriculture. The Museum staff also put an increased emphasis on biosecurity in the barns and across the site with new signs and proactive protocols being instituted for the health and safety of visitors, staff, and the animals.

The Museum’s five-year Food Literacy focus also wrapped up this year. With the support of more than 50 partners, the Museum is proud to have delivered more than 5,500 cooking demonstrations, the Sprouting Chef Summer Camps, school programs, special events, exhibitions, and daily activities that highlighted food production, food preparation, food preservation, safe food handling skills, and shone a spotlight on Canadian crops and research.

Programming at the Canada Agriculture and Food Museum expanded beyond family-friendly activities, special events, and school programs to also include food literacy workshops and lectures for adult visitors. The Museum’s popular Food for Thought lecture series was also back, with topics that included urban food production, composting, and a year in the life of a small-scale sheep dairy. Some of the special events in 2018-2019 included a July 1 partnership with Ottawa’s Dominion City Brewery, a Cheese Soirée, and cooking sessions with Canadian celebrity chef Lynn Crawford.

The Museum enjoyed record attendance of 20,214 visitors for its Easter Weekend programming. Other recurring festival-style events remained popular as well, including the Sheep Shearing Festival, Ice Cream Festival, World Honeybee Day, For the Love of Cheese, Thanksgiving, and Halloween, and Winter Frolic during the Christmas season.

Nineteen school programs at the Museum celebrate key Canadian agricultural innovations, while also inspiring students to pursue studies in STEAM-related disciplines. School activities were fully booked in the weeks leading up to the Sheep Shearing Festival, and the Museum’s popular summer camps were sold out in minutes. A new special partnership with CHEO’s Recreation Therapy program enabled the Museum to also offer six Sunday-morning sessions for high-functioning autistic youth ages 12 to 18, teaching them about basic nutrition, the preparation of simple meals, and practical cooking skills.

It was an amazing year for the Museum, thanks in no small part to our dedicated staff and volunteers. From the men and women who tend to our animals and crops, to animators who deliver workshops and demonstrations in all kinds of weather, to the people who continue to work tirelessly on the Museum’s outstanding exhibitions and programming, we couldn’t do it without them.

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Canada Aviation and Space Museum – Christopher Kitzan, Director General

It has been an exciting year for the Canada Aviation and Space Museum. From biplanes to the International Space Station, we’ve transported visitors from Earth to the stars and back again, sharing Canadian aerospace innovations and the people behind them.

Our slate of popular and timely exhibitions this year included one international touring show, and a number of self-produced displays and exhibitions. Throughout the summer, we featured **Beyond Planet Earth: The Future of Space Exploration**. Produced by the American Museum of Natural History, in collaboration with MadaTech, Israel's National Museum of Science, Technology, and Space, the exhibition welcomed 90,000 visitors during its four-month run.

Toward the end of the fiscal year, the Museum's First World War Fokker D.VII and the Royal Aircraft Factory SE5a returned for display at the Museum, following two years of restoration in New Zealand. In addition, work continued on enhancing First World War aircraft on permanent display with new panels and information, in support of the Museum's commemoration of the First World War Centenary. In addition, the Museum installed a new Donor Wall, acknowledging the support of its many donors, sponsors, and partners.

Produced in collaboration with the Canadian Space Agency, the permanent exhibition **Health in Space: Daring to Explore**, launched in February 2019, examines the physical and psychological challenges faced by astronauts. The exhibition includes physiology experiments on disorientation in Space, led by Canadian astronaut Roberta Bondar, as well as a dosimeter that measures Space radiation and a biomonitoring shirt. The exhibition also features firsthand accounts from Canadian astronauts, along with a section on David Saint-Jacques, who recently served aboard the International Space Station. A travelling version of the exhibition is currently in production, and will be launched early next fiscal year.

Canada in Space, a new permanent exhibition, looks at this country's most noteworthy Space achievements, including satellites and robotics. Key objects include the original Canadarm, flight suits belonging to two Canadian astronauts—Her Excellency Julie Payette and the Honourable Marc Garneau—and a model of Canada's Alouette 1 satellite.

STEAM-related programming remains a high priority for the Museum, as we continue to encourage students, women, and girls to consider careers in STEAM (Science, Technology, Engineering, Arts, and Mathematics) disciplines. Our second-annual Girls' Fly Day on June 9, 2018, was hosted with an international organization of licensed women pilots and the Rockcliffe Flying Club. Many of the day's 100 participants enjoyed their first flight that day, along with sessions on careers in aviation.

In September 2018, the Museum hosted Science Literacy Week, in tandem with NSERC, the Canadian Space Agency, and the Little Inventors organization. Inventions created by youth remained on display until mid-October.

Five new school programs on aviation and Space themes were launched in February, and during March Break visitors were introduced to "Your Place in Aerospace." Each day was geared to learning more about a different career in aviation and Space.

In addition, a well-attended Aviation and Space Career Exploration Fair on February 26 and 27 gave students opportunities to meet with more than 25 different organizations, talk to engineers, scientists, and IT and mechanical professionals, try an air-navigation simulation, chat with developers of robotics and autonomous vehicles, and hear from Museum volunteers about their work experiences in aerospace. The Aviation and Space

Career Exploration Fair was organized by the Canadian Aviation and Space Skills Network. Believing that inspiration, education, and training are critical to our country's success, and essential to ensuring Canada's future as an industry leader for generations to come, the Museum spearheaded the Network. This growing Network currently comprises more than 30 member organizations and brings together like-minded builders and innovators who believe that Canada is, and continues to be, a global powerhouse in aviation and Space.

Special events for visitors of all ages were produced throughout the year as well. On April 13, 2018, the Museum kicked off its official celebration of the Year of Space during a sold out Yuri's Night event for adults, which included a "science slam." In October, the Museum also marked World Space Week.

In early June, we were part of Doors Open Ottawa, welcoming more than 3,000 visitors to behind-the-scenes tours of our reserve hangar. Also in June, the Museum celebrated its 30th anniversary with a special reception.

Canada Day is always a great success for the Museum, and this year we welcomed some 7,000 visitors for events co-hosted with NAV CANADA. Adding to the summer fun, we offered special summer programming and SONART day camps in July and August. In late August, we also commemorated the centennial of Rockcliffe airfield, partnering with the Rockcliffe Flying Club on programming and demonstrations.

Later in the year, we partnered with Rideau Hall for the Governor General's Halloween "Space" event. In early December, we hosted a Blast-Off Breakfast for Canadian astronaut David St-Jacques, marking the launch of his mission to the International Space Station. Later that month, we hosted popular programming that included children's activities, demonstrations, and screening of a new animated film called *The Great Northern Candy Drop*, based on a children's book about Inuk pilot Johnny May, written by the Museum's Linda Brand.

In mid-February, we provided Family Day programming, and marked National Aviation Day on February 23 with a celebration of the 110th anniversary of the Silver Dart. Our magic shows and the family series Music at the Museum sold out, and special events in honour of the Avro Arrow and the launch of the new Canadians in Flight stamp series were well attended.

Members of the military and their families are also important to us. On May 4, 2018, we hosted the Royal Canadian Air Force Change of Command, and in late September 2018, we held the Military Family Resource Centre's Welcome Day for serving military personnel. Throughout the year, we host military concerts and commemorations of Operation Manna, and Remembrance Day, and the online Legacy Series shares moving firsthand video accounts of the Second World War from civilians and members of the RCAF.

A museum devoted to aviation and Space must also have a robust outreach program, and over the past year, we continued to expand our offerings across the country and around the world. Our online gaming apps, including the Ace Academy series and Dawn of Mars remain highly popular, and in April 2018 we launched Skies of Fury DX for Nintendo Switch.

In addition, we maintained a strong social media presence through the Ingenium Channel. We offered downloadable resources via our website. And we sent travelling exhibitions across the country, including **On the Trail of the Monarch Butterfly** and two copies of **Ace Academy: The Flight Experience**.

It has been a highly successful year on all fronts. Much of what we do benefits considerably from our many partnerships and the dedicated work of our teams of volunteers. In the end, however, it is our devoted staff who enable us to provide outstanding experiences to Canadians, wherever they may live, whether encouraging students to reach for the stars, or commemorating this country's many aerospace achievements and innovations.

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Canada Science and Technology Museum – Lisa Leblanc, Director General

On November 17, 2018, the Canada Science and Technology Museum celebrated its first full year in its reimagined building. It has been an exciting year for us, as we—and our visitors—continue to explore the myriad possibilities presented by our new space.

Others seem just as intrigued with the renewed Museum as we are. In December 2018, public broadcaster TVOntario aired the penetrating documentary *Reboot: A Future Museum*, exploring renewal of the Canada Science and Technology Museum. The documentary was produced in association with the Museum.

In addition to maintaining some of the Museum's most beloved features, we continued to offer engaging temporary exhibitions. The international touring exhibition, **The Art of the Brick**, featured astonishing LEGO® creations by artist Nathan Sawaya, and attracted more than 90,000 visitors during its 16-week presentation.

Moving Stories, which opened in November 2018, presented highlights from the Museum's own transportation collection, including a streetcar and a rare Collingwood skiff. Also in November, **Cipher|Decipher**, developed in partnership with the Communications Security Establishment, explored encryption and its impact on our daily lives.

In the final quarter of the fiscal year, we installed solar panels on the Museum's roof as part of our commitment to alternate forms of energy. We are currently developing interpretation related to solar power.

Much of our special youth-oriented programming this year was focused on STEAM (Science, Technology, Engineering, Arts, and Mathematics). In partnership with the Ontario Science Centre, we developed the Elementary STEAM Project for middle school students, offering hands-on sessions exploring the importance of STEAM to positive change.

In addition to encouraging younger visitors, we created a 12-week program for underserved youth, ages 12–17, inspiring them to consider careers in STEAM. In STEAM Effect, these youthful change makers enjoyed opportunities to learn coding, soldering, 3D printing, and prototyping, and the use of hand tools—all while enhancing key 21st-century skills such as critical thinking, problem solving, communication, creativity, and cooperation.

We were pleased to partner this year with the Wabano Aboriginal Health Centre on two new afterschool programs for Indigenous participants. Launching early in the new fiscal year, one program will be aimed at youth; the other will be intergenerational.

We also developed five new school programs this year, bringing the total of curriculum-linked programs to nine. In tandem with our educational programs, we developed products such as activity booklets for self-guided visits, pre- and post-visit resources, and Museum Mission booklets.

Special events reinforced many of the Museum's themes and displays. In October 2018, we held a Doctor Who-themed event in our Exploratek tinkering space, which attracted 1,000 participants. In February 2019, our DIY Electronic Plushie workshop sold out all 40 spots within 48 hours, and our March Break "Brain Boost" programming welcomed more than 30,000 children and youth.

This year's July 1 programming broke previous records, welcoming more than 10,000 visitors, and three new LEGO®-themed summer camps this year quickly sold out. Our Curiosity on Stage speakers' series also remained popular through the summer and into the fall, and in October the Museum was proud to host the joint annual conference of the International Committee for Museums and Collections of Science and Technology and the International Association of Transport and Communications Museums.

Breakthroughs in science and technology require hands-on experimentation. Enhancing our other educational offerings, we offered a series of Nintendo Labo workshops from June 22 through July 8, 2018, inviting visitors to build and play with creations invented using Nintendo Switch consoles. This popular activity welcomed more than 45,000 visitors over a three-week period. We were also pleased to host Maker Faire again in September, welcoming nearly 5,000 participants and guests during this two-day celebration of inventors and their technical creations.

Given that STEAM includes the arts as part of a well-rounded scientific education, we offered performing arts presentations throughout the year. On July 7, a performance by artists from the Music and Beyond festival attracted more than 500 people. On October 20, an evening event, Galatecha, presented in partnership with MadeMill, featured an exciting blend of technology, music, and visual art.

Outreach has always been a key part of what we do, from travelling exhibitions and downloadable resources, to a vibrant social media presence. One of our key outreach initiatives over the past few years has been Let's Talk Energy. Through this national program, we bring sustainability-themed materials and activities to venues across the country, sparking discussion of energy issues from conservation and clean energy to climate change.

This year, Let's Talk Energy took us to the G7 Media Centre in Charlevoix, Quebec, where we provided materials related to climate change, ocean literacy, and women in STEM. At G7 ministerial meetings in Halifax, we displayed content exploring potential cooperation on climate change, oceans, and clean energy.

Let's Talk Energy's interactive Power Booth also took to the road, appearing at events across the country. Let's Talk Energy was also represented during a ribbon-cutting ceremony in Toronto in connection with our climate-change exhibition, **To What Degree? Canada in a changing climate** and at the Prime Minister's Science Fair. In addition, special science-themed activities were presented in association with Let's Talk Energy during a Winter Celebration event at Rideau Hall.

Education is an important part of Let's Talk Energy, and this year we produced lesson plans related to the **To What Degree?** exhibition, and to Canada's energy future. In addition, Let's Talk Energy partnered with the Canada Green Building Council on a "Lunch and Learn" session at the Museum, and launched National Energy Board lesson plans for high school teachers and students.

Travelling exhibitions are essential to our ability to share what we do across the country and around the world. This year's travelling exhibitions included **Cipher|Decipher, Climate Change is Here, Echoes in the Ice: Finding Franklin's Ship, Bike It, To What Degree?**, and **Game Changers**, presented at venues in British Columbia, Alberta, Ontario, the United States, and Germany.

As we enter a new fiscal year, our dedicated staff is committed to connecting with Canadians from all walks of life. Change is essential to innovation of any kind, and we look forward to remaining responsive, nimble, and relevant in the years ahead.

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Collection, Research, and Corporate Governance – Monique Horth, Vice-President

Collections are the lifeblood of any museum. But artifacts and archival material are merely attractive or intriguing objects without the benefit of solid study, analysis, and interpretation.

Research is a key aspect of what we do, and this year was no exception. Our curators are renowned around the world for their specialized knowledge, and they share that knowledge frequently in exhibitions, publications, conferences, and public presentations. This year's highlights included articles in the *Journal of Social History* and the *Science Museum Group Journal*, as well as a chapter for the book *Women and War* with colleagues at the Canadian War Museum.

Staff curators delivered addresses at conferences from Germany to Brazil, and the Netherlands to the United States, on topics including land transportation, the Spanish flu, rural history, and shaping a science collection. Closer to home, they provided physical and digital access to the collection for researchers, delegations from other countries, students, and the general public through curatorial tours and other initiatives, including media interviews, appearances on popular television shows, and a virtual Ingenium warehouse tour via Google Hangouts.

In an online world, providing digital access to collections is an essential part of museum management. Throughout the year, Ingenium staff made frequent presentations on digital

access and the digital management of archives and collections, and added a number of videos and articles to the Ingenium Channel.

Ingenium also administers a trio of research residencies. This year, there were two Garth Wilson Fellows in Public History, one Ingenium-McGill Fellow in the History of Science, Technology and Medicine, and two University of Ottawa-Ingenium Fellows in Gender, Science and Technology. In addition, graduate students are hired to research specific topics throughout the year.

Many Ingenium materials have been accessed this year in some surprising venues, including displays and downloads at Canadian embassies in Vietnam, Bangladesh, Kazakhstan, and Colombia. In addition, our curators provide compelling content through the Ingenium Channel in articles, videos, blog posts, and lectures via Skype.

We work hard to connect with many groups and communities on STEAM-related initiatives. Toward the end of this fiscal year, we considerably strengthened our relationship with Indigenous peoples through several successful meetings with Indigenous academics, directors of Indigenous science associations, and community leaders on new STEAM programming.

We are also working with Indigenous groups on a variety of exhibitions, both physical and virtual. Preliminary work has begun on the exciting new travelling exhibition, **One Sky, Many Worlds: Indigenous Voices in Astronomy**, with content being led by Indigenous scholars. Through our Indigenous co-curators and innovative approach, the Ingenium team is giving priority in the exhibition to the Indigenous voice, the Indigenous world-view, and Indigenous ways of knowing which will result in a more inclusive and forward-looking understanding of science.

In addition, we are planning a showcase of Algonquin technologies in Artifact Alley at the Canada Science and Technology Museum, in association with the Kitigan Zibi First Nation. At the Canada Agriculture and Food Museum, research continues on the Indigenous Foodways project in association with the Heiltsuk First Nation, and with Crown-Indigenous Relations and Northern Affairs Canada. The Heiltsuk First Nation has also been key to our Sacred Journeys online video project, exploring the resurgence of oceangoing canoes. One of our most important collection-related initiatives over the past few years has been the planning and construction of our Collections Conservation Centre (C3). Located next to the Canada Science and Technology Museum, C3 is currently nearing completion, and is scheduled to be fully operational by the end of the coming fiscal year.

Work during the past fiscal year has included enclosing the exterior and completing the roof; mechanical and electrical work; installation of interior railway tracks for rolling stock; interior finishing; planning for the move, including risk assessment and mitigation strategies; ongoing installation of shelving, windows and external cladding; and security and IT.

Because of C3's construction, and the work involved in transferring artifacts from three warehouses, in April 2018 we suspended new acquisitions and artifact loans—a policy that will remain in effect until 2021. This does not mean, however, that curatorial work has

ground to a halt. In preparation for the gradual transfer of artifacts, staff are hard at work on collection rationalization.

The Collection Rationalization Program is progressing on target and, by December 2018, had involved the review of some 1,400 inventory items, and more than 1,600 artifacts. Objects deaccessioned as a result of this process were either duplicates or items that no longer meet collection standards, and were primarily transferred to other heritage institutions.

Key deaccessions included agricultural implements and equipment transferred to two museums in Toronto; airplane engines transferred to the Montreal Aviation Museum and the National Air Force Museum of Canada; and a Duotone Maple Leaf Projector transferred to the Musée des ondes Émile Berliner in Montreal.

Ingenium was also pleased to receive the James J. Bradley Distinguished Service Award this year for the work of its Library and Archives in preserving automotive resource materials.

Whether maximizing our collections, enhancing digital and physical access, undertaking research or sharing knowledge, everything we do is designed to help us tell the story of Canadian scientific and technological innovation. Ingenium's collection is one of the most extensive and important of its kind in the world, and it is a source of pride to us all that we have a hand in ensuring that it remains relevant and available for generations to come.

Report on Performance Indicators

Ingenium surpassed the majority of its performance targets over 2018-2019 as it pursued year four of its five-year strategic plan toward 2020.

Although the total attendance for the three Museums was just below (2%) target, Ingenium had a year of record-breaking results: attendance of more than 936,000 visits and total operating revenues and contributions of \$13.959 million (cash reporting basis).

The Canada Science and Technology Museum's first full year of operation was a major success that was further boosted by the popularity of the **Art of the Brick** exhibition. The Canada Agriculture and Food Museum had a new site attendance record that exceeded its target due to its diverse exhibitions, its programs designed for new audiences, and the continued popularity of its special events and programming. The Canada Aviation and Space Museum offered engaging programming, events, and exhibitions including **Beyond Planet Earth: The Future of Space Exploration**.

This was also the first year of school programs at the new Canada Science and Technology Museum, which resulted in a strong baseline year. Targets were met at the Canada Aviation and Space Museum, as well as at the Canada Agriculture and Food Museum due to the launch of its AgVenture program.

Reflecting its commitment to national and global reach, Ingenium exceeded its travelling products and national programs target with attendance of more than 5 million thanks to new venues and the launch of exciting new exhibitions on the themes of women in STEM (science, technology, engineering, and math), the role of the health sciences in Space exploration, and communications cryptology. The target for digital offerings was also exceeded, reaching more than 38 million people across Canada and more than 180 countries worldwide.

Ingenium grew its network of partners, collaborators, and sponsors to support its activities, including on-site and travelling exhibitions, as well as programming initiatives to enrich and expand the reach of Ingenium's content.

In 2018-2019, Ingenium continued preparing artifacts for the move into the new Collections Conservation Centre (C3). A critical component of this project is clearing space in the collection storage space, and Ingenium exceeded this target by more than 40%. Although significant resources were allocated to the C3 construction project, which will be completed July 2019, some delays were experienced due to weather and supply shortages. Construction repair work to two components of the building envelope of the Canada Aviation and Space Museum was delayed due to weather and will carry into the coming spring. Planning continued for new facilities at both the Canada Agriculture and Food Museum and Canada Aviation and Space Museum, with two recapitalisation projects at those museums that will be completed in 2019-2020.

Ingenium's successes in 2018-2019 reflect an unwavering commitment to achieving its objectives creatively, collaboratively, and strategically. The results demonstrate how

Ingenium fosters national scientific and technological literacy by sustaining offerings that resonate with Canadians and by fully embracing new opportunities.

Measures	Indicator result / Target	Result above (↑), on (→) or below (↓) target
Strategic Objective 1: Best in Class - Collection		
<i>Strategy 1.1: Make the collection more accessible digitally and physically.</i>		
<i>Strategy 1.2: Become leaders in science and technology subject based research by focusing and sharing expertise.</i>		
<i>Strategy 1.3: Advance the Collection Rationalization Project.</i>		
% of collection digitized	96% (Target: 96%)	→
# of m ² cleared in collection storage space	705 m ² (Target: 500 m ²)	↑

Strategic Objective 2: Best in Class – Education and Exhibitions		
<i>Strategy 2.1: Create unique exhibitions that are relevant, engaging and entertaining experiences.</i>		
<i>Strategy 2.2: Offer STEAM educational programming in formal and informal forums.</i>		
<i>Strategy 2.3: Celebrate significant and inspiring Canadian science and technology innovations.</i>		
Attendance CAFM, CASM and CSTM	CAFM: 202,005 (Target: 173,000) CASM: 226,131 (Target: 245,000) CSTM: 508,512 (Target: 520,000) TOTAL: 936,648 (Target: 938,000)	→
# of downloads of educational materials	101,675 (Target: 90,000)	↑
% visitor satisfaction	CAFM: 93% (Target: 90%) CSTM: 95% (Target: 90%)	↑
# of school programs delivered / # of participants	CAFM: 542 / 14,646 (Target: 550 / 15,000) CASM: 340 / 9,845 (Target: 345 / 10,450) CSTM: 633 / 17,779 (Target: Baseline year) TOTAL: 1,515 / 42,270 (Target: Baseline year)	→

Strategic Objective 3: National Outreach		
<i>Strategy 3.1: Build a creative and relevant line of outreach products.</i>		
<i>Strategy 3.2: Build and sustain strong regional, national and international networks.</i>		
<i>Strategy 3.3: Increase awareness with new marketing and branding strategies.</i>		
# of virtual engagements (Reach: impressions for Twitter & Facebook, Flickr and website views; Connect: number of followers; Engage: re-tweets, comments, shares, clicks on shared content and YouTube views)	Reach: 37,538,433 Connect: 21,468 Engage: 1,330,927 TOTAL: 38,890,828 (Target: 26,100,000)	↑

Measures	Indicator result / Target	Result above (↑), on (→) or below (↓) target
Attendance of travelling products and national programs	5,604,981 (Target: 3.84 million)	↑
# of Edukits rentals and # of youth engaged	25 schools /1,544 youths (Target: 25 schools/1,000 youth engaged)	↑

Strategic Objective 4: Sustainable and Profitable		
<i>Strategy 1: Implement a sound business model that diversifies and maximizes commercial returns.</i>		
<i>Strategy 2: Invest in digital (creative) infrastructure.</i>		
<i>Strategy 3: Invest in our workforce and workplace.</i>		
Amount of operating revenue generated	\$11.337M (Target: \$8.75M)	↑
Amount of contributions from donations, sponsorships and in-kind (cash basis)	\$2.622M (Target: \$1.60M)	↑
Number of new collaborative agreements	7 (Target: 3 new agreements)	↑
Number of training hours for staff	3,421 hours (Target: 2,000 hours)	↑

Strategic Objective 5: Renewed and innovative Infrastructure		
<i>Strategy 1: Launch the renewed CSTM.</i>		
<i>Strategy 2: Address the need for a conservation and restoration hangar for the aviation collection.</i>		
<i>Strategy 3: Capital campaign for Food Innovation Centre at CAFM.</i>		
<i>Strategy 4: Design and build the Collections Conservation Centre.</i>		
<i>Strategy 5: Implement health and safety projects identified for Budget 2016 funding.</i>		
Successfully launch the capital campaign for the Food Innovation Centre at CAFM	Planning continued (Target: Continue planning capital campaign)	→
Identify funding for Aviation Training and Research Centre	Funding strategy development continued (Target: Develop funding strategy)	→
Meet project milestones for the Collections Conservation Centre	Occupancy delayed to May 31, 2019, and project close-out complete by July 2019. (Target: milestones met)	↓
Health and Safety projects funded through Budget 2016 are completed on time and within budget	Result: 2 projects delayed to 2019-20. (Target: milestones met)	↓

Sponsorships, Partnerships, Agreements, and Collaborations

SPONSORSHIPS AND PARTNERSHIPS

Ingenium is active in generating revenues through sponsorships and partnerships. Through its Business Development Division and the support of management, fiscal year 2018–2019 saw the successful signing and renewal of several multi-year cash and in-kind agreements with various private- and public sector partners, as well as the continuation of numerous others. Ingenium sincerely thanks all of its sponsors and partners for helping to make the following initiatives and programs possible for the benefit of Canadians.

Air Traffic Control exhibition

NAV CANADA

Avro Arrow

OEX Recovery Group

Canada from Space Giant Floor Maps

Canadian Space Agency

Canada Day at Canada Aviation and Space Museum

NAV CANADA

Canada's Energy Mix Map Interactive

National Energy Board

Canola Initiative

Agriculture and Agri-Food Canada
Alberta Canola Producers Commission
Canadian Canola Growers Association
Canola Council of Canada
Government of Manitoba
Government of Saskatchewan
Manitoba Canola Growers Association
Saskatchewan Canola Development Commission

Capture Canada

Environment and Climate Change Canada
Department of Canadian Heritage
Parks Canada Agency

Citizen Science

Genome Canada

Cipher / Decipher

Communications Security Establishment

Climate Change is Here

Natural Resources Canada
Environment and Climate Change Canada

Curiosity on Stage

Communications Security Establishment
Google Canada

Energy Data Visualization Lesson Plans

National Energy Board

Earth to Us Gallery

Mining Association of Canada

Exploratek

ArcelorMittal Canada

Exploring Earth

Canadian Space Agency

Food Literacy Initiative

Agriculture and Agri-Food Canada
Bernardin
Canadian Food Inspection Agency
Health Canada (Food Directorate)
Nestlé Canada
Public Health Agency of Canada

From Rock to Reality: The Mining and Metallurgy Legacy Project

Canadian Institute of Mining, Metallurgy and Petroleum
Canadian Mineral Processors
Hatch
MetSoc (Metallurgy & Materials Society)
United Steelworkers

Future of Food Documentary

Department of Fisheries and Oceans Canada

Hidden Worlds

Department of Fisheries and Oceans Canada

Living Lab

University of Ottawa

Medical Sensations

Toshiba Canada Medical Systems
Visible Body

National Pollutant Registry Index Public Engagement

Environment and Climate Change Canada

Nintendo Labo Display

Nintendo of Canada Ltd.

Ocean Learning and Ocean School

Department of Fisheries and Oceans Canada

Open Science Data Portal

Environment and Climate Change Canada
Transport Canada

Oral History: Pioneers in Space

Canadian Space Agency

Potash: Feeding the World

Agrium
Canadian Fertilizer Institute
PotashCorp
The Mosaic Company

Space to Spoon

Canadian Space Agency

Science Communications Training Pilot

Environment and Climate Change Canada

Soil Initiative

Canadian Seed Growers' Association
Fertilizer Canada
Glacier FarmMedia
Nutrients for Life
Soil Conservation Council of Canada

Sound by Design and STEAM: A World in Motion

The Peter and Melanie Munk Charitable Foundation

Health in Space exhibition

Canadian Space Agency

STEAM Horizon Awards

Indspire

Lockheed Martin Canada

Natural Sciences and Engineering Research Council of Canada

Syncrude Canada Ltd.

Technology in our Lives

Ziebarth Electrical Contractors

Tectonic Shift: The Search for Northern Boundaries

Natural Resources Canada

To What Degree? Canada in a changing climate

Department of Fisheries and Oceans Canada

Department of Indigenous Services Canada

Environment and Climate Change Canada

Health Canada

Natural Resources Canada

Public Health Agency of Canada

Transport Canada

Wi-Fi

Ruckus Wireless

Women in STEM Initiative

Canadian Museum of Nature

Department of Fisheries and Oceans Canada

The Franklin Institute

ZOOM! Mobile

Michelin North America

AGREEMENTS AND COLLABORATIONS

Ingenium has Memoranda of Understanding and/or has collaborated with the following organizations in 2018–2019. Memoranda of Understanding with external partners support collaboration, as well as the pooling of knowledge, services, and financial resources toward the development of programs and exhibitions that meet common goals. Ingenium is grateful to all of its collaborators who contribute to enriching museum experiences and Canadian cultural content.

Memoranda of Understanding and other collaborations:

- 4-H Canada
- Actua
- Aéroports de Montréal
- Agriculture and Agri-Food Canada
- Aldrich Pears Associates
- Algonquin College
- Agriculture in the Classroom
- Apple Blossom Farms
- Association francophone pour le savoir
- Bedford Oceanographic Institute
- Bell Canada
- Blue Shoes Honey
- Bombardier
- Bouwdesign and Associates
- British Columbia Medical Association
- Bytown Railway Society
- Cadets 51 Squadron
- CAE
- Canadian Agriculture Hall of Fame Association
- Canadian Association of Physicists
- Canadian Association of Science Centres
- Canadian Aviation Historical Society
- Canadian Conservation Institute
- Canadian Museums Association
- Canadian Museum of History
- Canadian Nuclear Safety Commission
- Canadian Space Agency
- Canada-Wide Science Fair
- Canada Wind Energy Association
- Cardiff University
- Carleton University
- Carl Zeiss Canada
- Chef Bruce Wood
- Chef Lynn Crawford
- Children’s Hospital of Eastern Ontario
- Clean Foundation

- Clean Growth Hub
- Colliers International
- Connected North
- Conseil des écoles publiques de l'Est de l'Ontario
- Conseil des écoles catholiques du Centre-Est
- Council of Canadians with Disabilities
- CREO Inc.
- Dairy Distillery
- Dairy Farmers of Canada
- Dairy Farmers of Ontario
- Dalhousie University
- Defence Research and Development Canada
- Department of Canadian Heritage
- Department of Mining Engineering, Queen's University
- DigiHub Shawinigan
- Dominion City Brewing Co.
- École de musique Sonart
- Ecology Ottawa
- EDM Studio
- EEPMON
- Electric Vehicle Council of Ottawa
- Embassy of the Kingdom of the Netherlands
- Energy Education
- Environmental Education Communication Network
- Environment Canada and Climate Change Canada
- EOS Lightmedia
- Experimental Aircraft Association
- Ferme et Forêt
- First Mobile Education
- Fisheries and Oceans Canada
- Franklin Institute
- Galileo Museum
- Garden Promenade Ottawa
- Gartner Canada
- Gees Bees
- Geological Survey of Canada
- Globalive XMG
- Google Expedition
- Governor General's Innovation Awards
- Groupe Lapsus Inc.
- GSM
- Health Canada
- Heiltsuk Nation
- Héli-Tremblant
- Heritage Livestock Canada (Formerly Rare Breeds Canada)
- Hummingbird Chocolate

- Impact Group
- Indigo Park
- Information Communications Technology Council
- Inside Education
- International Plastic Modeller Society
- J.A. Laporte Flowers & Nursery
- Kind Village
- La Nation Huron-Wendat
- La Trappe à Fromage
- Laurier Centre for Women in Science (Wilfrid Laurier University)
- Les Toques Blanches
- Lixar
- L'Oréal Canada
- Lumos Energy
- Lumbec
- M42 Group Incorporated
- MacOdrum Library, Carleton University
- Magellan
- Maker Faire
- Manitoba First Nation Education Resource Centre
- Marine Biology Laboratory, University of Chicago
- Master Gardeners of Ottawa Carleton
- McGill University
- MDA
- Milkhouse Dairy
- Mission Control
- Musée des Arts et Métiers, Paris
- Musée des Hospitalières de l'Hôtel-Dieu de Montréal
- My Tiny Cupboard
- Native Skywatchers
- National Energy Board
- National Film Board of Canada
- National Geographic
- National Research Council Canada
- Natural Science and Engineering Research Council of Canada
- Neal Brothers Foods
- Newfoundland and Labrador English School District
- Nutrients for Life
- Nunavik Creations
- Ontario Ministry of Education
- Ontario Science Centre
- OpenText
- Osler Library for the History of Medicine, McGill University
- Ottawa Biplane Adventures
- Ottawa Community Foundation
- Ottawa Food Bank

- Ottawa Society of Botanical Artists
- Ottawa Valley Border Collie Club
- Ottawa Valley Mobile Radio Club
- Ottawa Volunteer Search and Rescue
- Overflow Brewing Company
- pHacktory
- Pomerleau
- Pratt & Whitney Canada
- Proto3000
- Public Policy Forum
- Public Health Agency of Canada
- Quality Urban Energy Systems of Tomorrow
- Research and Education in Accessibility, Design, and Innovation (READi)
- Redefined Wood
- Rick Hansen Foundation
- Roberta Bondar Foundation
- Rockcliffe Flying Club
- ROTO
- Royal Astronomical Society of Canada
- Royal Canadian Air Force
- Royal Canadian Geographical Society/Canadian Geographic
- Royal College of Physicians and Surgeons of Canada
- Rum&Code
- Ryerson University
- Savvy Company Inc.
- Science Museum, London
- Science World British Columbia
- Scientific Instrument Commission
- SE3D Interactive
- Sensigent
- Sheep Herder Werner Reitboeck
- Sheep Shearer Ross Creighton
- Siemens
- SimentIT Inc.
- SimWave
- Smithsonian Enterprises
- Spiria
- St. Cloud State University
- Department of Women and Gender Equality
- Stetson Flyers
- Student Energy
- Telus Spark
- The Learning Partnership
- The Piggy Market
- The Merry Dairy
- The Royal Canadian Geographical Society

- The Taylor Group
- Think Data Works
- Title Entertainment Inc.
- Toboggan Design Inc.
- Top Shelf Preserves
- University of Ottawa
- University of Toronto
- University of Waterloo
- Vanderlaand Farm
- verTerra Corporation
- Westcoast Women in Engineering Science and Technology (WWEST)
- Western University
- Willow Hollow Farm
- Willow Lane Farm
- Winterlude
- Youth Climate Lab
- ZEISS Canada

Management Discussion and Analysis

Ingenium – Canada’s Museums of Science and Innovation is committed to achieving the mandate established by the *Museums Act*, while providing the financial and operational foundation necessary to support ongoing renewal and delivery of its many programs and projects.

As a cultural Crown corporation, the Corporation operates at arm’s length from government with regard to operating and programming decisions, while subject to the financial provisions governing Crown corporations set out in Part X of the *Financial Administration Act*. Ingenium is governed by a Board of Trustees, which is accountable to Parliament for the stewardship of the Corporation through the Minister of Canadian Heritage and Multiculturalism.

The Corporation 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).

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;”</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>
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>
MISSION	<p>To collect, explore, and engage through science, technology, and engineering.</p>
VISION	<p>To inspire Canadians to celebrate and engage with their scientific, technological and innovative past, present and future.</p>
VALUES	<p>Accountability — Collaboration — Creativity — Integrity — Pride — Respect</p>

Strategic Direction

Over 2018-2019, Ingenium pursued the long-term strategic objectives established by the Board of Trustees for the 2015-2016 to 2019-2020 planning period. The five strategic objectives derive from its mandate and guide the delivery of its programs. The Corporation’s parliamentary appropriations are allocated against four Core Responsibilities.

Strategic Objectives and Outcomes mapped to the Core Responsibilities

CORE RESPONSIBILITIES	STRATEGIC OBJECTIVES AND OUTCOMES
<p><i>Heritage Preservation and Research</i></p> <p>Developing and preserving a comprehensive national science and technology collection; providing access to the collection; and sharing research and expertise to enhance knowledge of the collection.</p>	<p>Best in Class – Collection</p> <p>The Corporation has a well-researched, preserved, comprehensive and rationalized collection that is accessible virtually and physically to all Canadians.</p>
<p><i>Exhibitions, programs and outreach</i></p> <p>Interpretation of the collection and demonstration of scientific and technological innovations and inventions, and their impact on society, through the delivery of virtual and physical exhibits and educational programs for museum visitors and global audiences.</p>	<p>Best in Class – Education and Exhibitions</p> <p>The Corporation delivered programs, products and services that tell the stories of Canadian ingenuity and innovation.</p>
<p><i>Museum and Collection Buildings</i></p> <p>Managing the physical environments that house collection objects and exhibits stored and on display at the Canada Agriculture and Food Museum, the Canada Aviation and Space Museum, and the Canada Science and Technology Museum as well as laboratory, workshop and administrative spaces.</p>	<p>National and Global Reach</p> <p>The Corporation developed and created products that reached, connected and engaged with new and existing audiences outside the museums.</p> <p>Renewed and Innovative Physical Infrastructure</p> <p>The Corporation's NMST has three museum campuses that are recognized by Canadians and international audiences as destinations of choice in the Canada's Capital Region.</p>
<p><i>Internal Services</i></p> <p>Stewardship and management of corporate infrastructure, resources and services.</p>	<p>Sustainable and Profitable</p> <p>The Corporation is a profitable, innovative, well organized, and financially viable organization.</p>

Environmental Scan

Key Internal Factors

Ingenium's greatest strength is its knowledgeable and experienced staff, complemented by a volunteer base of over 300 strong. The Corporation monitors the retirement eligibility for staff in critical positions and provides training and learning opportunities according to its succession plan. It offers internships, co-ops, and fellowships that provide youth with work experience and help with recruitment. To create a more diverse workforce, it is also working to identify and eliminate barriers for individuals from underrepresented communities.

The Corporation strives to maximize and diversify self-generated revenues as well as contributions in the face of a growing funding deficit due to a lack of indexation and adjustments for increased operating and capital expenses. It continues to expand its network of collaborators, at home and abroad, to further science and technology literacy programs and remain a digital leader in the heritage sector.

With the highest level of memberships ever attained, which peaked at over 17,600 in winter 2019, the Corporation is aggressively pursuing retention strategies, including members' benefits and technological solutions for ease of renewal.

The renewal and re-opening of the Canada Science and Technology Museum has a significant positive impact on generating revenues and contributions since 2017 to date.

Key External Factors

Demographic trends: To remain relevant to the citizens they serve, Canada's museums must be aware of changing demographics in society. Most notably, Canada is experiencing a population growth, mainly attributable to immigrant and Indigenous youth populations that are growing at three times the national average. The Corporation takes this diversity into consideration when developing programming and exhibitions, and continues to work in collaboration with Indigenous communities. Moreover, as Canada's largest demographic is preparing for retirement, both the Indigenous and immigrant youth populations will be needed to fill vacancies in the workforce and sustain the Canadian economy.

Economic trends: Canada's capital received over 11 million visitors in 2017¹, the year of the celebrations commemorating 150 years of Confederation, with some spill-over effect of higher tourism numbers in 2018-2019 as well. However, as of 2019, the tourism level should return to normal average of about three million visitors annually. The stable Canadian economy continues to support healthy consumer spending. There is increasing competition in the sponsorship and philanthropic market, with over three hundred of new charities registered in Canada annually, and social media giving campaigns and giving platforms. The Corporation must continue to promote its unique value proposition for the sector.

Digital trends: Canadians expect more than just to access cultural content online—they expect to have opportunities to engage with that content in different forms including virtual and augmented reality applications and to participate in co-creation of that content. The Corporation continues to use and develop digital products and platforms to share Canadian stories about science and innovation with domestic and international audiences. This includes the development of a variety of new apps and games for its museums that allow on-site and off-site visitors to engage with the collection.

Social trends: There is a growing expectation that public institutions like museums should contribute to address social issues, be fully accessible and respond to community needs. It presents an opportunity for Ingenium to grown national conversations about contemporary science, technology and innovation, through a social impact lens. For instance, the Corporation supports initiatives that encourage women and youth in careers in the fields of science, technology, engineering, and mathematics (STEM). The CSTM was the first national museum to receive a Gold rating for accessibility from the Rick Hansen Foundation. Learning from that experience, Ingenium will pursue improved accessibility at its other sites and programs.

Risk Analysis

For 2018-2019, the Corporation identified in its corporate plan, three major risks having the highest likelihood and impact of jeopardizing its ability to deliver results on its strategic objectives. These were: the risk of incurring cost overruns for the major capital infrastructure project and the inability to meet program functionality; the risk of potentially losing relevance due to limited capacity to invest in new programming and exhibitions; and the risk of endangering the national collection in storage due to inappropriate housing

¹ Ottawa Tourism and Convention Authority Inc, Annual Report, 2017.

conditions in current leases, or during the collection move to the new Collections Conservation Centre.

Risk 1: The impact of cost overruns for the Collections Conservation Centre project and the inability to successfully complete the project with proper building and site functionality.

The project budget for the construction of the Collections Conservation Centre was established based on an order of magnitude estimate ($\pm 50\%$). Complex building systems are required for storage conditions and laboratories that enable collection preservation. Due to its limited base appropriations, Ingenium could not absorb cost overruns without significantly negatively impacting operations at the museums.

Ingenium put in place a variety of mitigation measures to protect the project budget, including a highly qualified team of internal staff and external professionals with strengthened executive and Board oversight, continuous value-engineering and a 15% contingency fund, and extending the schedule to save acceleration fees. Despite these efforts, market prices, unfunded site costs and new regulatory requirements created budget pressures. In 2019-2020, it will use its equity to cover a portion of the cost overruns, while some equipment fit-up will be delayed, downgraded or eliminated.

Risk 2: The potential loss of relevance due to a limited capacity to invest in new programming and exhibitions on multiple platforms.

Ingenium's appropriations are not indexed to protect it against the impact of inflation and market forces on goods and services, utilities, property taxes and other non-discretionary costs. Ingenium continues to use an increasing portion of its operating funding to operate its 19 facilities, which impact its ability to fund new digital, exhibition and program initiatives.

Ingenium mitigated the risk of losing relevance due to the widening gap between operational costs and funding by practicing sound financial management, by finding efficiencies and savings in its operations, by seeking diverse revenue generating opportunities, and expanding its pipelines for contributions and sponsorships. It also reached out domestically and internationally to establish collaborative relationships to deliver programs. Ingenium uses digital means in order to reach a broader public more efficiently. Recent significant federal investments in the Corporation's infrastructure are being used to repair and renew facilities and render them more energy efficient in order to reduce operating costs.

Risk 3: Endangering the national collection in storage due to inappropriate storage conditions or during their move to the Collections Conservation Centre.

During the construction of the Collections Conservation Centre, the national collection will continue to be at risk due to the inappropriate environment and security controls in the current facilities. During their move into the Collections Conservation Centre, artifacts may become damaged, lost or cause injury to staff and contractors involved in the move that will take three years to complete (2019 to 2021).

Once the national collection is moved into the new Collections Conservation Centre, the risk of its accelerated deterioration will be eliminated as the new purpose-built storage facility

will provide the appropriate environmental controls for artifact preservation. In the interim, Ingenium has accelerated collection rationalization and surplus inventory disposal to manage its holdings and prepare for the move. It has made repairs to the leased buildings with funding from Budget 2016. The move team has implemented a variety of risk mitigation actions, including fabricating customized pallets and crates to secure artifacts, identifying and removing or containing hazards, and health and safety training. A firm specializing in heavy equipment was engaged in 2018-2019 to move oversized, extra-heavy artifacts.

Audit

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 recently completed a special examination of the Corporation, from November 2017 to April 2018, with the report becoming public and available online on March 18, 2019. The OAG examined the Corporation's systems and practices with regard to governance; strategic and operational planning; risk management; collection management, and exhibition and program management. The OAG concluded that the many weaknesses in how the Corporation managed, protected, and preserved its collection amounted to a significant deficiency. Apart from this significant deficiency, necessary improvements were also identified for the Corporation's policies and processes for developing exhibitions and public programs, for the Corporation's compliance with laws, regulations, and policies, and for how the Corporation managed known risks.

The OAG made nine recommendations for improvement, which the Corporation has accepted and has already begun to address. A formal action plan will be completed by the fall 2019. Many of the collection management issues – the focus of the significant deficiency – would largely be addressed by fully moving the collection into the C3. Based on a thorough risk assessment exercise, the Corporation has implemented numerous measures to ensure collection care, safety and security during the move.

Financial Overview

2018-2019 represented the first full fiscal year of operating the renewed Canada Science and Technology Museum (CSTM) since it re-opened in November 2017, which led to a significant increase in earned revenues and expenditures compared to the previous fiscal year.

The Corporation's total budget for 2018-2019, reported on an accrual basis, was \$52.8 million, comprising funds from three sources: parliamentary appropriations, operating revenues, and contributions.

Sources of funds

Parliamentary Appropriations

Parliamentary appropriations recognized on an accrual basis increased slightly from \$34.0 million in 2017-2018 to \$36.6 million in 2018-2019 reflecting the increase in amortization of deferred capital funding. On a cash basis, appropriations for 2018-2019 totaled \$30.2 million, a significant decrease compared to the 2017-2018 appropriations of \$145.3 million, when the Corporation received capital funding of \$116 million for the construction of the Collections Conservation Centre.

Revenues

Overall, the Corporation saw a \$3 million or 23% increase in total revenues and contributions year-over-year, from a total of \$13.2 million in 2017-2018 to \$16.2 million in 2018-2019, reporting higher revenues than at any point in the Corporation's history.

Operating Revenues

Operating revenues increased significantly over the previous year, from \$7.5 million in 2017-2018 to \$11.4 million in 2018-2019. The Corporation surpassed its revenue target of \$8.75 million by 30%. This is mainly due to a record-breaking attendance at the Canada Science and Technology Museum, which also hosted the critically-acclaimed *The Art of the Brick* special exhibition from May through September 2018, for which visitors paid an additional fee. In addition to admission and program revenues at the CSTM, which are more than double those of the previous fiscal year, significant increases were also experienced in memberships and commercial revenues (i.e. retail, farm operations, parking, thematic experiences and others).

Contributions

Contributions recognized as revenues vary from year to year, based upon the revenues required to fund specific programs and install new exhibitions. Contributions decreased by one million dollars year-over-year, from \$4.1 million in 2017-2018 to \$3.1 million in 2018-2019. In fact, 2017-2018 was a record-year for contributions primarily to the successful sponsorships and contributions received and recognized associated with the CSTM building and exhibition modernization project. Nevertheless, the Corporation surpassed its contribution target of \$1.6 million in 2018-2019, with contributions mainly received for new programming and exhibitions supported by Department of Fisheries and Oceans Canada, Canadian Space Agency and NAV Canada.

Interest Revenues

Ingenium generates interest income by investing its short-term cash balance as well as its earned equity in low-risk vehicles. The cash balance carried in 2018-2019 was associated with the capital funds in reserve to complete infrastructure projects. The interest income projection was exceeded by \$600,000, for a total of \$1.8 million, mainly due to a slower pace of spending on projects, retention of its equity, and a higher rate of return than expected.

Operating Expenditures

The Corporation's total expenses for 2018-2019 were \$52.6 million, compared to \$47.3 million in 2017-2018. The difference can largely be attributed to relatively significant expenses associated with the re-opened CSTM, with respect to both personnel costs, which continue to be the largest use of funds of \$23.3 million, and facilities costs (taxes, property management, maintenance, security and utilities).

Heritage Preservation and Research

Expenses increased to \$5.8 million in 2018-2019, as compared to \$5.2 million in 2017-2018. The increase is primarily due to the temporary resources for conservation and collections services to remediate artifacts installations in the CSTM, to return loaned objects and dispose of surplus inventory in the collection buildings.

Exhibitions, programs and outreach

Expenses increased from \$18.5 million in 2017-2018 to \$20.3 million in 2018-2019. This increase is largely due to additional personnel to deliver a variety of visitor experiences, special events and new programs at the renewed Canada Science and Technology Museum, as well as for hosting special exhibitions and developing new travelling exhibitions.

Museums and Collection Buildings

Expenses increased from \$15.3 million in 2017-2018 to \$17.9 million in 2018-2019. This increase is due primarily to additional costs incurred to operate and maintain the re-opened CSTM building and for completing recapitalization projects at other sites.

Internal Services

Internal Services expenditures remained relatively stable from \$8.3 million in 2017-2018 to \$8.6 million in 2018-2019. The slight increase is mainly due to the increased staffing in commercial operations (boutique, facility rentals, membership sales), to meet the demand as a result of the CSTM re-opening, as well as the impact of the minimum wage increase in Ontario.

Net Results of Operations and Year-End Position

The net results of operations yielded a surplus of \$227,000 in 2018-2019, bringing its total earned equity to \$3.34 million. Before the beginning of the fiscal year, the Corporation had projected a balanced budget, however, the Corporation generated more admission revenues than anticipated at the CSTM.

Capital Assets and Collection

Tangible capital assets increased from \$184.1 million in 2017-2018 to \$254.6 million in 2018-2019, due to investments in the modernization of the Canada Science and Technology Museum and the construction of the new Collections Conservation Centre.

Outlook

The Corporation expects that the Canada Science and Technology Museum, which has been completely transformed and modernized with new and richer stories of, and experiences with, science and technology will continue to attract a high volume of visitors and positively impact revenues (about 25% higher than pre-closure). These revenues should help offset the increased costs associated with the operations of the CSTM building and contribute to the Corporation's balanced budget projections beyond 2019-2020.

The closure of the CSTM was a catalyst for Ingenium rethinking how the museums could deliver their mandate without physical walls. Through this lens, the Corporation will continue to find innovative ways to facilitate off-site physical and virtual encounters with science and technology artifacts, programs and exhibitions, for local, national and international audiences. Ingenium will continue to be a leader in open access by adding assets to its portfolio of digital collections offerings. Rooted in a technology mandate, the Corporation will continue to use digital technologies and platforms, such as 3D scanning, mobile apps and games, and virtual exhibitions, to redefine museum access in the digital era. These efforts will include the launch of a new game for the Nintendo Switch console, produced with SEED interactive. Ingenium will deepen its engagement with Indigenous groups as well as diversity and accessibility groups and support the creation of enriched and diverse cultural heritage content in the public sphere.

Ingenium will pursue the review of its exhibition and program development policies and processes in order to develop an exhibition strategy that will provide renewed experiences for visitors that keep pace with contemporary innovations and social themes that maintain visitor interest and increases awareness of the social impact of science and technology.

To ensure the long-term preservation of Canada's rich science and technology heritage, the Corporation will work diligently on completion of the new Collections Conservation Centre and continue moving artifacts into the new conservation purpose-built facility. The C3 will launch a new Research Institute that will facilitate the implementation of the Ingenium research strategy. As an Ingenium brand beacon, it will attract collaborators to create knowledge and to innovate with the collection in ways that help expand science and technology literacy.

As 2019-2020 will be the last year of implementation of Ingenium's current strategic plan 2015-2020, the Corporation is developing a bold new vision in close collaboration with the Board of Trustees and in consultation with staff and stakeholders. Looking forward to the next five years and beyond, Ingenium will build on its remarkable successes to date, to provide more opportunities and experiences that empower Canadians to engage creatively and collaboratively with science and technology.

Financial Statements

Management's Responsibility for Financial Statements

The financial statements contained in this annual report have been prepared by management in accordance with Canadian Public Sector Accounting Standards for Government not-for-profit organizations, and the integrity and objectivity of the data in these financial statements are Management's responsibility. Management is also responsible for all other information in this annual report and for ensuring that this information is consistent, where appropriate, with the information and data contained in the financial statements.

In support of its responsibility, Management has developed and maintains books of account, records, financial and management controls, information systems and management practices. These are designed to provide reasonable assurance as to the reliability of financial information that assets are safeguarded and controlled, and that transactions are in accordance with Part X of the *Financial Administration Act* ("FAA") and regulations, as well as the *Museums Act* and regulations, the by-laws of the Corporation and the directive issued pursuant to section 89 of the FAA described in Note 1 to the financial statements.

The Board of Trustees is responsible for ensuring that Management fulfils its responsibilities for financial reporting and internal control. The Board of Trustees exercises its responsibilities through the Finance, Audit and Risk Management Committee, which includes a majority of members who are not officers of the Corporation. The Committee meets with Management and the independent external auditor to review the manner in which Management is performing its responsibilities and to discuss auditing, internal control, and other relevant financial matters. The Finance, Audit and Risk Management Committee has reviewed the financial statements and has submitted its report to the Board of Trustees. The Board of Trustees has reviewed and approved the financial statements.

The Corporation's external auditor, the Auditor General of Canada, audits the financial statements and reports to the Minister responsible for the Corporation.



Christina Tessier
President and CEO



Fernand Proulx
Chief Operating Officer and Capital Projects

27 June 2019



INDEPENDENT AUDITOR'S REPORT

To the Minister of Canadian Heritage

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the National Museum of Science and Technology (the Museum), which comprise the statement of financial position as at 31 March 2019, and the statement of operations, statement of changes in net assets and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Museum as at 31 March 2019, and the results of its operations and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Museum in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

Management is responsible for the other information. The other information comprises the information included in the Annual Report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Museum's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Museum or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Museum's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Museum's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Museum's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's

report. However, future events or conditions may cause the Museum to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on Compliance with Specified Authorities

Opinion

In conjunction with the audit of the financial statements, we have audited transactions of the National Museum of Science and Technology coming to our notice for compliance with specified authorities. The specified authorities against which compliance was audited are Part X of the *Financial Administration Act* and regulations, the *Museums Act* and regulations, the by-laws of National Museum of Science and Technology, and the directive issued pursuant to section 89 of the *Financial Administration Act*.

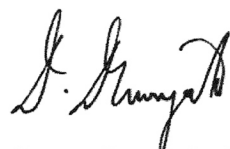
In our opinion, the transactions of the National Museum of Science and Technology that came to our notice during the audit of the financial statements have complied, in all material respects, with the specified authorities referred to above. Further, as required by the *Financial Administration Act*, we report that, in our opinion, the accounting principles in Canadian public sector accounting standards have been applied on a basis consistent with that of the preceding year.

Responsibilities of Management for Compliance with Specified Authorities

Management is responsible for the National Museum of Science and Technology's compliance with the specified authorities named above, and for such internal control as management determines is necessary to enable the National Museum of Science and Technology to comply with the specified authorities.

Auditor's Responsibilities for the Audit of Compliance with Specified Authorities

Our audit responsibilities include planning and performing procedures to provide an audit opinion and reporting on whether the transactions coming to our notice during the audit of the financial statements are in compliance with the specified authorities referred to above.



Dusan Duvrnjak, CPA, CMA
Principal
for the Interim Auditor General of Canada

Ottawa, Canada
27 June 2019

STATEMENT OF FINANCIAL POSITION

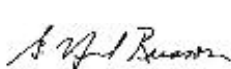
As at March 31

<i>(in thousands of dollars)</i>	2019	2018
ASSETS		
Current		
Cash and cash equivalents (Note 3)	\$49,196	\$126,994
Accounts receivable		
Government departments	3,767	3,752
Trade	418	574
Inventories	551	403
Prepaid expenses	945	775
	<u>54,877</u>	<u>132,498</u>
Collection (Note 4)	1	1
Capital assets (Note 5)	<u>254,642</u>	<u>184,067</u>
	\$309,520	\$316,566
LIABILITIES		
Current		
Accounts payable and accrued liabilities (Note 6)	\$17,683	\$18,704
Current portion of employee future benefits (Note 7)	447	283
Deferred contributions and deferred revenues (Note 8)	<u>32,259</u>	<u>109,338</u>
	50,389	128,325
Employee future benefits (Note 7)	292	310
Long-term advance (Note 9)	4,208	4,208
Deferred contributions related to capital assets (Note 10)	<u>241,188</u>	<u>170,507</u>
	296,077	303,350
NET ASSETS		
Unrestricted	3,341	3,114
Investment in capital assets	<u>10,102</u>	<u>10,102</u>
	13,443	13,216
	<u>\$309,520</u>	<u>\$316,566</u>

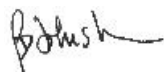
Contractual obligations, contractual rights and contingencies (Notes 15, 16 and 18)
The accompanying notes and schedules form an integral part of these financial statements.

Approved by the Board of Trustees

Recommended by Management



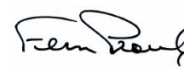
Neil Russon
Chairman



Paul Johnston
Chair, Finance, Audit and
Risk Management Committee



Christina Tessier
President and CEO



Fernand Proulx
Chief Operating Officer and
Capital Projects

STATEMENT OF OPERATIONS

For the year ended March 31

<i>(in thousands of dollars)</i>	2019	2018
REVENUES		
Operating (Schedule 1)	\$11,377	\$7,523
Contributions (Schedule 1)	3,095	4,084
Interest	1,766	1,573
Total revenues	16,238	13,180
EXPENSES (Schedule 2)		
Heritage preservation and research	5,839	5,158
Exhibitions, programs and outreach	20,343	18,501
Internal services	8,557	8,271
Museums and collection buildings	17,855	15,329
Total expenses	52,594	47,259
Deficit before parliamentary appropriations	(36,356)	(34,079)
Parliamentary appropriations (Note 11)	36,583	34,021
Surplus (Loss) for the year	\$227	(\$58)

The accompanying notes and schedules form an integral part of these financial statements.

STATEMENT OF CHANGES IN NET ASSETS

For the year ended March 31

<i>(in thousands of dollars)</i>	2019	2018
INVESTMENT IN CAPITAL ASSETS		
Investment in capital assets, beginning of year	\$10,102	\$10,102
Change in investment in capital assets for the year	-	-
Investment in capital assets, end of year	10,102	10,102
UNRESTRICTED NET ASSETS		
Unrestricted net surplus, beginning of year	3,114	3,172
Surplus (Loss) for the year	227	(58)
Unrestricted net surplus, end of year	3,341	3,114
NET ASSETS, END OF THE YEAR	\$13,443	\$13,216

The accompanying notes and schedules form an integral part of these financial statements.

A Statement of Remeasurement Gains and Losses has been excluded as there have been no remeasurement gains or losses.

STATEMENT OF CASH FLOWS

For the year ended March 31

<i>(in thousands of dollars)</i>	2019	2018
OPERATING ACTIVITIES		
Cash received (clients and donors)	\$13,791	\$10,655
Parliamentary appropriations received for operations	27,294	28,859
Cash paid to suppliers	(22,632)	(18,374)
Payments related to salary and benefits	(23,212)	(21,028)
Cash received from the Foundation	233	230
Interest received	1,862	1,448
Net cash generated (used) through operating activities	(2,664)	1,790
CAPITAL ACTIVITIES		
Payments related to capital acquisitions	(78,858)	(69,658)
Net cash used through capital activities	(78,858)	(69,658)
FINANCING ACTIVITIES		
Sponsorship received for the acquisition of capital assets	769	1,079
Appropriations received for the acquisition of capital assets	2,955	116,607
Net cash generated through financing activities	3,724	117,686
Net increase (decrease) in cash and cash equivalents	(77,798)	49,818
Cash and cash equivalents, beginning of year	126,994	77,176
Cash and cash equivalents, end of year	\$49,196	\$126,994

The accompanying notes and schedules form an integral part of these financial statements.

NOTES TO FINANCIAL STATEMENTS

March 31, 2019

1. Authority, mandate and operations

The National Museum of Science and Technology was established by the *Museums Act* on July 1, 1990, and is a Crown corporation named in Part I of Schedule III to the *Financial Administration Act* and is not subject to income taxes under the provisions of the *Income Tax Act*.

The mandate of the Corporation, as stated in the *Museums Act*, is to foster scientific and technological literacy throughout Canada by establishing, maintaining and developing a collection of scientific and technical 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.

The Corporation operates as the Ingenium - Canada's Museums of Science and Innovation. It manages three museum sites: the Canada Science and Technology Museum, the Canada Aviation and Space Museum, and the Canada Agriculture and Food Museum. The Corporation's operations are organized by functionality as follows:

Heritage Preservation

This includes documentation, cataloguing, conservation, historical research, the library and related services.

Sharing Knowledge

This includes the development and maintenance of exhibitions, interpretive and educational activities, communication and promotion, Web activities and other services to visitors.

Internal Services

This includes services such as human resources, finance and facilities management, corporate development and commercial operations, all of which are provided centrally.

Accommodation

This includes operating and maintenance expenses for all owned and leased facilities including protection services, leases of buildings and property taxes. It also includes a significant portion of the amortization expense since the main capital acquisitions relate to the Corporation's facilities.

Directive pursuant to section 89 of the *Financial Administration Act*

In July 2015, the Corporation was issued a directive (P.C. 2015-1105) pursuant to section 89 of the *Financial Administration Act* to align its travel, hospitality, conference and event expenditure policies, guidelines and practices with Treasury Board policies, directives and related instruments on travel, hospitality, conference and event expenditures in a manner that is consistent with the Corporation's legal obligations, and to report on the implementation of this directive in the Corporation's next corporate plan. To fulfill this reporting requirement, and in order to ensure compliance with the directive, the Corporation reviewed and revised its policies, guidelines and practices to align with Treasury Board instruments. Effective April 1, 2016, the Corporation has complied with this directive and has aligned its policies and practices to the Treasury Board policies, directives and related instruments for travel, hospitality and event expenditures. In the 2017-18

fiscal year, the Corporation has put in place the reporting and proactive disclosure requirements per Treasury Board instruments. Reporting on the implementation of this directive has been included in the 2018-2019 to 2022-2023 Corporate Plan.

2. Accounting policies

The significant accounting policies are as follows:

(a) Basis of presentation

These financial statements have been prepared in accordance with Section 4200 of the Canadian Public Sector Accounting Standards applicable to government not-for-profit organizations. The Corporation applies the deferral method of accounting for contributions.

(b) Cash and cash equivalents

The Corporation's investments are highly liquid as they are redeemable on demand without prior notice or penalty and limited to fixed income securities in reputable financial institutions that are members of the Payments Canada and rated good quality (A-1, A or better) by the Canadian Bond Rating Services (DBRS).

Restricted cash and cash equivalents may arise from unused appropriations and deferred contributions from individual and corporate entities for a specific purpose.

(c) Accounts receivable

Accounts receivable are stated at amounts expected to be ultimately realized. The Corporation establishes an allowance for doubtful accounts that reflects the estimated impairment of accounts receivable. The allowance is based on specific accounts and is determined by considering the Corporation's knowledge of the financial condition of its customers, the aging of accounts receivable, current business and political climate, customers and industry concentrations and historical experience.

All write-downs against accounts receivable are recorded within operating expenditures on the Statement of Operations.

(d) Inventories

Inventories are valued at the lower of cost and net realizable value. Inventory cost is determined by using the weighted average cost method, and net realizable value is based on retail price.

(e) Collection

The collection constitutes a significant portion of the Corporation's assets but is shown at a nominal value of \$1,000 on the Statement of Financial Position because of the practical difficulties in reflecting it at a meaningful value.

Items purchased for the collection are recorded as expenses in the year of acquisition. Items donated to the Corporation are recorded as assets at the nominal value. Items disposed from the collection are recorded as revenue in the year of disposal.

(f) Capital assets

Capital assets are recorded on the following basis. Acquired capital assets owned by the Corporation are recorded at cost and amortized over their estimated useful life. Land and buildings owned by the Government of Canada and under the control of the Corporation are recorded at their estimated historical cost for land and at their estimated historical cost less accumulated amortization for buildings. The estimated historical net costs of the buildings have been credited to deferred contributions related to capital assets, and the estimated historical cost of the land has been credited to net assets under the heading of investments in capital assets on the Statement of Financial Position. Land for which the historical cost cannot be reasonably determined is recorded at a nominal value with a corresponding amount credited to net assets. Improvements that extend the useful life or service potential of buildings and exhibits are capitalized and recorded at cost. Building and exhibit improvements are amortized over the estimated useful life of the improvements. Permanent exhibitions represent costs that are directly attributable to the exhibition and meet the definition of a capital asset. They may include employee salaries and benefits, professional service fees, permanent exhibit and building structures as well as images and copyrights.

When conditions indicate that a capital asset no longer contributes to the Corporation's ability to provide goods and services, or that the value of future economic benefits associated with the capital asset is less than its net book value, the cost of the tangible capital asset is reduced to reflect the decline in the asset's value. The net write-down is then accounted for as an expense on the Statement of Operations.

Amortization of assets is calculated on a straight-line basis over their estimated useful lives, using a half year-rule in the year of acquisition, as follows:

Buildings	10 to 40 years
Building improvements	10 to 25 years
Office furniture	5 to 12 years
Equipment	5 to 12 years
Computer software	5 years
Museum permanent exhibitions	5 to 20 years

Land, easement rights and capital projects in progress are not amortized. Amounts included in capital projects in progress are transferred to the appropriate capital asset classification upon completion, and are amortized accordingly.

(g) Employee future benefits

i) Pension benefits

Substantially all of the employees of the Corporation are covered by the public service pension plan (the "Plan"), a contributory defined benefit plan established through legislation and sponsored by the Government of Canada. Contributions are required by both the employees and the Corporation to cover current service cost. Pursuant to legislation currently in place, the Corporation has no legal or constructive obligation to pay further contributions with respect to any past service or funding deficiencies of the Plan. Consequently, contributions are recognized as an expense in the year when employees have rendered service and represent the total pension obligation of the Corporation.

ii) Severance and termination benefits

Prior to May 11, 2012, eligible employees of the Corporation were entitled to specified benefits as provided for under labour contracts and conditions of employment, through a severance benefit plan. The Corporation has eliminated this benefit as of May 11, 2012 and any outstanding payments due as at year-end have been accrued and are remeasured on a yearly basis to take into consideration salary increases.

The Corporation continues to provide termination benefits to employees that are being laid-off. Severance and termination benefits are not pre-funded and thus have no assets. Severance and termination benefits will be paid from future appropriations.

iii) Sick leave benefits

Employees accumulate unused sick leave days available, which may be used in future years. An employee's unused sick leave balance is carried forward until the employee departs the Corporation, at which point any unused balance cannot be redeemed for pay and the Corporation's liability lapses. The Corporation recognizes the cost of future sick leave benefits over the periods in which the employees render services to the Corporation. The valuation of the liability is based on Management's best estimate of inflation, discount rate, employee demographics and sick leave usage of active employees.

(h) Revenue recognition

i) Parliamentary appropriations

The Government of Canada provides funding to the Corporation.

Parliamentary appropriations received for the purchase of amortizable capital assets including exhibits with a useful life of over one year are initially recorded as deferred contributions on the Statement of Financial Position. When a purchase is made, the portion of parliamentary appropriation used to make the purchase is recorded as deferred contributions related to capital assets and is recognized as revenue on the same basis and over the same periods as the related capital assets acquired.

Parliamentary appropriations restricted for specific expenses are deferred on the Statement of Financial Position and recognized as revenue on the Statement of Operations in the period that those expenses are incurred.

Parliamentary appropriations that are not restricted to a specific purpose are recognized as revenue on the Statement of Operations in the period for which the parliamentary appropriation is authorized.

ii) Operation revenues

Revenues from Museum operations include the sale of general admission and programs, boutique sales, facility rentals, memberships, farm operations, parking and other revenues. They are recognized in the year in which the sale of goods is completed or the services are provided.

iii) Contributions

Contributions from sponsorships received for the purchase and developments of exhibitions with a useful life over one year are initially recorded as deferred contributions on the Statement of

Financial Position. When a purchase is made, the portion of sponsorships used to make the purchase is recorded as deferred contributions related to capital assets and is recognized as revenue on the same basis and over the same periods as the related exhibition acquired.

Contributions externally restricted for specific expenses and purposes are deferred on the Statement of Financial Position and recognized as revenue on the Statement of Operations in the period in which the related expenditures are recognized and requirements are met.

Unrestricted contributions are recognized as revenue on the Statement of Operations when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

Contributions in kind, when used in the normal course of the Corporation's operations and would otherwise have been purchased are recorded at their estimated fair value when they are received. Because of the difficulty in determining their fair value, donated objects for the collection (Note 4) are not recognized in these financial statements.

iv) Interest revenues

Interest revenues are recognized in the period in which they are earned using the effective interest rate method.

(i) Foreign currency translation

Transactions involving foreign currencies are translated into Canadian dollar equivalents using rates in effect at the time of those transactions. Monetary assets and liabilities denominated in foreign currencies are translated using exchange rates at March 31.

Realized gains and losses resulting from foreign currency translation are reported on the Statement of Operations. Gains are reported as other revenues on the Schedule of Operating Revenues and Contributions, and losses are reported as miscellaneous expenses on the Schedule of Expenses.

(j) Financial assets and liabilities

The classification of financial instruments is determined by the Corporation at initial recognition and depends on the purpose for which the financial assets were acquired or liabilities were incurred. All financial instruments are recognized initially at fair value.

The fair value of financial instruments on initial recognition is based on the transaction price, which represents the fair value of the consideration given or received. Subsequent to initial recognition, financial instruments are measured based on the accounting treatment corresponding to their classification.

Financial assets and financial liabilities are measured at cost or amortized cost. Financial assets consist of cash and cash equivalents, and accounts receivable net of tax receivable. Financial liabilities consist of long-term advance, and accounts payable and accrued liabilities.

(k) Related party transactions

i) Inter-entity transactions

Inter-entity transactions are transactions between commonly controlled entities. Inter-entity transactions, other than restructuring transactions, are recorded on a gross basis and are measured at the carrying amount, except for the following:

- Inter-entity transactions are measured at the exchange amount when undertaken on similar terms and conditions to those adopted if the entities were dealing at arm's length, or where cost provided are recovered.

- Goods or services received without charge between commonly controlled entities are not recorded.

ii) Other related party transactions

Related party transactions, other than inter-entity transactions, are recorded at the exchange amount.

(l) Contingent liabilities

Contingent liabilities are potential liabilities that may become actual liabilities when one or more future events occur or fail to occur. If the future event is likely to occur or fail to occur, and a reasonable estimate of the loss can be made, an estimated liability is recognized and an expense recorded. If the likelihood is not determinable or an amount cannot be reasonably estimated, the contingency is disclosed in the notes to the financial statements.

(m) Measurement uncertainty

The preparation of financial statements in accordance with Canadian Public Sector Accounting Standards applicable to government not-for-profit organizations requires Management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses for the year.

Accrued liabilities, allowance for doubtful accounts, employee future benefits and the estimated useful lives of capital assets are the most significant items for which estimates are used.

Actual results could differ significantly from those estimated. These estimates are reviewed annually, and as adjustments become necessary, they are recorded in the fiscal year in which they become known.

3. Cash and cash equivalents

The Corporation makes short-term, low risk investments in guaranteed fixed income securities and high-interest savings accounts. The overall portfolio yield as at March 31, 2019 was 2.10% (2018 - 1.60%).

<i>(in thousands of dollars)</i>	2019	2018
Total cash and cash equivalents	\$49,196	\$126,994
Less amounts allocated for restricted purposes	(31,796)	(107,481)
Unrestricted cash and cash equivalents	\$17,400	\$19,513

Amounts allocated for restricted purposes represent unspent appropriations and sponsorships received for specific projects.

4. Collection

Part of the mandate of the Corporation is “to foster scientific and technological literacy throughout Canada by establishing, maintaining and developing a collection of scientific and technological objects.” This collection is the main asset of the Corporation and is divided in the following areas:

- Communications
- Non-renewable resources and industrial design
- Natural resources
- Physical sciences and medicine
- Renewable resources, including agriculture and forestry
- Instruments, tools and systems with direct application to mathematics, chemistry, physics, as well as astronomy, astrophysics, meteorology, surveying and mapping, and information technology
- Transportation: land, marine, and air and space

During the year ended March 31, 2019, the Corporation disposed of 169 objects (2018 - 330 objects) for a total amount of \$5,000 (2018 - \$2,000) and acquired 65 objects (2018 - 65 objects) to its collections through the accessioning/de-accessioning process for artifacts. Proceeds of sales of artifacts from 2019 disposals were used to support collection management and development.

5. Capital assets

	2019			2018		
	Cost	Accumulated Amortization	Net Book Value	Cost	Accumulated Amortization	Net Book Value
Land	\$10,102	-	\$10,102	\$ 10,102	-	\$10,102
Buildings	116,620	\$33,630	82,990	116,620	\$30,594	86,026
Building improvements	22,553	18,496	4,057	22,331	17,458	4,873
Office furniture	1,416	1,139	277	1,416	1,011	405
Equipment	4,107	3,163	944	3,930	2,937	993
Computer software	1,380	1,355	25	1,380	1,334	46
Museum permanent exhibitions	31,180	6,175	25,005	30,111	2,836	27,275
Easement rights	147	-	147	147	-	147
Capital projects in progress	131,095	-	131,095	54,200	-	54,200
	\$318,600	\$63,958	\$254,642	\$240,237	\$56,170	\$184,067

For the fiscal year ended March 31, 2019, the Corporation disposed of assets with an acquisition cost of \$35,000 and a net book value of \$0 (2018 - no write-offs/disposals recorded).

For the fiscal year ended March 31, 2019, the Corporation recorded no write-downs (2018 - \$122,000).

For the year ended March 31, 2019, capital transactions for a total amount of \$460,000 (2018 - \$2,335,000) required the use of cash or cash equivalents, and consequently these transactions have been added to the capital activities on the statement of cash flows.

Capital projects in progress include the construction of the Collection Conservation Centre for a net book value of \$130,710,000 (2018 - \$54,045,000).

6. Accounts payable and accrued liabilities

<i>(in thousands of dollars)</i>	2019	2018
Trade accounts payable	\$15,083	\$14,678
Government departments, agencies and Crown corporations	931	2,274
Accrued salaries and other salary-related liabilities	1,669	1,752
	<u>\$17,683</u>	<u>\$18,704</u>

7. Employee future benefits

(a) Pension benefits

The President of the Treasury Board sets the required employer contributions based on a multiple of the employees' required contribution. The required employer contribution rate for 2018–19 was dependent on the employee's employment start date. For employment start dates before January 1, 2013, the Corporation's general contribution rate effective at year-end was 9.56% (2018- 9.83%), and for employment start dates after December 31, 2012, the Corporation's general contribution rate effective at year-end was 8.68% (2018 - 8.77%). Total contributions of \$1.77 million (2018 - \$1.58 million) were recognized as an expense in the current year.

The Government of Canada holds a statutory obligation for the payment of benefits relating to the Plan. Pension benefits generally accrue up to a maximum period of 35 years at an annual rate of 2% of pensionable service times the average of the best five consecutive years of earnings. The benefits are coordinated with Canada/Québec Pension Plan benefits and are indexed to inflation.

(b) Severance, termination and sick leave benefits

Information about the benefit plans, measured as at the Statement of Financial Position date, is as follows:

<i>(in thousands of dollars)</i>	2019	2018
Accrued benefit obligation, beginning of year	\$689	\$554
Cost for the year	321	390
Benefits paid during the year	<u>(184)</u>	<u>(255)</u>
Accrued benefit obligation, end of year	826	689
Unamortized actuarial losses	<u>(87)</u>	<u>(96)</u>
Accrued benefit liability, end of year	\$739	\$593
Short-term portion	\$447	\$283
Long-term portion	<u>292</u>	<u>310</u>
Accrued benefit liability	<u>\$739</u>	<u>\$593</u>

8. Deferred contributions and deferred revenues

Deferred revenues represent amounts received in advance of services rendered or due at March 31. Deferred parliamentary appropriations represent approved parliamentary appropriations received for work not yet completed or received in advance. Deferred contributions represent funds received for a specified purpose and for which the related expenses have not yet been incurred.

Changes in the deferred revenues and deferred contributions balance during the fiscal year are as follows:

<i>(in thousands of dollars)</i>	2019	2018
Balance, beginning of year	\$109,338	\$61,507
ADD:		
Restricted contributions from the Canada Science and Technology Museums Corporation Foundation	181	204
Restricted appropriations received or due	2,850	117,663
Sponsorships and other contributions received or due	1,901	4,364
Funds received for the provision of goods and services	2,086	1,430
LESS:		
Restricted contributions from the Canada Science and Technology Museums Corporation Foundation recognized	(181)	(204)
Restricted appropriations used	(79,584)	(71,891)
Sponsorships and other contributions used during the year	(1,808)	(3,735)
Funds used for goods and services	(2,524)	-
Balance, end of year	\$32,259	\$109,338

As of March 31, 2019, unused deferred parliamentary appropriations totaled \$28,717,000 (2018 - \$105,450,000), deferred grants and sponsorships totaled \$2,126,000 (2018 - \$2,031,000) and other deferred revenues totaled \$1,416,000 (2018 - \$1,857,000).

9. Long-term advance

The Corporation received funding from the Treasury Board between fiscal years 2008 and 2010 to construct educational facilities, retail space and an auditorium at the Canada Aviation and Space Museum.

<i>(in thousands of dollars)</i>	2019	2018
Funding for construction of revenue generating facilities	\$4,208	\$4,208
	\$4,208	\$4,208

The Corporation received the funding on the basis that a repayment mechanism be established. However, repayment of the funding for the construction of revenue-generating facilities was not expected before 25 years after the project commences. As of March 31, 2019, a repayment mechanism has yet to be established for the funding received for the construction of revenue-generating facilities. The Corporation is not subject to paying interest on this funding.

10. Deferred contributions related to capital assets

Deferred contributions related to capital assets represent the unamortized appropriation and sponsorships used to acquire amortizable capital assets. Deferred contributions related to capital assets are recognized as appropriation and sponsorship revenue on the same basis and over the same periods as the related capital asset is amortized.

Changes in the deferred contributions related to capital assets balance are as follows:

<i>(in thousands of dollars)</i>	2019	2018
Balance, beginning of year	\$170,507	\$104,282
Amounts used to purchase capital assets	78,399	71,992
Amortization of deferred contributions related to capital assets	(7,718)	(5,767)
Balance, end of year	\$241,188	\$170,507

For the year ended March 31, 2019, amounts used to purchase capital assets were funded by appropriations totaling \$77,476,000 (2018 - \$70,835,000) and sponsorships totaling \$923,000 (2018 - \$1,157,000). As of March 31, 2019, amortization of deferred contributions related to capital assets - portion sponsorships totaled \$636,000 (2018 - \$416,000) and amortization of deferred contributions related to capital assets - portion appropriations totaled \$7,082,000 (2018 - \$5,351,000).

11. Parliamentary appropriations

<i>(in thousands of dollars)</i>	2019	2018
Main estimates amount provided for operating and capital expenditures	\$30,158	\$144,528
SUPPLEMENTARY ESTIMATES:		
Severance adjustments and retroactive wage settlements	85	750
	30,243	145,278
Deferred appropriation used in current year	79,201	18,340
Appropriations approved in current year for expenses and purchases of capital assets in future years	(2,467)	(64,113)
Amounts used to purchase depreciable capital assets	(77,476)	(70,835)
Amortization of deferred contributions related to capital assets	7,082	5,351
Parliamentary appropriations	\$36,583	\$34,021

For the year ended March 31, 2019, parliamentary appropriations totaling \$2,850,000 (2018 - \$119,995,000) were received as part of the Main estimates for the Ingenium capital infrastructure and exhibition renewal.

12. Canada Science and Technology Museums Corporation Foundation

The Canada Science and Technology Museums Corporation Foundation (the "Foundation") was incorporated under the *Canada Corporations Act* on November 14, 2007 and has been a registered charitable non-profit organization under the *Income Tax Act* since April 1, 2008. This is a separate legal entity from the National Museum of Science and Technology, and all funds that will be raised by the Foundation will be for projects determined by the Foundation.

The Foundation raises funds from patrons, corporations, associations and the community. The amounts granted to the Corporation by the Foundation are recorded as contributions in the Corporation's Statement of Operations. For the fiscal year 2018–19, the Foundation made a contribution of \$181,000 (2018 - \$204,000) to the Corporation. These funds were spent in accordance with donors' wishes.

The Corporation and the Foundation are related by virtue of the Corporation's economic interest in the Foundation. The Corporation is considered to have significant influence based on the Foundation's purpose being integrated with that of the Corporation, the Corporation's involvement in setting policies and strategic direction of the Foundation, and the significant amount of funds raised by the Foundation for the benefit of the Corporation.

In 2018 -19, direct expenses related to fundraising costs and disbursed by the Corporation were:

- In part, charged to the Foundation and recorded as an "account receivable from the Foundation" by the Corporation for the amount of \$27,000 (2018 - \$4,000).
- In the other part, absorbed by the Corporation to recognize the Foundation's efforts to bring in sponsorships that have been recorded directly in the Corporation's financial statements in the amount of \$158,000 (2018 - \$198,000).

As at March 31, 2019, the amount due by the Foundation to the Corporation was \$87,000 (2018 - \$146,000).

It is the Corporation's policy not to allocate the costs relating to building and equipment maintenance, administration services, and information technology to other functions of the Corporation and to the Foundation. These administrative support costs provided without charge to the Foundation are estimated at \$70,000 (2018 - \$80,000).

The financial statements of the Foundation have not been consolidated in the Corporation's financial statements and are available upon request.

13. Rockcliffe Flying Club

The Rockcliffe Flying Club ("RFC") is a non-profit organization which has for objective to both conduct a Department of Transport Flying Training Course for club members and provide aircraft to club members for recreational flying. The RFC operates the Rockcliffe Airport that is owned by the National Museum of Science and Technology and located on the grounds of the Canada Aviation and Space Museum. The Corporation has an economic interest in the RFC due to the significant resources provided to the RFC in exchange for maintenance of the property. The Corporation provides the RFC with the airport at no cost in exchange for the operation and maintenance of the airport runways, taxiways, aprons, grounds, parking lots and access roadway. Because of the difficulty in determining the fair value of the services received or the services given, the transactions are not recognized in these financial statements.

14. Financial instruments and exposure to risk

The Corporation has identified and assessed its exposure as follows:

(a) Fair value

The carrying amounts of the Corporation's cash and cash equivalents, accounts receivable net of tax receivable, and accounts payable and accrued liabilities approximate their fair values due to their short term to maturity.

The fair value related to the Corporation's long-term advance was determined using the expected future cash flows and was discounted using government bond rates with similar terms and characteristics:

<i>(in thousands of dollars)</i>	2019		2018	
	Carrying value	Fair value	Carrying value	Fair value
Long-term advance	\$4,208	\$3,202	\$4,208	\$3,023

(b) Credit risk

Credit risk is the risk of financial loss to the Corporation associated with a counterparty's failure to fulfill its financial obligations and arises principally from the Corporation's cash and cash equivalents (including restricted portion) and accounts receivable net of tax receivable. The Corporation has determined that the risk is not significant.

i) Cash

The Corporation has deposited cash with reputable financial institutions that are members of the Payments Canada. The Corporation has determined that the risk of loss is not significant.

ii) Cash equivalents

The Corporation manages its exposure to credit risk arising from cash equivalents of \$6,498,000 (2018 - \$5,454,000) by limiting the investment to short-term fixed income securities. Per the Corporation's Investment and Banking policy, corporate bonds must be rated good quality (A-1, A or better) by DBRS.

iii) Accounts receivable

The Corporation is exposed to credit risk from customers in the normal course of business. As at March 31, 2019, accounts receivable net of tax receivable totaled \$1,431,000 (2018 - \$1,811,000). These figures are reported net of an allowance for doubtful accounts of \$13,000 (2018 - \$35,000), which are established based on specific credit risk associated with individual clients and other relevant information. Concentration of credit risk with respect to receivables is limited, due to the small value of transactions with clients other than government departments.

The change in the allowance for doubtful accounts receivable during the year ended

March 31, 2019 was a decrease of \$22,000 (2018 - increase of \$9,000) relating to past due balances.

As at March 31, 2019, \$51,000 (2018 - \$208,000) of accounts receivable were past due (over 30 days), but not impaired.

(c) Market risk

Market risk is the risk that changes in market price, such as foreign exchange rates and interest rates, will affect the Corporation's future cash flows or the fair value of its holdings of financial instruments. The Corporation has determined that the risk is not significant.

i) Foreign currency risk

The Corporation is exposed to foreign currency risk on its cash and cash equivalents, prepaid expenses, and accounts payable principally denominated in US dollars.

The Corporation operates primarily within Canada. Foreign currency risk is limited, due to the small value of transactions in currencies other than the Canadian dollar. As at March 31, 2019, cash and cash equivalents and current liabilities include US \$408,000 (2018 - US \$618,000) and US \$68,000 (2018 - US \$20,000), respectively, which are exposed to changes in the US-Canadian dollar exchange rate.

The approximate impact of a 10% rise in the Canadian dollar compared to the US dollar on these exposed balances as at March 31, 2019 is a \$45,000 (2018 - \$79,000) decrease in surplus. The approximate impact of a 10% decline is a \$45,000 (2018 - \$79,000) increase in surplus.

A sensitivity of 10% has been selected as this is considered reasonable given the current level of exchange rates and the volatility observed on an historical basis and market expectations for future movement of the Canadian and US dollar.

ii) Interest rate risk

The Corporation is exposed to interest rate risk on cash equivalents. The risk is not significant due to their short-term nature.

(d) Liquidity risk

Liquidity risk is the risk that the Corporation will not be able to meet its financial obligations as they fall due. Financial obligations include accounts payable and accrued liabilities, and repayment of the long-term advance.

The Corporation manages liquidity risk through the management of its cash and cash equivalents (Note 3). The Corporation's objective for managing liquidity risk is to manage operations and cash expenditures within the appropriation authorized by Parliament and the Corporation's self-generated revenues. The Corporation has determined that the risk is not significant.

As at March 31, 2019, the entire balance of the Corporation's accounts payable and accrued liabilities is due within 365 days (2018 - within 365 days). No repayment mechanism has been established yet for the Corporation's long-term advance.

The Corporation's objectives, policies and processes for managing the risks and methods used to measure the risks are consistent with those in place as at March 31, 2018. In addition, the exposure to the risks and how they arise also remained unchanged with the prior year.

15. Contractual obligations

As at March 31, 2019, the Corporation had entered into various agreements for building construction, accommodations, protection services, facilities management services and exhibition rentals, for a total of \$38,229,000 (2018 - \$91,944,000). The future minimum payments for the next five years and subsequent years are as follows:

<i>(in thousands of dollars)</i>	2019
2019-20	\$26,715
2020-21	2,857
2021-22	2,794
2022-23	2,335
2023-24	2,319
2024-25 and subsequent years	1,209
	<u>\$38,229</u>

16. Contractual rights

As of the end of March 2019, the Corporation has entered into various agreements for sponsorship of exhibits and programs, and parking lot rental for a total of \$2,187,000 (2018 – \$1,351,000). The future expected minimum amount to be collected for the next five years and subsequent years are as follows:

<i>(in thousands of dollars)</i>	2019
2019-20	\$1,094
2020-21	489
2021-22	304
2022-23	300
2023-24	-
2024-25 and subsequent years	-
	<u>\$2,187</u>

The Corporation has also entered into various agreements for which the total future amount cannot be determined. These agreements are for periods of 3 to 5 years and include visitor parking operations, milk production, food catering and cafeterias, and banking investments.

17. Related party transactions

The Corporation is related as a result of common ownership to all Government of Canada departments, agencies and Crown corporations. Related party also includes key management personnel having authority and responsibility for planning, directing and controlling the activities of the Corporation. This includes the Senior Management Team, all members of the Board of Trustees and immediate family members thereof. With the exception of transactions described below, the Corporation enters into transactions with these entities in the normal course of operations, under

the same terms and conditions that apply to outside parties. These transactions are recorded at the exchange amount.

During the year, the Corporation received services that were obtained without charge from Agriculture and Agri-Food Canada and from the Office of the Auditor General of Canada. Lease of buildings for the Canada Agriculture and Food Museum buildings located on the Central Experimental Farm site and auditing services were provided without charge and are not presented in the Corporation's Statement of Operations.

The Corporation is also related to other entities by virtue of the Corporation's significant influence over these organizations. Related party transactions with the Foundation (note 12) and the Rockcliffe Flying Club (note 13) are disclosed elsewhere in these financial statements.

18. Contingencies

In the normal course of its operations, the Corporation becomes involved in various claims or legal actions. To the extent that the future event is likely to occur or fail to occur, and a reasonable estimate of the loss can be made, an estimated liability is accrued and an expense is recorded in the Corporation's financial statements. As at March 31, 2019, no provision has been recorded based on the Corporation's and external legal firm assessment of potential liability (2018 - no provision). The effect, if any, of ultimate resolution of these matters will be accounted for when determinable. As at March 31, 2019, the Corporation had no contingent assets to disclose.

SCHEDULE 1: SCHEDULE OF OPERATING REVENUES AND CONTRIBUTIONS

For the year ended March 31

Operating Revenues

<i>(in thousands of dollars)</i>	2019	2018
General admissions and programs		
Science and Technology	\$3,648	\$1,786
Aviation and Space	942	949
Agriculture and Food	882	898
Membership	1,499	667
Boutique sales	1,294	874
Parking	1,289	902
Facility rental and concessions	606	621
Farm operations	348	338
Thematic experiences	75	88
Other	794	400
TOTAL	\$11,377	\$7,523

Contributions

<i>(in thousands of dollars)</i>	2019	2018
Grants and sponsorships	\$2,411	\$1,353
Other contributions from individuals and corporations	503	2,527
Contributions from the Foundation	181	204
TOTAL	\$3,095	\$4,084

SCHEDULE 2: SCHEDULE OF EXPENSES

For the year ended March 31

<i>(in thousands of dollars)</i>	2019	2018
Personnel costs	\$23,276	\$20,967
Amortization and write-downs of capital assets	7,823	5,872
Professional and special services	2,995	4,568
Property taxes	2,335	2,000
Property management services	2,145	1,533
Repairs and upkeep of buildings	2,137	1,220
Leases of buildings	2,108	2,203
Design and display	2,044	563
Utilities	1,693	1,331
Material and supplies	1,590	1,855
Protection services	1,092	996
Advertising	674	1,485
Gift shops and product marketing	647	489
Repair and upkeep of equipment	600	357
Travel	265	285
Freight, express and cartage	252	132
Communications	240	278
Publications	223	290
Miscellaneous	188	118
Office supplies and equipment	130	320
Rentals of equipment	74	203
Purchase of objects for the collection	33	159
Books	30	35
TOTAL	\$52,594	\$47,259