City of Greater Sudbury Funding for Science North's *Go Deeper* Project			
1. APPLICANT AND CONTACT INFORMATION			
Legal name of Applicant Science North			
Corporation number or registration number of business (operating) name 463876			
Date of incorporation or registration of business (operating) name December 8, 1980			
Operating name Science North			
Type of legal entity of Applicant **X** Not-for-profit corporation □ Other:			
Lead Contact Name Guy Labine Title: Chief Executive Officer		Alternate Contact Name Jessica Hall Title: Manager of Grant Programs	
Business Address 100 Ramsey Lake Road		Business Address 100 Ramsey Lake Road	
Province Ontario	Postal Code P3E 5S9	Province Ontario	Postal Code P3E 5S9
Business Telephone Number (705) 522 - 3701		Business Telephone Number (705) 522 - 3701	
Business Fax Number (705) 522 - 8551		Business Fax Number (705) 522 - 8551	
Business E-mail Address labine@sciencenorth.ca Website URL sciencenorth.ca		Business E-mail Address jhall@sciencenorth.ca Website URL sciencenorth.ca	
Proposed start date: *Indicate the proposed project start date based on a project implementation schedule* September 1, 2020		Proposed completion date: *Indicate the proposed project completion date based on a project implementation schedule* December 31, 2023	
Amount Requested from City of Greater Sudbury: **X** One-time request □ Multi-year request $500,000 Type of Assistance Requested: Cash Investment			
Briefly describe the nature of the Applicant's organization or business including its sector (arts & culture, research, education) Science North operates Canada's 2nd and 8th largest science centres and is Northern Ontario's most popular tourist attraction. Science North's vision is to be the leader among science centres in providing inspirational, educational and entertaining science experiences. Science North's mandate is to: offer a program of science learning across Northern Ontario; operate a science centre; operate a mining technology and earth sciences centre and sell consulting services, exhibits and media productions to support the Centre's development. Science North received Trip Advisor's "2020 Travelers' Choice Award", ranking Science North within the top 10% of all attractions worldwide, and "Top Indoor Attraction" and "Attraction of the Year" Ontario's Choice awards in 2019 and 2017 hosted by Attractions Ontario. These awards are a testament to Science North's dedication to excellence and innovation in visitor experience and indicate Science North's increasing role in making Greater Sudbury one of Ontario's top destinations.			
Please describe the governance structure of the organization. Include a list of key staff and their roles and a list of board members and their roles (if applicable). Science North is an agency of the Government of Ontario and a registered charitable organization (#10796 2979 RR0001). Science North is governed by a Board of Trustees responsible for its policies, operational continuity			

and assets owned by the organization. A number of sub-committees, each with a special focus, report directly to the Board. All Trustees and committee members are volunteers who are dedicated to public service and Science North's well-being and long-term sustainability.

The Senior Executive of Science North includes:

- Guy Labine, Chief Executive Officer
- Chloe Gordon, Director, Office of the CEO and Strategic Initiatives
- Julie Moskalyk, Science Director
- Ryan Land, Director, Education and Northern Programs
- Céline Roy, Acting Director, Finance
- Ashley Larose, Director, Development
- Nick Ayre, Director, Talent Management

The Science North Board of Trustees includes:

- Dr. Stephen Kosar: Chair, Board of Trustees / Ophthalmologist
- Dr. Jordi Cisa: Orthopedic Surgeon, Health Sciences North
- Alison De Luisa: Associate Vice President, Student and Employee Development, Cambrian College
- Helena Devins: Matiowski Farmers' Market Coordinator, City of Kenora
- Heather Gropp: Community Development Officer, Township of Sioux Narrows-Nestor Falls
- Dr. Céline Larivière: Chair, Science Program Committee / Dean, Faculty of Health, Laurentian University
- James Lundrigan: Chair, Business Affairs Committee / President, Lundrigan Mining Services Inc.
- John Macdonald: Retired secondary school teacher
- Ian McMillan: President, McMillan Tourism Management
- Jo-Anne Palkovits: Chair, Fundraising Committee / President & CEO, St. Joseph's Health Centre
- Greg Seguin: Chair Audit Committee, General Manager, Lopes Limited
- Marett McCulloch: General Sales Manager, Sudbury Wolves Sports and Entertainment
- Raymond Mantha: Professional Engineer

2. BACKGROUND

History: *Provide a brief history of the organization. Include key events leading up to the submission of the project proposal.*

Through its ongoing growth and expansion over the past 36 years and with the support from the City of Greater Sudbury, Science North continues to anchor the region's tourism industry, drawing over 11 million admissions to its attractions since its inception and hosting signature community events such as Halloween at Dynamic Earth and Canada Day at Science North. Today, Science North is comprised of a family of attractions that includes the science centre, a special exhibits hall, a digital planetarium, a butterfly gallery, an IMAX® Theatre and Dynamic Earth: Home of the Big Nickel, making it an important community, economic and tourism engine for the City.

Dynamic Earth, Canada's 8th largest science centre, is a leader in mining and earth sciences education and a key economic driver for tourism in the City of Greater Sudbury. Its exhibits, multimedia shows and underground mining tour are visited by more than 55,000 visitors annually. It is estimated that a further 120,000 visit the Big Nickel monument on site during the year. Dynamic Earth opened as a new attraction in 2003, from the previous Big Nickel Mine, with two levels of interactive experiences plus a unique and immersive underground tour. Since then, Dynamic Earth has undergone several phases of expansion and renewal, adding the digital Epiroc Theatre, Discovery Room programming space and enhanced lobby in 2007, and the MacLean Engineering Gallery (special exhibits hall) and the Glencore *Rocks to Riches* multimedia theatre in 2008. Northern Ontario's first Outdoor Science Park opened in 2016, part of a three year renewal of Dynamic Earth's visitor experiences that also included a renewal of 50% of the exhibits in the Centre, as well as the enhanced 'Walking in the Footsteps of Sudbury's Miners' underground tour.

Science North began operating the Big Nickel Mine on the site of the Centennial Numismatic Park in 1984, and though the tour experience has been enhanced over time, no significant physical additions have been made to the original underground structure and model mine workings since the 1960s. The existing tour takes visitors through different eras of Sudbury's mining, showcasing improvements in working conditions, safety,

technology and equipment over the past 130 years. The existing drifts, however, don't adequately represent current modern mining spaces.

Science North launched an ambitious Strategic Plan for 2018-2023 that includes historic levels of growth and development. A major project in this Strategic Plan is the next phase of Dynamic Earth's renewal and underground expansion, *Go Deeper*. In March 2019, Dynamic Earth launched the *Go Deeper: Modern Mining* prototype exhibit to engage visitors in and inform this major renewal, and initiate discussions around support and partnerships with mining community experts and local stakeholders. Over 20 mining and innovation companies participated in the development of leading edge, hands-on exhibits and ancillary programming for the Centre's largest investment in the exhibit prototyping process. Between March 2 and September 2, 2019, over 3,000 data points were gathered by Science North's Research and Evaluation team to determine the most engaging exhibits and inform topics of future experiences for the *Go Deeper* project.

In 2018, Science North received a $1.5 million commitment from the City of Greater Sudbury and the Greater Sudbury Development Corporation (GSDC) to support Science North's *Big Change, Big Impact* visitor experience renewal projects, including the *Go Deeper* project at Dynamic Earth, two new multimedia object theatres at Science North and the creation of a Signature IMAX® film. *Go Deeper* will provide visitors with authentic modern mine experiences through hands-on science learning, showcasing the latest discoveries and innovations in the mining sector through partnerships and collaborations with mining, research and educational organizations. Science North is now prepared to continue development and initiate construction on this three year project, with the first components to launch in early 2022.

Related Initiatives: *Please identify any other initiatives related to this project, that you are aware of, that have been undertaken in the City of Greater Sudbury.*

Along with other attractions and events in the Greater Sudbury community, this investment will significantly increase tourist offerings in the city, encouraging new and repeat visitors to Dynamic Earth, extending visitors' length of stay and creating economic benefits for businesses such as hotels, restaurants and others in the tourism industry. The project will also support and promote Greater Sudbury as a hub for innovative products, processes and services in the mining supply and services sector as it continues to grow.

Market Analysis and Rationale: *Demonstrate the need or demand for the proposed project.*

Since opening to the public in 1984, Science North has become Northern Ontario's most visited tourist attraction, with more visitors than all other attractions in the North combined. Over the years, Science North and Dynamic Earth have had over 11 million admissions. In addition to delivering informal science education experiences to its audiences, Science North plays a significant role in bolstering the local, Northern and provincial economies. Science North contributes to the economy by attracting tourists, creating jobs, creating products for international markets and supporting community development across Northern Ontario. Science North's operations and the visitor spending it generates support 660 direct and indirect jobs each year. Science North has an annual economic impact of $55 million and, since opening in 1984, has had a $2 billion impact in Ontario.

New and renewed experiences at Dynamic Earth help build the Centre's capacity to increase its tourism attractiveness. In the wake of the COVID-19 pandemic, Science North has a significant role to play in revitalizing the tourism industry and contributing to economic recovery in the region. The $5 million *Go Deeper* project, the next phase of the attraction's continued evolution and expansion to launch in 2022 and 2023, will play a significant role in attracting new and increased numbers of visitors to Greater Sudbury. The project will also generate increased economic activity in the region, including an estimated $6.7 million in direct and value added benefits and 24 FTE jobs during implementation, according to the Ministry of Heritage, Sport, Tourism and Culture Industries' (MHSTCI) Tourism Regional Economic Impact Model (TREIM). The new *Go Deeper* experiences will increase the centre's strength as a cultural and educational resource for Greater Sudbury and foster pride in the community's strong mining heritage.

Over the next 10 years, Canada's mining industry will see an approximate shortage of 80,000 workers as forecasted by the Mining Industry Human Resources Council. In response to the challenges in attracting and

keeping a skilled workforce, Ontario's mining sector has acknowledged that they need more educational opportunities for students, concerted efforts to improve the industry's image and targeted efforts to attract new talent to the north and retain them. *Go Deeper* plays a proactive role in addressing this future demand by engaging youth in the innovative world of modern mining, promoting vast career and educational opportunities in mining, geology and engineering, dispelling myths related to mining health and safety and engaging underrepresented groups in science, technology, engineering and math (STEM) careers such as women and Indigenous people.

Based on this research and Science North's strong connection to the mining industry, we are moving forward with this next phase of growth at Dynamic Earth. The successful launch and evaluation of the 2019 *Go Deeper: Modern Mining at Dynamic Earth* prototype exhibition and a commitment of $1.1 million from Canadian Heritage's Canada Cultural Spaces Fund further support the timing of this expansion. Science North is actively pursuing private sector support from the mining sector, and is preparing additional proposals to provincial and federal funding programs.

The City and the GSDC have been key supporters of large renewals at Science North and Dynamic Earth throughout the Centre's history in recognition of the important contributions the science centres have made to Greater Sudbury's economy. This has included contributions to the F. Jean MacLeod Butterfly Gallery, the special exhibits hall at Science North, Dynamic Earth and the IMAX® Theatre. Importantly, the City's support has leveraged contributions for Science North developments from other levels of government and the private sector. Direct and value-added benefits from the *Go Deeper* project will play an important role in achieving the City's ambitious vision of employment growth and economic diversification expressed in the City's economic development plan for 2015-2025, *From the Ground Up*.

Previously Funded by the City of Greater Sudbury and GSDC: *Identify funding that has been received related to this initiative.*

In 2018, Science North submitted a proposal to the City of Greater Sudbury and the GSDC for major renewal of visitor experiences at Science North and Dynamic Earth. *Big Change, Big Impact* includes seven visitor experience renewal projects, and Science North requested support from the City on three projects that will draw audiences to Science North and Dynamic Earth and to Greater Sudbury.

Overarching approvals from the GSDC Board and Greater Sudbury City Council were put in place in 2018 to support two new multimedia object theatres at Science North, *Go Deeper* experiences at Dynamic Earth showcasing Sudbury's modern mining industry and the creation of a Signature IMAX® film. Science North is now advancing each project separately in due course as the Centre continues its work with provincial and federal government funders and taking steps to advance the goals of its strategic plan.

The City/GSDC has funded the growth and expansion of Dynamic Earth in the past, including the opening of Dynamic Earth in 2003 (the City/GSDC contributed $3 million towards the creation of Dynamic Earth, a $15.3 million project) and the Dynamic Earth Renewal from 2014-2016 (the City/GSDC contributed $250,000 towards the three year renewal of Dynamic Earth, a $3.1 million project). The partnership between the City/GSDC and Science North in these projects has been invaluable in leveraging investments by other funders to fully realize these projects.

3. PROJECT DETAILS

Project name: Go Deeper

Project Description: *Describe the project that is being presented and its importance to the community.*

The *Go Deeper* project is the next phase of Dynamic Earth's renewal and expansion that will enable the centre to showcase modern mining and the future of mining – the equipment, technology, innovation and new opportunities in the industry. This project is a result of feedback from visitors and audiences, partners and industry stakeholders expressing a desire for Dynamic Earth to provide memorable experiences that portray modern mining in a realistic way and tell the story of this rapidly changing and dynamic industry.

The visitor experience goals of *Go Deeper* are to:

- Provide rich, immersive experiences that encourage visitors to explore concepts of modern mining;
- Showcase modern mining in Sudbury as a high-tech, environmentally responsible and safe industry;
- Improve visitors' understanding of how modern mining impacts their daily lives;
- Increase visitors' understanding of the significance of the Sudbury Impact Structure;
- Increase visitors' understanding of Sudbury's regreening and reclamation story, and the lessons we can learn from it for the future;
- Engage audiences of all ages, abilities and interests through specialized programming and unique storytelling experiences;
- Grow engagement with industry, education sectors and research organizations tied to mining.

Throughout Dynamic Earth's 2019 season, visitors engaged with the *Go Deeper 2019* temporary prototype exhibition. Understanding audiences – their learning goals, areas of interests, gaps in knowledge and appetite for a variety of experiences – is a vital part of the process that guides the development of content and new visitor experiences. More than 3,000 data points were collected from visitors of all ages and backgrounds and then analyzed by Science North's Research & Evaluation team. The results will guide the project team as they refine themes and concepts for this next renewal at Dynamic Earth.

The major components of *Go Deeper* are:

Expanded Underground Experiences: New Underground Multi-Purpose Theatre & Programming Space and Modern Mining Drifts

Rock excavation and construction will create new underground spaces for visitor experiences as well as important amenities such as accessible washrooms to improve visitor accessibility, comfort and safety. Although Dynamic Earth's tour experience has been enhanced over time, this project will be the first significant physical addition to the original underground structure created in the 1960s for the Big Nickel Mine.

Underground expansion is required for a realistic portrayal of modern mining, since existing drifts are too small to represent the large spaces of today's mines. The expansion includes two major components:

1. A new underground multi-functional space will be used for programming, workshops and special events. This large, one-of-a-kind space will be fully accessible and specially treated with shotcrete so visitors will not require hard hats. Elementary to post-secondary students will engage in curriculum-linked science, technology, engineering and math (STEM) programming in this space, allowing for greater lengths of stay underground.
   The new space will also feature an immersive multimedia experience. Infrastructure for the show, including seating and technical equipment systems, will be easily movable and flexible to accommodate other programming and events.
2. The expansion underground will create 180 metres of new drifts, including 60 metres for new visitor experiences. The new drifts will provide unique learning opportunities, showcasing digitized mine environments and modern mining equipment.
3. The current underground tour will be rejuvenated to incorporate the new drifts and multimedia show, ensuring proper visitor flow and a cohesive experience. The resulting expanded tour will increase interest and knowledge about the modern mining industry while transforming the perceptions of what a modern mine is.

***Big Impact* - An Iconic Underground Multimedia Experience**

A visually stunning multimedia show will become a signature experience for the underground tour. A number of show themes and topics have been proposed, which will be further explored and tested. One potential story is *Big Impact*, the story of how a meteorite formed the Sudbury Impact Structure 1.85 billion years ago, setting the stage to create one of the largest mining hubs on earth that supplies the world with nickel, copper and other products.

The show will be featured in the new Underground Multi-Purpose Theatre & Programming Space. State-of-the-art multimedia systems will include projection, specialized lighting, sound effects and other

special effects for an immersive experience that will awe and inspire audiences. It will be an unusual and unique underground experience, truly one of a kind in the world!

New Immersive Show for the Vale Chasm

As visitors descend seven storeys in the glass-enclosed elevator to begin their guided tour, special effects and other media techniques will create a memorable sensory experience of "going underground." This new show will introduce the concept that visitors are embarking on an adventure deep in the earth to "walk in the footsteps" of Sudbury's miners from the past to the present. The experience will be an emotional journey that culminates in a stunning reveal of the awesome sheer rock walls of the Vale Chasm itself.

The Dynamic Earth team will research the latest multimedia techniques in lighting, projection, sound and special effects to achieve a highly sensory experience that will build anticipation and excitement for the underground tour. It will be a fitting start to visitors' journey through 130 years of mining history in the Sudbury area.

Signature Regreening Film for the Epiroc Theatre

This compelling film will tell the story of the incredible 40-year transformation of Sudbury's landscapes and watersheds. Visitors will discover how community groups, educational institutions, governments, companies and individuals worked together to rehabilitate a damaged landscape and make our community a great place to live, work and play.

The film will celebrate past successes and look toward the future as nature continues to heal itself. It will also illustrate how lessons from Sudbury's environmental devastation and restoration are being shared and helping the global mining industry further reduce its environmental footprint for the benefit of generations to come.

The *Go Deeper* project will sustain Science North as a world-class tourism attraction, engaging audiences in one-of-a-kind science experiences and showcasing the innovative, safe and vital world of modern mining, one of Greater Sudbury, Ontario and Canada's most important economic sectors and a major job creator.

Project Objectives: *Specify project objectives and how the project does and/or will contribute to economic development in the City of Greater Sudbury.*

Go Deeper project objectives support Science North's 2018-2023 Strategic Plan and are well aligned with the City's economic development plan for 2015-2025, *From the Ground Up*. These include:

Top Tourism Destination
Go Deeper's unique, one-of-a-kind experiences will significantly expand and enrich tourist offerings in Greater Sudbury, attracting more visitors to the region and to Dynamic Earth. The project will not only increase the number of visitors to Sudbury, it will also extend visitors' length of stay, resulting in economic benefits to businesses such as hotels, restaurants and others in the tourism industry. With new and repeat visitation, Dynamic Earth projects an increase in attendance and revenue by 10%, membership revenue by 10% and school attendance by 5% by the end of Science North's 2024-25 fiscal year.

Economic Growth and Job Creation
Go Deeper will play a significant role in increasing economic activity in Greater Sudbury and Northern Ontario, including an estimated $6.7 million in direct and value-added benefits and 24 FTE jobs during implementation of the project (according to MHSTCI's TREIM model). High quality jobs in the mining sector and creative industries will be created and maintained in the development, engineering, fabrication, production and installation of *Go Deeper* projects. More jobs will be created after project completion from increased tourism over the long term. Through the new experiences, *Go Deeper* partners and collaborators will have the opportunity to inspire a new generation to look at the mining sector for future study and career opportunities.

Global Leader in Mining Supply and Services Industry
Visitors will discover that Sudbury is a hub for mining innovations and advanced technologies, driven by local entrepreneurs and businesses that are helping to revolutionize the mining sector globally. Visitors will learn

that modern mining in Sudbury is a high tech, environmentally responsible and safe industry, helping to dispel myths surrounding the industry. *Go Deeper* exhibits and shows will provide opportunities for companies and research organizations in the mining industry to showcase their products and services, enhancing their reach to new potential customers/clients.

Education and Innovation
Go Deeper will have its finger on the pulse of the latest discoveries and innovations in the mining sector, creating changing experiences through partnerships and collaborations with mining, research and educational organizations. The underground expansion will create new and unique spaces for training and development of students at colleges and universities with programs related to mining such as Collège Boréal, Cambrian College, Laurentian University, Goodman School of Mines, Queen's University, Brock University and University of Toronto. Elementary to post-secondary students will access new spaces at Dynamic Earth for school programming, including mining-related experiences for secondary schools with Specialist High Skills Majors Programs in Mining and Environment (SHSM).

Equality and Enhanced Cultural Opportunities
Visitors of a wide range of ages, abilities and interests will be engaged through specialized programming, events and workshops offered in Sudbury's two official languages, English and French. Under-represented groups in the mining sector such as women and Indigenous audiences will be encouraged to engage with the mining industry. The Science North Northeastern Ontario Indigenous Advisory Group, comprised of members of Indigenous-led organizations, band councils, education councils and private citizens as well as Indigenous leads in public school boards and government ministries and agencies, will be involved in providing ideas, feedback and advice as the *Go Deeper* project is developed to ensure programming is culturally relevant. Some of the new experiences will be offered in an Indigenous language, in addition to English and French, to attract and better serve Indigenous audiences.

Project Activities: *Identify and describe the activities of the project. For each, identify the outcomes to be measured, estimated timelines and costs.*

Go Deeper project activities will be implemented in two phases over three years, with full completion by March 2023. Implementation of the *Go Deeper* project will cost $5 million.

Estimated Timelines

Phase 1 - to launch in March 2022

Innovation Gallery
- Conceptual planning and exhibit development: November 2020 - April 2021
- Fabrication, media production and installation: February 2021 - March 2022
- Opening of new Innovation Gallery: March 2022

Sudbury Regreening Story - Epiroc Theatre Film
- Concept planning and script development, technical equipment research: September 2020 - December 2020
- Film production and post-production, equipment installation: January 2021 - March 2022
- Launch of new Sudbury Regreening film: March 2022

Phase 2 - to launch in February 2023

Expanded Underground Experiences: Multi-Purpose Theatre & Programming Space, Modern Mining Drifts
- Planning, engineering & design: November 2020 - September 2021
- Underground excavation and construction, furnishings installation: November 2021 - March 2022, November 2022 - February 2023
- Development/installation of new exhibits and revamped tour stations: March 2022 - February 2023
- Opening of new spaces and rejuvenated underground tour: February 2023

***Big Impact* Multimedia Show in the Underground Multi-Purpose Theatre & Programming Space**

- Technical research, show script development, set design: September 2020 - August 2021
- Filming, AV equipment procurement, set fabrication: September 2021 - October 2022
- Installation of multimedia systems and set, show programming: September 2022 - February 2023
- Opening of *Big Impact* underground show: February 2023

New Vale Chasm Elevator Show

- Technical research, show script development: January 2021 - November 2021
- Media production, procuring AV equipment: December 2021 - October 2022
- Installation of multimedia systems, show programming: November 2022 - February 2023
- Opening of new Vale Chasm multimedia experience: February 2023

Budget Breakdown

Expanded Underground Experience: Underground Multi-Purpose Theatre & Programming Space and Modern Mining Drifts	$2.25 million
Big Impact Multimedia Show in the Underground Multi-Purpose Theatre & Programming Space	$1.0 million
Vale Chasm Show	$500,000
Sudbury Regreening Story - Epiroc Theatre Film	$500,000
Innovation Gallery	$750,000
Total	**$5.0 million**

Outcomes to be Measured

- Increase Dynamic Earth attendance and revenue by 10%, membership revenue by 10%, and school attendance by 5% by the end of the 2024-25 fiscal year
- Increase local attendance and memberships by 10% by the end of Science North's 2018-2023 Strategic Plan over 2018-2019 actuals
- Increase partnerships and strengthen connections with existing partners in the mining and education sectors
- Increase the number of special events at the site
- Visitor experience feedback surveys will be conducted with a goal to measure visitor satisfaction at 95%

Project Management: *Include contact information of key personnel involved in the project, a summary of management abilities, education and experience and a description of the reporting structure for the project*

Science North's Senior Executives are responsible for overseeing *Big Change, Big Impact* projects and ensuring new visitor experiences meet strategic objectives and result in high quality "must-see" experiences that will increase tourism and lead to numerous new community partnerships. The *Go Deeper* project will be led by Julie Moskalyk, Science North's Science Director.

Below is a list of key staff involved in this major renewal:

Guy Labine, Chief Executive Officer:
Guy joined Science North in 2001 as the Director of Business Development. In this role he led the ongoing growth and development of Science North's international sales and consulting business, as well as various sponsorship and fundraising initiatives. In 2001, he introduced the idea of a Travelling Exhibits business - now a key generator of revenues supporting the organization's growth and sustainability. In 2009, Guy was appointed Chief Operating Officer and led the organization's strategic planning process, including allocating resources to pursue the strategy. In May 2011, Guy became the second Chief Executive Officer in Science North's 35-year history, overseeing all operations at the Centre.

Julie Moskalyk, Science Director:

Julie has been a part of the Science North team since 1985, with most of her career spent in Science Program developing and implementing visitor experiences. In 2013, Julie became the Senior Manager of Dynamic Earth and led the completion of a 3-year renewal project, including construction of a new Outdoor Science Park, enhancements to the famous underground tour and renewal of 50% of gallery exhibits. Prior to this role, Julie led the International Sales team in creating and selling Science North experiences around the world. In 2017, she was appointed Science Director, leading all operations and strategic leadership for Science North and Dynamic Earth.

Jennifer Beaudry, Senior Scientist, Dynamic Earth:
Jennifer has been a part of the Science North team since 2003, starting as a Science Demonstrator and now leading operations at Dynamic Earth. Jennifer shares her knowledge and passion for mining, geology and earth sciences with visitors through the development of new visitor experiences and hands-on, educational programming. Jennifer holds a Bachelor's of Science Honours from Laurentian University.

Darla Stoddart, Senior Scientist, Projects:
Darla currently leads the development of Science North's travelling exhibitions and manages projects within the science centre and for external clients. As Senior Scientist for Projects, Darla ensures science content and design of exhibits are fully integrated to create an outstanding visitor experience. Darla joined the International Sales Team at Science North in 2015 as Manager of Travelling Exhibitions and Touring Operations. Prior to her career with Science North, Darla was a Professional Engineer involved in project management and process mechanical design for various industries.

Ryan Land, Director, Education and Northern Programs:
Ryan leads northern outreach, initiatives, partnerships, programs and camps for all of northern Ontario, and for Science North's extensive education program. Ryan received his Master of Education degree majoring in Educational Leadership in 2008, and holds a Project Leadership certificate from Cornell University. He has over 12 years of experience as a former teacher and principal (three years). Ryan works with local school boards to ensure engagement with Science North programs, including Ontario schools with Specialist High Skills Majors Programs (SHSM).

Ashley Larose, Director, Development:
Since joining Science North in 2006, Ashley has held many portfolios including leading outreach initiatives, developing visitor experiences and managing international sales. Most recently as the Director of Customer Relations and Business Development, Ashley provided direction and leadership to visitor services & sales, marketing, international sales and development units. As the Director of Development, Ashley currently leads the development and implementation of Science North's private sector fundraising initiatives.

Jessica Hall, Manager, Grants Programs:
Jessica manages the organization's grant cycle including pursuing existing grant opportunities, researching new grant opportunities and coordinating high quality proposals and comprehensive reports.

Dan Chaput, Staff Scientist, Dynamic Earth:
Over the past 20 years, Dan has worked in many roles at Science North and Dynamic Earth, including being interim director at Dynamic Earth from 2006-2008 and leading the creation of new exhibits during Dynamic Earth renewals in 2007 and 2008. As Staff Scientist at Dynamic Earth, Dan is involved in all aspects of operations, including the development of exhibits, programming and workshops and managing staff. Dan spent a number of years working in the mining industry and has an academic background in forestry, horticulture, botany and entomology from various institutions.

Robert Gagne, Senior Producer:
Rob has been with Science North since 1984, leading the creative direction of Science North's multimedia and film projects. Rob's production experience includes Science North's world-renowned object theatres, 4D theatres, special effects shows, 70 mm and 3D films and numerous video productions. Rob has a Diploma, Audio Visual Technologist, from Cambrian College in Sudbury.

Amy Wilson, Senior Editor, Producer:

Since 2007, Amy has worked for Science North on a wide variety of projects serving many roles, from videographer and editor to director and producer. Most notably, she has led media creation on all traveling exhibitions, edited countless internal and external video pieces and has produced and directed major Science North projects for the Ministry of Education. Amy has a Bachelor of Arts Honours from Queen's University in Film Studies and History, and a Post Production Post Graduate certificate from Humber College.

Garth Moote, Facility Manager:
Garth leads the majority of large-scale capital infrastructure projects at Science North and Dynamic Earth, in addition to managing day-to-day repairs and preventive maintenance at both centres. Garth has over 30 years of management experience and construction and renovation training. Garth attended Ryerson University and Rotmans School of Business.

Tas Gregorini, Senior Technical Specialist:
With an educational background of AV and electronics at Cambrian College, Tasio has 30 years' experience with Science North's production projects. He directs project technical teams through all aspects of multimedia production from lighting to audio to special effects.

Lara Fielding, Senior Manager, Marketing:
Lara leads Science North's marketing team to develop creative, strategic and comprehensive communication and marketing campaigns to increase awareness of all Science North initiatives and to drive attendance. Lara has more than 18 years of experience creating impactful visual brand solutions for high-profile companies across several industries, including a deep understanding of the psychology behind visitor behaviour.

Project Partners: *Identify and list each partner involved in the project and for each, provide the following information: Contact information, their role in the project and key contact person.*

Science North will work collaboratively with a wide variety of partners in the development of the *Go Deeper* project, including scientific experts, research organizations, educational institutions, mining industry partners, multimedia equipment suppliers and local community stakeholders. These partnerships will be instrumental to ensuring that new exhibits and multimedia experiences represent the innovations and advancements in today's mining industry. A Project Advisory Committee with key stakeholders from industry and education as well as Indigenous representatives will be involved in project development and implementation.

Mining Industry Partners

- **Vale:** Danica Pagnutti, danica.pagnutti@vale.com
- **Glencore-Sudbury Integrated Nickel Operations:** Yonaniko (Iyo) Grenon, Yonaniko.Grenon@glencore-ca.com
- **Epiroc:** Michael Playfair, Michael.playfair@epiroc.com; Breanne Cartmill, breanne.cartmill@epiroc.com; Frank Luttrell, frank.luttrell@epiroc.com (Sudbury contact)
- **Hard Line Solutions:** Walter Siggelkow, wsiggelkow@hard-line.com
- **Cementation**: Roy Slack: roy.slack@cementation.com; Rob Boissonneault, rob.boissonneault@cementation.com
- **Becker Varis:** Albert Bower, albert.bower@ca.becker-mining.com
- **Noront Resources:** Alan Coutts, alan.coutts@norontresources.com
- **Maestro Digital Mine:** Michael Gribbons, Michael.Gribbons@maestrodigitalmine.com
- **Bestech:** Marc Boudreau, marc_boudreau@bestech.com
- **Komatsu Mining Corp. Group:** Rick Molyneux, rick.molyneux@mining.komatsu
- **Mine Connect:** Paul Bradette, bradette@mineconnect.com
- **Frontier Lithium**: Bora Ugurgel, ugurgel@frontierlithium.com

Science Advisors

- **Laurentian University:** Dr. David Pearson, pearson@laurentian.ca Dr. Nadia Mykytczuk, nx_mykytczuk@laurentian.ca
- **Mine Connect:** Paul Bradette: bradette@mineconnect.com
- **Northern Centre for Advanced Technology Inc. (NORCAT):** Don Duval: dduval@norcat.org
- **Modern Mining & Technology Sudbury (MMTS):** Nicole Tardif: ntardif@laurentian.ca
- **Centre for Excellence in Mining Innovation (CEMI):** Doug Morrison: dmorrison@cemi.ca

- **MIRARCO Mining Innovation:** Jennifer Abols: jabols@mirarco.org
- **Ontario Mining Association:** Adrianna Stech: astech@oma.on.ca
- **Canadian Institute of Mining, Metallurgy and Petroleum (CIM):** Samantha Espley, samantha_espley@hotmail.com; Roy Slack: roy.slack@cementation.com
- **Goodman School of Mines:** Jennifer Abols: jabols@laurentian.ca
- **Cambrian College:** Nicola Young: Nicola.young@cambriancollege.ca
- **Collège Boréal:** Jeff Lafortune: jeff.lafortune@collegeboreal.ca
- **Lundrigan Mining Services**: Jim Lundrigan, jim@lmining.net

Educational Partners/Curriculum Consultants:

- **Sudbury District Catholic School Board:** Joanne Bénard, benardj@sudburycatholicschools.ca
- **Conseil scolaire catholique du Nouvel-Ontario:** Paul Henry, paul.henry@nouvelon.ca
- **Conseil scolaire public du Grand Nord de l'Ontario:** Marc Gauthier, marc.gauthier@cspgno.ca
- **Rainbow District School Board:** Norm Blaseg, blasegn@rainbowschools.ca

4. ECONOMIC BENEFITS

Permanent and Temporary Jobs to be created

Number:

- 46 FTE jobs created during capital build
- 660 annual jobs sustained by Science North operations and visitor spending

Description of Jobs:

A variety of jobs will be created as below:

- during the design and development stages of the project (including engineering)
- during construction (including blasting, mucking, hauling, etc.)
- throughout development, production and fabrication of spaces and experiences
- during creation and installation of multimedia experiences
- through spin-off economic activity due to increased tourism with a larger attraction and increased appeal for visiting

Annual Rate of Pay: rates of pay will vary by job

Expected Start Date: September 1, 2020

Economic Benefits of the project

Describe how the project promotes economic growth, innovation and/or job creation in Greater Sudbury:

Renewal of visitor experiences at Dynamic Earth will generate economic benefits and increased jobs in Greater Sudbury well into the future beyond implementation of the projects. The renewal will ensure that Science North will continue to be a driving force for tourism and cultural growth in the city, annually injecting millions of dollars into the economy and sustaining hundreds of jobs through its operations and as a generator of tourism. The *Go Deeper* project will attract more tourists to Sudbury, growing the economy and creating more jobs. This project will provide opportunities for job training and skills development that will benefit the workforce in Greater Sudbury. New visitor experiences will engage Sudburians in STEM learning, encouraging them to embrace innovation and creative skills.

During the capital build of Dynamic Earth's *Go Deeper* project, direct and value-added economic benefits will be approximately $6.7 million and 24 FTE jobs will be created (according to MHSTCI's TREIM model). This major renewal of visitor experiences will showcase and celebrate Sudbury as a leader in mining technology and science, and strengthen Dynamic Earth as a mining education centre and as a resource centre for the mining industry. The continued renewal of visitor experiences at Science North and Dynamic Earth lead to an improved quality of life by enhancing cultural opportunities and fostering innovation.

Describe how the project will improve capacity and investment readiness of the community:

Go Deeper experiences will generate more interest among today's youth in pursuing post-secondary education and careers in the fields of science, mining and media production. Greater Sudbury has a number of post-secondary institutions with high-calibre programs in the field of modern mining, including Laurentian University's Goodman School of Mines, Cambrian College's Electromechanical Engineering Technology program and Collège Boréal's Prospecting and Mining Techniques program. *Go Deeper* experiences will position Dynamic Earth as a place that can inspire youth to pursue their education with local institutions, increasing Sudbury's capacity to fill jobs in these sectors in years to come.

The *Go Deeper* project will also showcase innovative development in science education, multimedia development and the mining supply and services sector. These 'made in the North' experiences, technologies and techniques will increase interest from other businesses wanting to be associated with Sudbury's world-class scientific and industry sectors.

Describe how the project aligns with the City of Greater Sudbury's Strategic Plan? (link to full text)

Go Deeper will support the realization of the City's vision of job and population growth, economic diversification and achieving an unmatched quality of place, lifestyle and economic prosperity in Greater Sudbury. Science North's renewal links to multiple parts of the City's 2019-2027 Strategic Plan, including:

BUSINESS ATTRACTION, DEVELOPMENT AND RETENTION:

- *Go Deeper* will position Greater Sudbury as an attractive place to do business, with a focus on job creation, assessment growth and employment opportunities. High quality jobs created during project implementation will help build a highly skilled and creative workforce.
- New *Go Deeper* experiences at Dynamic Earth will celebrate Sudbury's rich industrial history as a mining centre. They will showcase Sudbury's modern mining industry and strengthen Dynamic Earth as a resource centre for the mining sector, supporting the City's goal to position Greater Sudbury as the global leader in mining and mining supply/service innovation.

ECONOMIC CAPACITY AND INVESTMENT READINESS:

- *Go Deeper* will position Greater Sudbury to maintain resiliency and competitiveness through investments in people and resources, providing Sudburians with new learning opportunities that are relevant and meaningful in an increasingly global and knowledge-based economy.
- *Go Deeper* will involve collaboration and investment from other public sectors and levels of government to position the project for success. Renewal of visitor experiences at Dynamic Earth is crucial to attracting new audiences and extending lengths of stay. The new experiences will increase tourism and generate new economic activity.
- *Go Deeper* will facilitate partnerships with private sector through research and the contribution of high-quality educational content to be used in exhibits for the next generation of talent. New and engaging content will serve as a promoter and communicator of Greater Sudbury as the Global Leader in Mining and Mining Supply/Service Innovation, as well as regreening and restoration.

STRENGTHEN COMMUNITY VIBRANCY:

- *Go Deeper* will contribute to lifestyles and economic activity by creating new community amenities and facilities, acting as a community gathering, learning and celebration space. This major renewal at Dynamic Earth will provide enhanced cultural and informal learning opportunities for Sudburians, elevating the quality of place and lifestyle in the city.
- Science North and Dynamic Earth are internationally recognized science centres that attract visitors from around the world, enhancing Sudbury's reputation as a welcoming and open community and a great northern lifestyle alternative for workers regardless of where the company they work for is located.
- As Canada's second and eighth largest science centres, Science North and Dynamic Earth help elevate Sudbury's position on the national stage as a centre for vibrancy and creativity. Engaging interactive science experiences encourage the local Sudbury audience as well as people from around the world to build knowledge and skills related to creativity and innovation.

5. PROJECT COSTS AND FINANCING

Have all identified funding partners committed to the project? □ Yes **X** No
Explain:
In 2018, Science North received overarching approvals for $1.5 million from the City of Greater Sudbury and GSDC for specific *Big Change, Big Impact* projects, including a commitment of $500,000 for the *Go Deeper* project at Dynamic Earth. Canadian Heritage has confirmed $1.1 million in support of this project.

Science North has submitted funding proposals to private sector partners and is preparing additional proposals to provincial and federal funding programs. Science North has a strong track record for successfully developing, implementing and marketing major renewals resulting in high quality visitor experiences, making these projects an attractive investment opportunity for potential funders.

While Science North has funding reserves, these are both internally and externally restricted. If there is a funding shortfall, they would be used to temporarily fund the shortfall.

Provide details on how you will obtain your identified contribution:
Science North's visitor experience renewal projects have historically been funded using a similar approach to *Big Change, Big Impact* and the *Go Deeper* project. This includes a combination of public and private sector funding with Science North resources used in the development and delivery of these projects. Science North's funding reserves are internally and externally restricted. They cover potential shortfalls in operating revenues or are used to deliver dedicated programs.

Is the City's funding necessary to make your project viable? **X** Yes □ No
Explain: Overarching approvals from the Greater Sudbury City Council and GSDC Board were put in place in 2018 for *Big Change, Big Impact* projects, including Dynamic Earth's *Go Deeper* renewal. Advancing this project is necessary due to recent funding approvals. An investment from the City of Greater Sudbury is crucial to demonstrating the local community's support of Dynamic Earth's next major renewal. Moreover, it will assist in leveraging additional government support, securing of industry partners and support from the community.

In addition to the funding partners listed in your submission, are there other funding programs that you have applied to/approached? □ Yes **X** No
If yes, who else have you contacted? N/A

Has private sector funding been considered and/or is it applicable? **X** Yes □ No

Will the project directly compete with existing businesses or with similar projects in the community?
□ Yes **X** No
Explain: Completing a major renewal of the Dynamic Earth underground experience will complement other attractions in the community, bolstering Greater Sudbury's tourism appeal when the new experiences launch in 2022 and 2023. The new underground experience will generate longer lengths of stays, lead to increased economic activity and create exciting partnership opportunities for the benefit of the community.

6. OTHER INFORMATION REQUIRED

If the project is funded, are there any potential issues related to the project that the City should be aware of?
□ Yes **X** No
If yes, please explain: N/A

Will the project comply with all federal/provincial/municipal laws and regulations? **X** Yes □ No

What permits and/or approvals are necessary to develop the project? Indicate a status of each.
Science North will obtain all necessary permits prior to commencing construction.

Is any key information missing from your application that will be submitted at a later date? □ Yes **X** No

7. DOCUMENTS TO BE ATTACHED TO THE PROJECT PROPOSAL

Does your organization maintain an up to date business plan? Yes X No □
If available, please attach.

Copy of any related by-law(s) or resolution(s) supporting the project
Included? Yes **X** No □
If no, explain

Copy of legal registration/ Master Business License
Included? Yes □ No □
The City has indicated this is already on file.

Certified copy of articles of incorporation and amendments, if applicable
Included? Yes □ No □
The City has indicated this is already on file.

Documentation confirming partner funding commitments or confirmation of acceptance of application to other funding sources
Included? Yes **X** No □
If no, explain

Copy of submissions to other sources of funding for the project
Included? Yes **X** No □
A copy of the funding proposal to Canadian Heritage has been provided to the City.

Copy of most current annual financial statements (1-3 years)
Included? Yes **X** No □
If no, explain

Where available, attach copies of RFPs, consultant's reports etc
Included? Yes □ No **X**

Copies of estimates and quotes
Included? Yes □ No **X**
If no, explain
Project costs included in this proposal are estimates based on the extensive experience of Science North staff in developing and implementing these types of visitor renewal projects along with consultation with industry professionals as part of our advisory team.

Proof of appropriate insurance coverage.
Included? Yes □ No □
If no, explain
The City has indicated this is already on file.

APPENDIX A: PROJECT COSTS AND FINANCING TABLES

TABLE 1: PROJECT COSTS

Project Components	Project Cost Category*	Year 1 *April 2020 - March 2021*	Year 2 *April 2021 - March 2022*	Year 3 *April 2022 - March 2023*	Total Funding
Expanded Underground Experiences: Underground Multi-Purpose Theatre & Programming Space and Modern Mining Drifts	Research, concept development, design	$24,000	$135,000	$12,000	**$171,000**
	Fabrication, construction	$38,000	$1,745,000	$160,000	**$1,943,000**
	Installation	-	$64,000	$72,000	**$136,000**
Big Impact Multimedia Show in the Underground Multi-Purpose Theatre & Programming Space	Research, concept development, design	$17,000	$62,000	$11,000	**$90,000**
	Media production	-	$125,000	$60,000	**$185,000**
	Hardware, fabrication, construction	-	$277,000	$145,000	**$422,000**
	Installation	-	$63,000	$240,000	**$303,000**
Vale Chasm Show	Research, concept development, design	$8,000	$86,000	$17,000	**$111,000**
	Hardware, fabrication, production	-	$182,000	$99,000	**$281,000**
	Installation	-	$25,000	$83,000	**$108,000**
Sudbury Regreening Story - Epiroc Theatre Film	Research, script development, production	$110,000	$240,000	-	**$350,000**
	Hardware acquisition and installation		$150,000	-	**$150,000**
Innovation Gallery	Research, design, content development, media production	$92,000	$145,000	$5,500	**$242,500**
	Hardware, construction, fabrication	$15,000	$425,000	-	**$440,000**
	Installation	-	$66,000	$1,500	**$67,500**
TOTAL		**$304,000**	**$3,790,000**	**$906,000**	**$5,000,000**

Will the project impact on your annual operating costs? Yes **X** No □
If yes, explain the impact and how it will be addressed.
Operating costs of the renewed visitor experiences will be accommodated in existing operating budgets or covered by additional revenues resulting from the new experiences such as increased admissions to Science North and Dynamic Earth.

*Under project cost category identify applicable cost categories such as wages, consulting costs, materials, project management, equipment costs etc. Project costs should include non-refundable GST only. If a portion of the GST will be reimbursed, indicate what percentage is refundable. (Note: refundable taxes should not be shown as either an eligible or ineligible cost.)

TABLE 2: PROJECT FINANCING							
	Funding Type*	**Funding Status****	**Activities Funded (if applicable)**	**Year 1** *April 2020 - March 2021*	**Year 2** *April 2021 - March 2022*	**Year 3** *April 2022 - March 2023*	**Total Funding**
Canadian Heritage	Cash	Committed	New spaces and specialized equipment systems	$518,500	$127,060	$454,440	**$1,100,000**
FedNor	Cash	Pending			$900,000	$100,000	**$1,000,000**
NOHFC	Cash	Pending			$900,000	$100,000	**$1,000,000**
Private Sector	Cash	Pending			$1,198,440	$1,560	**$1,200,000**
Applicant	Cash	Committed			$200,000		**$200,000**
CGS Amt Requested	Cash				$250,000 *	$250,000 **	**$500,000**
	Total **e.g. cash, conditional contribution, etc.* ***e.g. confirmed, pending approval, etc.* **CGS as % of total project costs** *(CGS Amt Requested / Total Funding)*			**$518,500**	**$3,575,500** **10%**	**$906,000**	**$5,000,000**

* CGS request for funding released by December 31, 2021.
** CGS request for funding released by December 31, 2022.