

BIG CHANGE BIG IMPACT

Driving Tourism, Economic and Cultural
Growth in the City of Greater Sudbury

A Proposal to the City of Greater Sudbury and
the Greater Sudbury Development Corporation

Science North
June 2018





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Executive Summary





Science North requests an investment of \$1.5 million from the City of Greater Sudbury and the Greater Sudbury Development Corporation (GSDC) for major renewal of visitor experiences at Science North and Dynamic Earth. The support of the City/GSDC will help lever a \$25.5 million investment in seven new projects which will drive increased tourism, create 143 jobs and enhance leisure and learning opportunities for Sudburians.

The City and Science North have enjoyed a successful strategic partnership for almost 40 years. Municipal leadership was the driving force behind the creation of Science North in 1979 with a vision to diversify Sudbury's economy despite a severe economic recession. The City/GSDC now has an opportunity to support another historic milestone in the Centre's history through a suite of renewal projects that will add vibrancy and innovation to the Greater Sudbury community.

Perpetual change is crucial to sustaining Science North as a world-class tourism attraction, helping make Greater Sudbury one of Ontario's top destinations. Science North has launched an ambitious new five-year Strategic Plan that includes historic levels of growth and development. Science North's Strategic Plan and interest generated by its 2019 35th Anniversary will be the springboard for a transformative campaign of big renewal.

This proposal focuses on three renewal projects that will draw audiences to Greater Sudbury:

- two new multimedia theatres that highlight innovative science in the Sudbury area related to climate change and the deep space research of SNOLAB;
- *Go Deeper* experiences at Dynamic Earth that showcase Sudbury's modern mining industry; and
- an IMAX® film produced in partnership with Dr. Jane Goodall featuring the Sudbury regreening story, one of the most inspiring environmental restoration projects in the world.

Big Change, Big Impact is a \$27 million project. The Province of Ontario and other public sources have already committed \$18.7 million to this renewal. Science North expects to secure \$6.8 million from partnerships, collaborations and donations. **A \$1.5 million investment is requested from the City of Greater Sudbury/GSDC.** This investment represents 5.5% of the total cost and will leverage the balance of the funding needed to complete this project in our community.

City of Greater Sudbury and Science North: Working in Partnership for the Benefit of Greater Sudbury



Science North's vision is to be the leader among science centres in providing inspirational, educational and entertaining science experiences. It recently launched an ambitious five-year Strategic Plan and is now on the cusp of its largest renewal and expansion since opening in 1984. The seven major visitor experience renewal projects of *Big Change*, *Big Impact* will have a transformational impact on Greater Sudbury. They will build tourism, create jobs and enhance the cultural landscape of our community.





Support from the City of Greater Sudbury and the Greater Sudbury Development Corporation (GSDC) is pivotal to realizing these projects. Science North has secured a \$16 million funding commitment from the Ontario Government for these projects. The investment by the City/GSDC will be key to demonstrating strong City support for *Big Change, Big Impact*. It will leverage support from other levels of Government and encourage other investors to support these projects. This is an important milestone continuing the successful strategic partnership between the City and Science North that has existed for almost 40 years.

[An Impactful Partnership Over the Decades](#)

In 1980, the Regional Municipality of Sudbury, through the Sudbury Regional Development Corporation (SRDC), was the driving force in the creation of Science North, spearheading what was initially called the Sudbury Science Centre. Set against the backdrop of Sudbury's worst recession since the 1930s, the project had its champions and its detractors. However, our municipal leadership stayed the course, understanding the importance of diversifying Sudbury's economy over the long term.

In true Sudbury style, the City and SRDC worked with community leaders to realize an ambitious vision for a major community project and tourist attraction—Science North—that would forever change the landscape of Sudbury, literally and figuratively.

In 1981, the SRDC purchased the Canadian Centennial Numismatic Park on behalf of the Sudbury Science Centre. The Park, known across Canada as the Big Nickel, is now the home of Dynamic Earth—Canada's eighth largest science centre.

Since Science North opened in 1984, the City of Greater Sudbury and Science North have worked hand-in-hand to drive tourism and economic development in our community. Initiatives such as the Sudbury Tourism Partnership, in which Science North plays an active role, and a focus on developing strong tourism products have enabled this success. Tourism has become a major economic engine for the City. Science North is Canada's second largest science centre and Northern Ontario's most visited tourist attraction. Science North is also a major community educational and cultural resource.

A big factor in Science North's success has been continual renewal of visitor experiences and the creation of new attractions. Science North and Dynamic Earth are two large science centres in a relatively small market. Change is crucial to drawing residents and tourists for repeat visits. The City and SRDC, now the GSDC, have been key supporters of Science North and Dynamic Earth throughout the Centre's history. 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.

The City and GSDC now have a new opportunity to support the next wave of renewal of Science North. Science North looks forward to our continued partnership, working together for the benefit of Greater Sudbury well into the future.

Meeting Strategic Priorities for the City of Greater Sudbury

“All of Ontario’s major attractions need investment in renewal and rejuvenation to attract new tourists. As Northern Ontario’s largest attraction, Science North’s *Big Change Big Impact* plan will attract new tourists, encourage repeat visitors and extend visitor lengths of stay. All of these impacts will increase the economic benefit of tourism in Northern Ontario. More tourists and longer stays mean more jobs.”

*Jim Marchbank,
Chair of the Board,
Destination Ontario*

“Science North and Dynamic Earth have always been at the forefront of leading edge attractions and technology, continuously providing new experiences to our community. This has and continues to create new reasons for tourists to visit our city and stay longer, strengthening our economy and making Greater Sudbury stronger.”

Brian Bigger,
Mayor, City of Greater Sudbury
(Media Release, February 19, 2016)



Visitor Experience Renewal that will Strengthen Economic Diversity, Create Jobs and Improve the Standard of Living for Sudburians

Science North is requesting financial support of \$1.5 million from the City of Greater Sudbury/GSDC for visitor experience renewal. This investment will strengthen Science North as a driver of economic growth in the City of Greater Sudbury, create jobs and elevate quality of place through new “must see” experiences and the celebration of Sudbury success stories. The support of the City/GSDC for *Big Change, Big Impact* is instrumental in helping Science North undertake its largest renewal since the Centre opened in 1984. This renewal will have far reaching impacts on audiences and the community of Greater Sudbury, as the next big step in the Centre’s history.

Big Change, Big Impact includes seven visitor experience renewal projects, and this proposal focuses on three that will draw audiences to Science North and Dynamic Earth and to Greater Sudbury. Two new Object Theatres at Science North will attract new visitors and tell stories about innovative science happening in the Sudbury area. At Dynamic Earth, the *Go Deeper* experiences will showcase Sudbury’s modern mining industry. A signature IMAX® film produced by Science North in partnership with Dr. Jane Goodall will celebrate and feature the Sudbury regreening story.

Perpetual renewal of Science North’s visitor experiences is a crucial element to attracting new tourists to the community and increasing repeat visitation. Audiences expect and seek changing experiences as a key part of the value proposition in their decision to visit. Without constant and significant change, Science North would see a notable decline in attendance, cascading impacts on ticket and membership revenues, ancillary sales and eventually, donation and sponsorships. *Big Change, Big Impact* projects are essential for Science North to maintain its role as a major driver for the tourism industry in Greater Sudbury.

The total value of *Big Change, Big Impact* projects is \$27 million. In April 2018, the Province of Ontario announced an investment of \$16 million towards this renewal. To leverage this investment, Science North is required to demonstrate funding commitments from other public and private sector partners. The investment by the City of Greater Sudbury/GSDC is vital for Science North to continue growing and serving Greater Sudbury as Northern Ontario’s leading tourist attraction.

BIG CHANGE, BIG IMPACT

projects are an integral part of Science North's 2018-23 Strategic Plan and its ability to deliver key strategic priorities and goals. The impact over five years will be tremendous:

860,000

visits to Science North will inspire people to embrace and celebrate innovation in Greater Sudbury

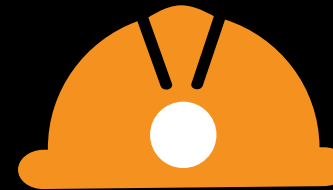
80

students will graduate with a Master's of Science Communication at Laurentian University



300,000

Canadians and millions of people world wide will be inspired by Sudbury's regreening story in the *Reasons for Hope* IMAX® film



360,000

visits to Dynamic Earth will inform and educate people about Sudbury's modern mining industry



240,000

student visits to Science North attractions will spark curiosity

More than
half a billion dollars

will be injected into the economy



3,000

educators will be inspired by teacher workshops

Some of Science North's many tourism partners:



Making Greater Sudbury One of Ontario's Top Tourism Destinations

Science North operates the second and eighth largest science centres in Canada, in the 29th largest city in the country, in a relatively small market with a population of 162,000. This amplifies the importance of changing visitor experiences and programming to remain relevant to audiences, both residents and tourists, visiting the Centre's attractions. *Big Change, Big Impact* projects will sustain Science North's appeal and help make Greater Sudbury one of Ontario's top tourism destinations.

Through its ongoing growth and expansion over the past 34 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 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 live butterfly gallery, an IMAX® Theatre and Dynamic Earth: Home of the Big Nickel, making it an important community resource and a true economic and tourism engine for the City.

“The community also has two quality assets in Science North and Dynamic Earth, which are the second- and eighth-largest science centres in Canada and the largest in northern Ontario. These niche opportunities for Greater Sudbury should continue to be developed and supported to make the region a tourist destination of choice.”

From the Ground Up, A Community Economic Development Strategic Plan for Greater Sudbury 2015-2025 (page 43)

As the single largest visitor destination in Northern Ontario, Science North welcomed close to 300,000 in admissions to its attractions during the 2017-18 season. Visitors to Science North attractions generate significant economic impact as a result of new and extended stays at hotels and other accommodation facilities, as well as spending on the full range of tourism services such as restaurants, retail outlets and gas stations. As a tourist destination, approximately 110,000 tourists visit the science centres on an annual basis, generating \$41.5 million in economic impact locally.

Science North received awards for both “Top Indoor Attraction” and “Attraction of the Year” in the 2017 Ontario's Choice Awards hosted by Attractions Ontario. These awards are a testament to Science North's dedication to excellence and innovation in its visitor experience and indicate Science North's increasing role in making Sudbury one of Ontario's top destinations.

“We are from out of town with two small kids and this was an absolutely amazing experience for them as well as ourselves. Would definitely come back and recommend to everyone I know.”

Science North visitor survey comment





Growing a Skilled and Creative Workforce for Greater Sudbury's Economic Prosperity

Science North plays a significant role in bolstering the local economy through tourism and job creation. According to a study by TCI Management Consultants commissioned by Science North in 2015, the impact of tourist spending and the operations of Science North generates and annually sustains more than 650 jobs in the province. Science North's annual operating budget of approximately \$18 million per year translates into 340 jobs and \$43.8 million in benefits for the local and provincial economy per year.

Big Change, Big Impact project implementation will create 143 FTE jobs. The long lasting benefits of the renewed experiences will create many more new jobs as they drive tourism, attract new audiences, encourage repeat visitation and extend travellers' length of stay in Greater Sudbury. These jobs will provide valuable work experience, building a highly skilled and creative workforce. Science North has a strong organizational culture that attracts and grows talent, inspires employees and drives success. It is a culture that reflects innovation, high performance, achievement and excellence in leadership.

Production of the new IMAX® film, Vale Cavern show and object theatres will further develop the film production talent pool in Sudbury and Northern Ontario. Practical experience with professional equipment and hands-on participation in large format production builds much needed skills and talent, and contributes to creating the next generation of filmmakers—thus sustaining the industry in the region over the long term. With past projects, the Skill-Share Mentorship program, a collaboration between Music and Film in Motion and Science North, paired professionals from the large format film industry with mentees to offer immersive and rewarding learning opportunities.

“Music and Film in Motion was thrilled to partner with Science North to provide some of Northern Ontario's emerging film production talent with a truly once in a lifetime experience. The career opportunities that mentees were able to take part in will allow them to take on larger roles in future production opportunities, as they were able to learn from a celebrated team in a highly challenging and rewarding production setting.”

Tammy Frick,
Associate Executive Director, Music and Film in Motion



A large number of youth gain meaningful work experiences and training opportunities through employment at Science North. Youth also participate in co-op programs, teen volunteer programs, career fairs and a student science council to learn about science communication, programs, projects and science centre operations. These opportunities for youth will help to meet the future labour requirements of Greater Sudbury's local economy and help stem the tide of youth migration.

“For students, experiential learning programs offer real life, first-hand experience and exposure to the skills needed to succeed in the working world. In earning this designation, Science North joins an elite group of employers that are delivering these vital opportunities on a larger scale to the benefit of many local students and the greater economy.”

*Jon Hamovitch,
Chair of the Provincial Partnership Council,
on Science North's award of the 2014 Ontario Employer designation*



Elevating the Quality of Place and Lifestyle for Sudburians

“I love how there are many activities and not just one focus. Great place and great job!”

Science North visitor survey comment

“As a local membership holder, I come for a visit every month and learn something new each time.”

Science North visitor survey comment

“The Bluecoats really helped my daughter become proud of her French language and passion for science by talking to her and explaining to her their love of science in French.”

Science North visitor survey comment

“Must See” New Experiences

For over 30 years, Science North has been developing “must-see” visitor experiences that attract, entertain and inspire audiences. Science North’s new 2018-2023 Strategic Plan focuses on constant renewal at Science North and Dynamic Earth with innovative experiences that WOW visitors. *Big Change, Big Impact* projects will offer Sudburians new and different opportunities to engage in high quality interactive science experiences.

Cultural Experiences that Foster Innovation and Creativity

Big Change, Big Impact’s enriching learning experiences at Science North and Dynamic Earth will build skills and creativity and encourage lifelong learning for audiences of all ages. For example, the THINK project—a 50% renewal of the 4th level of Science North—will be a community hub for innovation, collaboration, science and technology, where visitors engage with leading edge equipment not available elsewhere in the community. All new experiences will be offered in both English and French, engaging Sudbury’s large Franco-Ontarian community.

Celebration of Greater Sudbury’s Successes

Big Change, Big Impact projects will celebrate Greater Sudbury successes in mining, environmental remediation and leading-edge scientific research. Audiences will be inspired by a new IMAX® film with Jane Goodall that will celebrate Sudbury’s dramatic award-winning story of greening like never before. The *Go Deeper* project at Dynamic Earth will engage visitors in new underground experiences showcasing modern mining innovations and Sudbury’s rich mining heritage. An object theatre exploring the mysteries of dark matter will highlight the global impact of research at Sudbury’s unique SNOLAB.

As one of Canada’s largest exporters of science learning experiences, and the only science centre in the world with an in-house large format production unit, these projects will not only reach audiences in the City, but also around the world. The 2015 report by TCI Management Consultants confirms that Science North has a stellar international reputation by virtue of its work in developing exhibits, films and displays for clients world wide, indicating the potential for *Big Change, Big Impact* projects to have a wide reach.

“The opportunity we have to put the message about SNOLAB out to the rest of the world, to show the general public what we’re doing and the importance of it—our partnership with Science North has been invaluable.”

*Dr. Arthur McDonald,
Nobel Laureate in Physics, Professor Emeritus, Queen’s University*

Economic Impact

The impact of Science North in growing the economy is significant and widespread. The combined value of benefits as a result of its operations and as a generator of tourism annually contributes more than \$89 million to the economy and sustains over 670 jobs.

<i>Big Change, Big Impact</i> projects to renew its visitor experiences are crucial to the vitality of Science North, which has the following annual economic impact:			
(millions of dollars)			
	Operating Expenditures	Tourist Spending*	
Economic benefits	\$20.5	\$21.5	
Labour income generated	\$14.9	\$13.9	
Additional tax revenues generated	\$8.4	\$10.1	
Subtotals	\$43.8	\$45.5	
Total annual economic impact of Science North's operating expenditures and visitor spending			\$89.3
	Operating Expenditures	Tourist Spending*	
FTE jobs sustained	340	337	
Total annual jobs sustained by Science North operations and visitor spending			677

*Tourist spending based on Economic Impact Study by TCI Management Consultants in 2015

The total economic stimulus during implementation of *Big Change, Big Impact* projects will be \$27.2 million in direct and value-added benefits. About 200 vendors in Greater Sudbury supply Science North with goods and services.

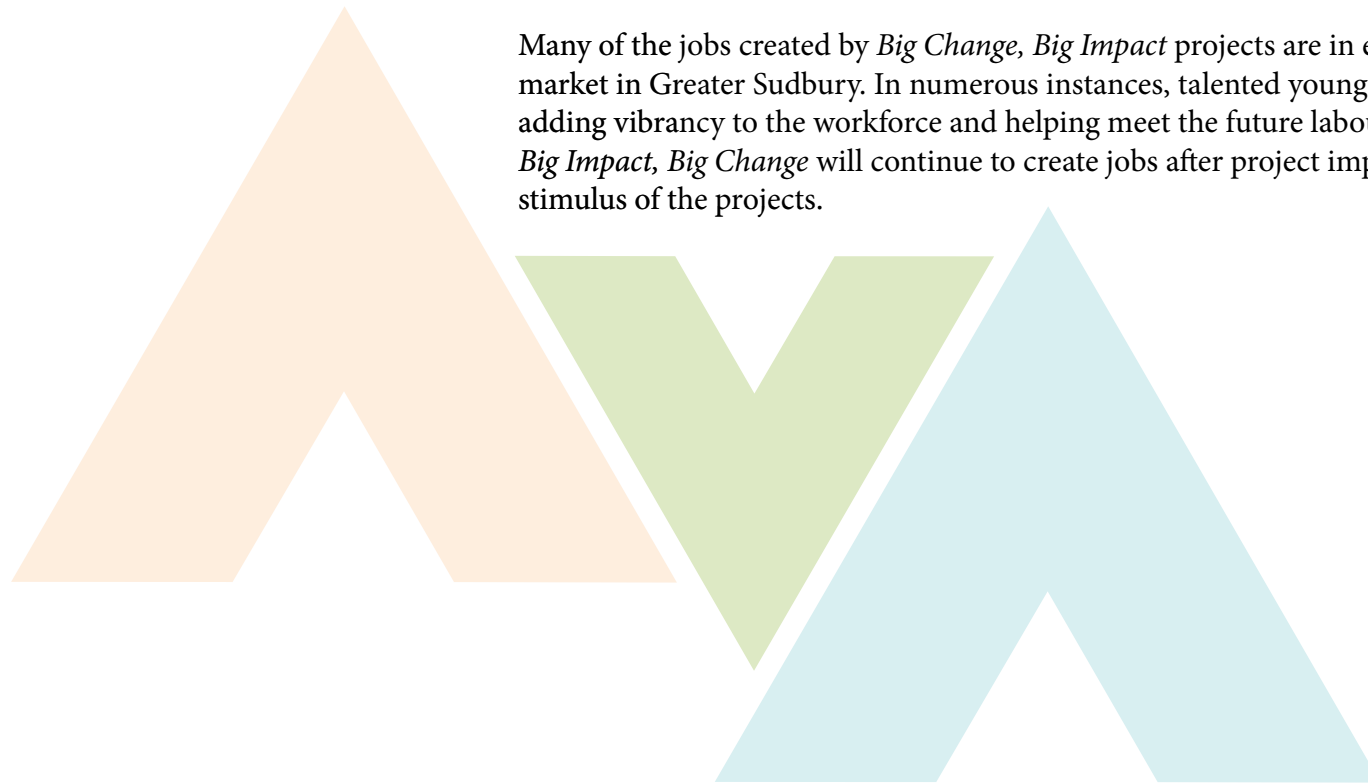
Economic benefits of the investments during project implementation: (millions of dollars)		
Project	Project Costs	Direct and Value-added Benefits*
New Object Theatres	\$2.5	\$2.52
<i>Go Deeper</i> : Modern Mining at Dynamic Earth	\$5.0	\$5.05
Signature IMAX® Film	\$4.0	\$4.04
THINK Project: Major Renewal of Level 4	\$3.5	\$3.53
New Vale Cavern Show	\$3.5	\$3.53
Impressive Surroundings	\$6.0	\$6.00
Increasing Engagement with Indigenous Audiences in First Nation Communities	\$2.5	\$2.54
Totals	\$27.0	\$27.21

*according to Ontario Ministry of Tourism, Culture and Sport's TREIM

Job Creation

Job creation from Science North projects and operations is significant, both in numbers and in the quality of employment opportunities. Science North employs a wide range of professionals, from scientists to AV technicians to media producers to IT experts. Without Science North, many of these individuals would need to move away from Greater Sudbury to find work in their field.

Many of the jobs created by *Big Change*, *Big Impact* projects are in emerging industries and are helping to diversify the labour market in Greater Sudbury. In numerous instances, talented young individuals are recruited and relocate or return to the City, adding vibrancy to the workforce and helping meet the future labour requirements of Greater Sudbury's economic growth. *Big Impact*, *Big Change* will continue to create jobs after project implementation through increased tourism and the economic stimulus of the projects.



The number of jobs (full-time equivalent) that will be created during the implementation of each project:: (millions of dollars)	
Project	Number of Jobs (FTE)*
New Object Theatres	13
<i>Go Deeper</i> : Modern Mining at Dynamic Earth	26
Signature IMAX® Film	21
THINK Project: Major Renewal of Level 4	19
New Vale Cavern Show	18
Impressive Surroundings	32
Increasing Engagement with Indigenous Audiences in First Nation Communities	14
Totals	143

*according to Ontario Ministry of Tourism, Culture and Sport's TREIM



Financial Details

Project (millions of dollars)	Total Cost	Funding Committed: Government of Ontario Funding Package
New Object Theatres	\$2.5	\$2.0
<i>Go Deeper</i> : Modern Mining at Dynamic Earth	\$5.0	\$2.0
Signature IMAX® Film	\$4.0	\$2.0
THINK Project: Major Renewal of Level 4	\$3.5	\$1.5
New Vale Cavern Show	\$3.5	\$2.0
Impressive Surroundings	\$6.0	\$4.5
Increasing Engagement with Indigenous Audiences in First Nation Communities	\$2.5	\$2.0
Totals	\$27.0	\$16.0

Summary	(millions of dollars)
Total cost of all projects	\$27.0
Funding committed	
Province of Ontario	\$16.0
Other sources	\$2.7
Total funding committed	\$18.7
Funding to be secured	
Federal Government	\$3.3
NOHFC	\$1.5
Private Fundraising	\$2.0
Funding requested from the City of Greater Sudbury/GSDC	\$1.5



“I am always proud to partner with and invest in Science North and the award-winning programming and outreach Science North and its excellent staff undertake. We know science brings Canadians together, and sharing knowledge with curious minds makes the world accessible to anyone and brings science culture to Canadians at home in their communities.”

*Paul Lefebvre,
MP for Sudbury*

“Science North is a true economic engine for Northern Ontario contributing to job creation, tourism spending and economic development.”

*Marc Serré,
MP for Nickel Belt*

Science North has a long history of strong fiscal responsibility and accountability. It has the capacity to raise the balance of funding required, to manage these projects effectively and to start them immediately. These projects will be implemented over the next three years and will be completed by June 30, 2021.

The Province of Ontario has committed \$16 million in funding for *Big Change*, *Big Impact* projects. An additional \$2.7 million has been secured from other public funding sources. This provides a solid funding base for the projects and attests to the quality and significance of Science North's work.

In addition to the requested \$1.5 million investment by the City of Greater Sudbury /GSDC, an additional \$6.8 million in funding is required to achieve *Big Change*, *Big Impact*'s full potential. These projects will be an attractive investment opportunity for other potential funders because of Science North's strong track record and international reputation for creating high quality visitor experiences with high market appeal.

The Projects: **BIG CHANGE BIG IMPACT**



Science North is renewing its visitor experiences through seven exciting projects that will transform its centres. *Big Change, Big Impact* will increase tourism in Greater Sudbury, grow the economy, and elevate quality of place and lifestyle through new “**must see**” experiences and the celebration of Sudbury success stories. The projects will create 143 jobs and generate \$27.2 million in economic benefits during their implementation.



Highlights of Projects



New Object Theatres will immerse visitors in current science topics, including climate change and unravelling the mysteries of dark matter by highlighting research projects at Sudbury's world-class SNOLAB facility. Visitors will learn about climate change and what actions they can take to mitigate the impacts of climate change in their community. These new experiences will increase Science Centre attendance and provide opportunities to work with the scientific community to keep Science North's visitor experiences current and relevant.



Dynamic Earth's *Go Deeper* Project will showcase modern mining in Sudbury through a significant underground expansion to create new drifts and a new Underground Theatre & Events Space. Visitors will be awed by a new multimedia show as they descend into the Vale Chasm for their underground tour. On surface, they will learn more about local and international mining innovations in a new object theatre. *Go Deeper* experiences will increase Dynamic Earth's attendance, increase local attendance and memberships, increase partnerships with the mining industry in Sudbury and beyond, celebrate Sudbury's rich mining heritage, and encourage youth to consider careers in the mining sector.



***Reasons for Hope* will be a new Signature IMAX® Film** produced by Science North in partnership with Dr. Jane Goodall. Remarkable success stories in animal and habitat conservation will inspire audiences and instill hope for our future. Sudbury's regreening story will be an important story in the film, showcasing the region's amazing environmental restoration to audiences around the world. The film's production will build on the capacity of Greater Sudbury's film industry, sustaining the industry for long term prosperity. It will enhance tourism offerings at Science North, attracting additional tourists to the region and increasing their length of stay.

Highlights of Projects



The THINK Project is a major renewal of 50% of the Science Centre's 4th floor where visitors will explore innovation, science, technology and engineering through hands-on experimentation with real tools, materials and processes. It will attract new audiences, drive repeat visitation and increase memberships at Science North. It will be a community hub for innovation and creativity where Sudburians will access tools and equipment not otherwise available to them.



An Iconic New Vale Cavern Show will transport visitors on a seasonal journey to experience Northern Ontario's dramatic natural landscapes, people, iconic creatures and signature sites. This compelling multimedia experience will inspire Sudburians and other visitors to preserve their natural environment. Strong storytelling and innovative use of theatre systems will provide tourists and local audiences with a memorable experience that will make them want to see it again.

Highlights of Projects



Impressive Surroundings will enhance the visitor experience in the lobby, improve the grounds at Science North and Dynamic Earth, and provide additional space for project development and storage of exhibit components. The new outdoor pavilion will provide a venue for increased programming and community events.



Increasing Engagement with Indigenous Audiences in First Nation Communities Significantly more people in more First Nation communities will engage in science programming. Increase in program delivery will be supported by Science North's Northwest Expansion initiative. This expansion will benefit people living across Northern Ontario including underserved regions, First Nation communities and many remote communities, as well as thousands of tourists to the region.

Project Timelines at at Glance

	2018 - 2019				2019 - 2020				2020 - 2021				2021
	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
New Object Theatre - Climate Change													
Research and concept development; scripting													
Design and fabrication; animation development; installation													
OPENING JUNE 2019					★								
New Object Theatre - Dark Matter													
Research and concept development; storyboard and script													
Completion of storyboard and design; fabrication contract awarded						★							
Fabrication; animation development; installation													
OPENING MARCH 2020								★					
Go Deeper: Modern Mining at Dynamic Earth													
Underground Development													
Planning & fundraising; design; geotechnical assessment													
Completion of design phase; construction contract awarded						★							
Underground excavation; multimedia development													
OPENING MARCH 2020: Underground Theatre for programming								★					
Production and installation of multimedia show and exhibits													
OPENING MARCH 2021: Multimedia show and modern mining exhibits												★	
New Vale Chasm Show and New Multimedia Experience on Level 1													
Topic surveys; hardware platform/media techniques research													
Concept and script development; design													
Completion of design and scripting; fabrication contract awarded						★							
Exhibit prototyping; filming; post production; installation													
OPENING MARCH 2020								★					
Signature IMAX® Film													
Concept development; pre-production													
Film shooting													
Completion of film shoot							★						
Final editing and post production													
FILM LAUNCH JUNE 2020									★				

Project Timelines at at Glance

	2018 - 2019				2019 - 2020				2020 - 2021				2021
	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
The THINK Project: Major Renewal of Level 4													
Exhibit and base building design													
Exhibit production and fabrication													
Base building construction; exhibit installation and testing													
OPENING FEBRUARY 2019				★									
An Iconic New Vale Cavern Show													
Concept development; script development; hardware design													
Completion of design; AV hardware and fabrication contracts awarded				★									
Production and filming; fabrication; installation													
OPENING MARCH 2020								★					
Impressive Surroundings													
Entrance Experience													
Needs assessment and design													
Fabrication and installation													
OPENING JUNE 2020									★				
Impressive Grounds													
Project design and on-site work (summer/fall 2018 and spring 2019)													
Work completed for Science North's 35th Anniversary					★								
Outdoor Pavilion													
Community/partner consultation; design; focus groups and feedback													
Final design completed						★							
Construction													
OPENING JUNE 2020									★				
Construction of Workspaces and Exhibit Storage													
Project planning; architectural design													
Construction													
New spaces commissioned November 2020											★		
Increasing Engagement with Indigenous Audiences													
Establish Thunder Bay base in new location													
Prepare for expanded programming (staff, equipment, programs)													
Deliver expanded programming in First Nation communities and across Northern Ontario													



New Object Theatres

New Object Theatres

“The object theatre platform is an ideal way to communicate about climate change to the public and showcase relevant scientific discoveries and innovations in technology. Visitors will not only learn about climate change, they will be inspired by this compelling experience to take action in their own personal lives to make a difference for our communities and the earth.”

*Dr. David Pearson,
Professor, School of the Environment,
Science Communication Graduate Program, Laurentian
University and Coordinating Lead Author, with Al Douglas,
of the Ontario Chapter of the 2020 National Assessment of
Climate Change Impacts and Adaptation in Canada*

About the Project:

This project includes two new object theatres at Science North, augmented by complementary interactive exhibits in adjacent galleries where visitors will delve more deeply into the science that is relevant to Greater Sudbury.

New Climate Change Object Theatre:

A new multimedia experience about climate change will open in June 2019, the next evolution of the popular object theatres produced by Science North on this topic. The original *Climate Change* show and its sequel, the *Changing Climate* show, have won numerous prestigious industry awards for their strong science communication, creativity, entertainment, and most of all, their educational impact. Both experiences feature a cast of animated talking sheep, with the lead voiced by Canada's renowned comedian Rick Mercer. These multimedia productions have been popular around the globe, with replicas and versions of the show installed in science centres in Scotland, Singapore and the United States. The City of Greater Sudbury supported the development of the *Climate Change* show with \$100,000 in 2002.

After showcasing the *Changing Climate* show since 2011, a complete renewal of the show is important in light of new research and innovative developments related to climate change. Science North recognizes the need to continually improve and update this experience, and provide its visitors with new perspectives and current science developments on this important subject.

Climate of Change (working title) will feature advances in understanding the complexities of climate change. It will focus on uplifting success stories of innovative engineering and creative solutions that people in Greater Sudbury and around the world are implementing to mitigate climate change. Visitors will be inspired by messages of hope for the future.

Science North has always included the local context in storytelling, and this production will be no different. Because of its location in Northern Ontario and within boreal forest, Greater Sudbury is one of the front lines in the battle to mitigate and adapt to climate change. Our Northern communities will feel the effects of climate change before many others around the globe, and part of the call to action will be to cherish, celebrate, and preserve the natural beauty of our lands.

The new experience will include stories related to the impact of climate change on oceans, an important story because oceans cover 70% of our globe and hold 97% of the earth's water. Other stories will relate to impacts on permafrost, carbon sequestration, agriculture, global food security, ocean acidification, arctic ice, permafrost, species diversity, emerging technologies (renewable energy, sustainable transportation, solar), water resources and carbon profiles.

New Object Theatres



New Object Theatres



photo courtesy of SNOLAB

New *Between the Stars* Object Theatre:


Between the Stars takes visitors on an exploration of our universe and our search for dark matter, which makes up 85% of matter in the universe. The experience includes projection, Musion® Eyeliner technology, 3D holographic techniques and special effects. The show opened in 2008 and requires renewal to represent current scientific developments, particularly the science happening at Sudbury's SNOLAB, a world-class underground laboratory specializing in neutrino and dark matter physics.

The new object theatre will showcase the current science of the SNOLAB including the DEAP-3600 detector. This second-generation experiment has a sensitivity to dark matter interactions much greater than previous experiments. The new show will also feature the groundbreaking discoveries that led to the award of the 2015 Nobel Prize in physics to Canada's Dr. Arthur McDonald, former director of the SNOLAB.

New Object Theatres

Impact of the Project:

- **Showcase Sudbury scientific research:** The new experiences will feature scientific discoveries at SNOLAB, advancements in climate change research, and innovations in clean technology.
- **Increase tourism:** The experiences will attract more tourists to Sudbury and attendance at Science North will increase.
- **Create high quality jobs and develop a skilled workforce:** During implementation of the project, 13 FTE jobs* will be created, and more jobs will be created over the long term by increased tourism.



The new object theatres will be fully produced in Northern Ontario including development, production and post-production, further growing talent in Greater Sudbury's film industry. In previous production projects, Science North has worked with partners to develop a pool of professionals with the capability to execute this kind of high end production.

- **Grow the economy:** The total economic stimulus (direct and value-added benefits) will be \$2.52 million* during project implementation.

- **Improve quality of life by enhancing cultural opportunities and fostering innovation:** Visitors will delve deeply into complex subject matter, learning about current science, innovative research and discoveries related to climate change and dark matter. Each object theatre will be formally evaluated to measure the learning impacts of the experience. Previous evaluations have shown that object theatres are memorable experiences—the learning impact is significant as audiences learn new content and retain key messages.

Measures of Project Success:

- Increase Science Centre attendance and revenue by 10%, membership revenue by 10%, and school attendance by 5% by the end of Science North's 2018-2023 Strategic Plan.
- Visitor experience feedback surveys will be conducted to ensure satisfaction at 95%.
- Viewer and non-viewer Personal Meaning Mapping will measure knowledge and understanding of key messages from the Learning Goals in the new production.
- The new climate change object theatre will create opportunities to sell duplicate copies to other science centres and museums.

*Economic benefits and job creation based on Ontario Ministry of Tourism, Culture and Sport TREIM.

New Object Theatres

Partnerships & Collaborations:

Partners for the new *Climate of Change* show may include Laurentian University, University of Waterloo, Environment and Climate Change Canada, Health Canada, Indigenous and Northern Affairs Canada, University of Western Ontario, Bedford Institute of Oceanography (BIO), Ontario Centre for Climate Impacts and Adaptation Resources (OCClAR), Natural Resources Canada, MIT Global Change, NASA, Monterey Bay Research Institute and California Academy of Sciences. There is a great opportunity for this new object theatre to tie into the science communication of the Pan-Canadian Framework on Clean Growth and Climate Change.

The new *Between the Stars* object theatre will be created in direct partnership with SNOLAB and their research scientists. Other partners may include TRIUMF, the Perimeter Institute, Laurentian University, Queen's University, McGill University, University of Alberta, Pivotal Inc., CERN, Sanford Lab Homestake Visitor Center, Fermilab, *Deep Underground Neutrino Experiment* (DUNE), NASA and other research organizations.

Project Timeline:

Climate Change Object Theatre

- April 2018–September 2018:
Research and concept development; scripting
- October 2018–March 2019:
AV design and set fabrication; animation development; exhibit development and fabrication
- April 2019–June 2019:
AV systems and set installations; exhibit installation
- June 2019:
Opening of new object theatre and complementary exhibits

Dark Matter Object Theatre

- September 2018–August 2019:
Research and concept development; storyboard development; scripting
- August 2019:
Completion of storyboard and design; fabrication contact awarded
- August 2019–February 2020:
Set fabrication; animation development; exhibit development and fabrication; installation
- March 2020:
Opening of new object theatre and complementary exhibits

Go Deeper:
Modern Mining at Dynamic Earth



Go Deeper: Modern Mining at Dynamic Earth

About the Project:

Go Deeper is a significant expansion of Dynamic Earth that will showcase Sudbury's 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 audiences, partners and industry stakeholders expressing a desire for memorable experiences that portray modern mining in a realistic way. New experiences will engage visitors with modern mining and inspire coming generations to get involved in the industry by stimulating interest in mining-related careers. *Go Deeper* will increase Dynamic Earth's annual attendance, increase local attendance and memberships, inspire youth to consider careers in the mining sector and increase partnerships with the mining sector in Sudbury and across the country.

Go Deeper has several components that will provide unique learning experiences. Major rock excavation will expand the current drifts and create the new Underground Theatre, a one-of-a-kind space that will feature an immersive multimedia experience and modern mining exhibits. The existing underground tour is an immersive experience that takes visitors through different eras of Sudbury's mining, showcasing improvements in working conditions, safety, technology and equipment through almost 130 years of mining. However, the existing drifts do not adequately represent the large spaces, equipment and processes that characterize modern mining in the

Sudbury area. This new development will make visitors feel as if they are in a modern underground mine through authentic experiences that surround them with the sights, sounds, feel and smells of this specialized environment.

The full vision of *Go Deeper's* underground experience will be accomplished in two phases to accommodate the sequenced timing required for underground construction. To minimize impact on Dynamic Earth operations, underground drilling and blasting must be conducted when Dynamic Earth is closed for the season from November to February.

Following pre-feasibility geotechnical and cost evaluations, project development and design, the first phase of underground construction will start in fall 2019. It will involve rock excavation, ground control and infrastructure installations to create the access drift and the Underground Theatre. The new multi-functional space will open in March 2020 for programming and special events. This large space will accommodate a full class of 30 students from elementary to post-secondary levels, comfortably seated and engaged in curriculum-linked programming. It will allow for a greater length of stay underground with workshops and programming for all ages. No other similar experience exists in the world!





Go Deeper: Modern Mining at Dynamic Earth

“Science North’s new experiences will engage our young people in science and technology in new ways. As a professional engineer in the mining industry, I can see how the *Go Deeper* project at Dynamic Earth will showcase modern mining and innovation like never before. This will stimulate interest in pursuing mining-related careers, which is so important for groups such as girls and young women who we want to engage in the industry now and for the future.”

*Theresa Nyabeze,
P.Eng, Professional Mine Engineer,
President of Women in Science and Engineering (WISE)
Sudbury Chapter*

An immersive multimedia experience focusing on modern mining will open in March 2021 in the new underground theatre, becoming a signature experience of the underground tour. The theatre will be equipped with the latest in multimedia equipment and show systems, as well as seating for groups of 120 or more people. Modern mining exhibits will be installed in cutaways along the drift connecting the existing tunnels to the new theatre.

To complement the underground expansion, the renewal of multimedia experiences in the Vale Chasm and the Glencore *Rocks to Riches* object theatre on

Level 1 in the science centre will open in March 2020. Visitors will be awed by a new multimedia experience as the glass-enclosed elevator descends into the Vale Chasm, preparing them for their underground journey. It will introduce the concept that they will “walk through time” to experience first-hand the improvements in mining equipment, health and safety and environmental conditions from the early days of Sudbury mining to today. Creation of a new experience in the object theatre on Level 1 presents opportunities to use innovative theatre techniques to feature new content related to modern mining, engineering and Sudbury’s mining innovations.

Go Deeper: Modern Mining at Dynamic Earth



Impact of the Project:

- **Showcase and celebrate Sudbury as a leader in mining technology and science:** Visitors will learn that modern mining in Sudbury is a high-tech, environmentally responsible and safe industry. Their understanding of the impact of mining on their everyday lives will be improved, giving them a greater appreciation for the industry and Sudbury's mining heritage.
- **Strengthen Dynamic Earth as a mining education centre and as a resource centre for the mining industry:** *Go Deeper* will increase visibility and impact of Dynamic Earth as an educational centre for the community, schools and post-secondary institutions. It will also become a vital resource centre for Sudbury's mining industry through collaborations with the Sudbury Area Mining Supply and Service Association and other industry partners.
- **Increase tourism:** The experiences will attract more tourists to Sudbury and attendance at Dynamic Earth will increase.
- **Create high quality jobs and develop a skilled workforce:** During project implementation, 26 FTE* jobs will be created, and more jobs will be created by increased tourism over the long term.
- **Grow the economy:** The total economic stimulus (direct and value-added benefits) will be \$5.05 million* during project implementation.
- **Improve quality of life by enhancing cultural opportunities and fostering innovation:** Visitors will build knowledge about innovations in modern mining and possibilities for future development through immersive interactive experiences offered in both English and French.

Measures of Project Success:

- Increase Dynamic Earth attendance and revenue by 10%, membership revenue by 10%, and school attendance by 5% by the end of Science North's 2018-2023 Strategic Plan.
- Increase local attendance and memberships by 10% by the end of Science North's 2018-2023 Strategic Plan over 2017-2018 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%.

*Economic benefits and job creation based on Ontario Ministry of Tourism, Culture and Sport TREIM.

Go Deeper: Modern Mining at Dynamic Earth

Partnerships & Collaborations:

- Partnerships with mining sector companies will be developed to leverage mining expertise, mining equipment donations and financial support. These partnerships will be instrumental to provide visitors access to cutting edge and relevant mining products, techniques and content.
- Collaborations with organizations involved in the mining sector will include the Sudbury Area Mining Supply & Services Association (SAMSSA), Northern Centre for Advanced Technology Inc. (NORCAT), Modern Mining & Technology Sudbury (MMTS), Centre for Excellence in Mining Innovation (CEMI), MIRARCO Mining Innovation, Ontario Mining Association, Prospectors & Developers Association of Canada (PDAC), Canadian Institute of Mining, Metallurgy and Petroleum (CIM), and the Mining Association of Canada (MAC).
- A Project Steering Committee with key stakeholders from Sudbury's mining industry and education will be involved in project development and implementation.
- Educational partnerships with secondary schools in Sudbury and across Ontario focused on the Specialist High Skills Major programs in Mining and the Environment will be expanded.

- Educational partnerships with post-secondary institutions such as Laurentian University, Goodman School of Mines, Cambrian College and Collège Boréal will be expanded.
- Local and skilled underground mining contractors will be secured for underground excavation.

Project Timeline:

Underground Development

- April 2018–September 2019: Further project planning; fundraising; design development; geotechnical assessment
- September 2019: Completion of design phase and construction contract awarded
- October 2019–February 2020: Underground excavation/ground control; multimedia show development
- March 2020: Opening of the Underground Theatre for programming and events
- March 2020–February 2021: Production and installation of new multimedia experience; fabrication and installation of modern mining exhibits

- March 2021: Opening of modern mining exhibits and multimedia experience in the Underground Theatre

New Vale Chasm Show and Modern Mining Multimedia Experience on Level 1

- April–August 2018: Topic surveys; hardware platform and media techniques research
- September 2018–August 2019: Concept and script development; design
- August 2019: Completion of design and final scripts; fabrication contract awarded
- July 2019–March 2020: Exhibit prototyping; filming; post production; installation
- March 2020: Opening

A Signature IMAX® Film



A Signature IMAX® Film

About the Project:

Jane Goodall's Reasons for Hope (working title) will be Science North's seventh IMAX® film production. This project will capitalize on its award-winning production team and the expertise it has built in the region to create a world-class experience for visitors to the Centre. The film will be seen by audiences in IMAX® theatres around the world.

Like all Science North large-format films, it will be informative, distinctive and compelling. The film's inspiring environmental messages of hope will appeal to millions of audiences world wide. A key message will be Sudbury's celebrated greening story, one of the most dramatic and inspiring successes in the field of environmental restoration. This will not only be a powerful experience for Sudburians to better understand and celebrate the region's amazing restoration, it will also position Greater Sudbury as a "must see" destination to audiences across Canada and around the world.

The new film will feature remarkable success stories in the field of animal and habitat conservation, and the philosophy that Dr. Jane Goodall embodies about the power of each individual to make a difference in the world. Dr. Goodall, one of the most recognized and celebrated scientists in the world, will take visitors on a journey that explores the astonishing reforestation of her cherished Gombe National Park in Africa and other global conservation efforts, including the Sudbury

greening story. These stories will have a lasting impact on millions of people all over the world, inspiring the next generation to protect the planet and its most precious and rarest inhabitants.

Jane Goodall's Reasons for Hope is a follow up to Science North's highly successful award winning IMAX® film *Jane Goodall's Wild Chimpanzees*, which has been viewed by millions of people in over a hundred theatres around the world since its release in 2002.

Several large format distribution industry leaders have a keen interest in working with Science North on the worldwide release of the new film. The film is projected to reach 100 theatres around the globe. This production will promote Sudbury as a must-see destination through the telling of its remarkable environmental transformation and further enhance Science North's reputation as one of the leading producers of giant-screen films in Canada specializing in environmental and natural history themes.

Production of the film will create jobs for professionals in the Sudbury region's film industry. Science North has helped develop this pool through working with partners such as Music and Film in Motion (a division of Cultural Industries Ontario North) on a Skills-Share Program and by hiring local talent and businesses on past projects. In turn, this new production will provide valuable industry experience that will further increase expertise and capacity in the region's film industry.

“I just want to say how excited I am to be working again with Science North on another IMAX® film—to give people hope, to inspire them to do their part to help to save this wonderful planet, our only home.”

Dr. Jane Goodall

2001



1980

A Signature IMAX® Film

Impact of the Project:

- **Showcase Sudbury's regreening story:**
More than two million people around the world will better understand regreening efforts in Greater Sudbury and the amazing transformation of the City. The film will be a powerful way to educate Sudburians about environmental accomplishments in the region and foster a strong sense of local pride.
- **Increase tourism:** The new film will attract tourists to Science North and increase tourism spending in the region.
- **Create high quality jobs and develop job skills:**
During implementation of the project, 21 FTE jobs* will be created. Production of the film will provide opportunities for experienced staff to mentor other filmmakers in the region and share creative skills, contributing to sustaining Greater Sudbury's film industry for prosperity over the long term.
- **Grow the economy:** The total economic stimulus (direct and value-added benefits) will be \$4.04 million* during project implementation.
- **Improve quality of life by enhancing cultural opportunities and fostering innovation:**
Audiences will learn about successful innovative approaches to animal and habitat conservation as well as other environmental efforts. Sudburians and people around the world will enjoy an enriching

learning experience provided in both French and English.

- **Increase export activities:** The film will enhance the reputation for Science North and for Greater Sudbury as a developer and exporter of high quality educational and tourism products. The film will be seen by more than two million people in over a hundred theatres around the world.
- **Inspire people to take personal action to preserve the environment:** This high quality IMAX® film will be an effective learning tool to increase awareness around environmental and sustainability issues relevant to everyone. Positive messages of hope will motivate people to preserve and enhance the quality of the natural environment.

*Economic benefits and job creation based on Ontario Ministry of Tourism, Culture and Sport TREIM.



A Signature IMAX® Film

Measures of Project Success:

- Sustaining and creating jobs at Science North and in the region's film industry.
- New experiences for residents, school children and tourists in Greater Sudbury - 40,000 people are expected to see this film at Science North, more than 300,000 people in theatres across Canada and more than 2 million world wide.
- Enhancement of existing partnerships and building new partnerships with the film industry and corporate sponsors—non-government partners are expected to contribute \$1 million to the project.

Partnerships & Collaborations:

- Jane Goodall Institute—partner in film development and production.
- Music and Film in Motion (a division of Cultural Industries Ontario North)—working in partnership to build capacity and use the region's film industry talent.
- IMAX® Corporation / Giant Screen Films—worldwide film distribution and investor.

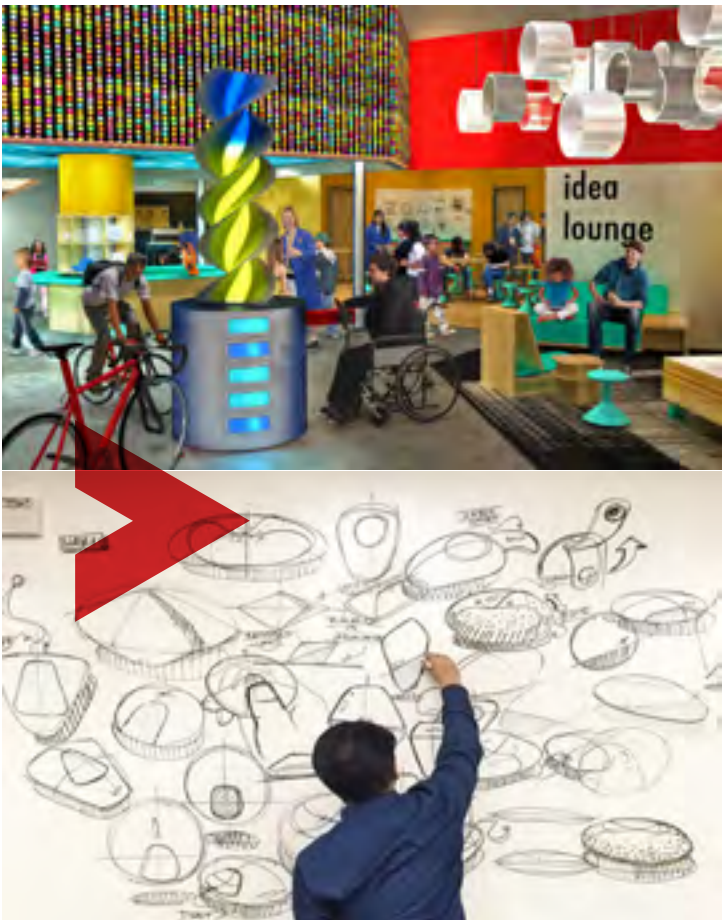
Project Timeline:

- April 2018–September 2018:
Further concept development and pre-production
- October 2018–October 2019:
Film shooting
- October 2019:
Completion of film shoot
- November 2019–May 2020:
Final editing and post production
- June 2020:
Film launches

Appendix A:

Other *Big Change, Big Impact* Projects

The THINK Project: Major Renewal of Level 4



About the Project:

The THINK project is a major renewal of 50% of the Science Centre's 4th floor. This renewal is significant because it will expand Science North's reach and depth of engagement with audiences of all ages and backgrounds. It will attract new audiences including teens, young adults, girls and women, as well as drive repeat visitation and increase memberships. The installation of THINK Hubs in six communities across Northern Ontario will involve new collaborations that will promote and encourage new and repeat visitation at hosting attractions.

Inspired by the Maker Movement, THINK (which stands for Tinker, Hack, Innovate, Network and Know) will combine science, technology, engineering and mathematics (STEM) to encourage hands-on experimentation with real tools, materials and processes. Visitors will be inspired to innovate, build skills and complete meaningful projects and challenges using digital fabrication, coding, engineering and electronics. Equipment, tools and exhibits will be renewed annually at Science North to keep pace with emerging technology, keeping the area fresh and allowing visitors to learn new skills and knowledge.

Visitors will experiment with physics concepts, engineering processes and emerging technologies. They will design, build and test their own solutions using the curated materials provided. At the Innovate & Prototype Lab, visitors will learn how to use specialized printers, coding equipment and fabrication machinery. A suite of public workshops and other programming will complement the exhibits and expand on the themes of curiosity, innovation and tinkering.

“The Greater Sudbury Public Library has a history of excellent partnerships with Science North and the THINK project would be a great opportunity for expanding our partnership and a tremendous asset to our community. THINK is very much aligned with our goals to engage with the community and support innovation.”

*Jessica Watts,
Coordinator of Outreach,
Programs and Partnerships,
Greater Sudbury Public Library*

Impacts of the Project:

- THINK will create a community hub where Sudburians will engage in activities and projects that will foster innovation and development of creative skills. They will be able to use specialized equipment and tools not otherwise accessible to them.
- New and innovative experiences on Level 4 will increase tourism, attracting new and repeat visitors and boosting overnight stays in the region.
- During implementation of the project, 19 FTE jobs will be created and the total economic stimulus (direct and value-added benefits) will be \$3.53 million based on Ontario Ministry of Tourism, Culture and Sport TREIM.
- Rewarding Northern Ontario partnerships will benefit multiple communities, while stimulating the region's economy through offering new experiences.

Measures of Project Success:

- Increase Science Centre attendance and revenue by 10%, membership revenue by 10%, and school attendance by 5% by the end of Science North's 2018-2023 Strategic Plan
- Achieve 'Current Science' and 'Innovative/Experimentation' visitor engagement and awareness score of 90%, via visitor surveys
- A Learning Impact Study will be completed to assess the science education success of THINK experiences

Partnerships & Collaborations:

Science North is collaborating with external stakeholders in the technology and education sectors, as well as local 'maker' groups for community input and fresh ideas for relevant experiences that will reflect the future of innovation. Partners include the four school boards in Greater Sudbury, Northern Game Challenge, Laurentian University, Cambrian College, College Boreal, Code-Op, Code Canada, Women in Science and Engineering, and Girls Who Code. An external Steering Committee meets regularly to review project developments and guide its progress. A partnership with the Francophone community will maximize the reach and participation in dedicated French programming events to a wide variety of age groups, thereby broadening participation and diversity.

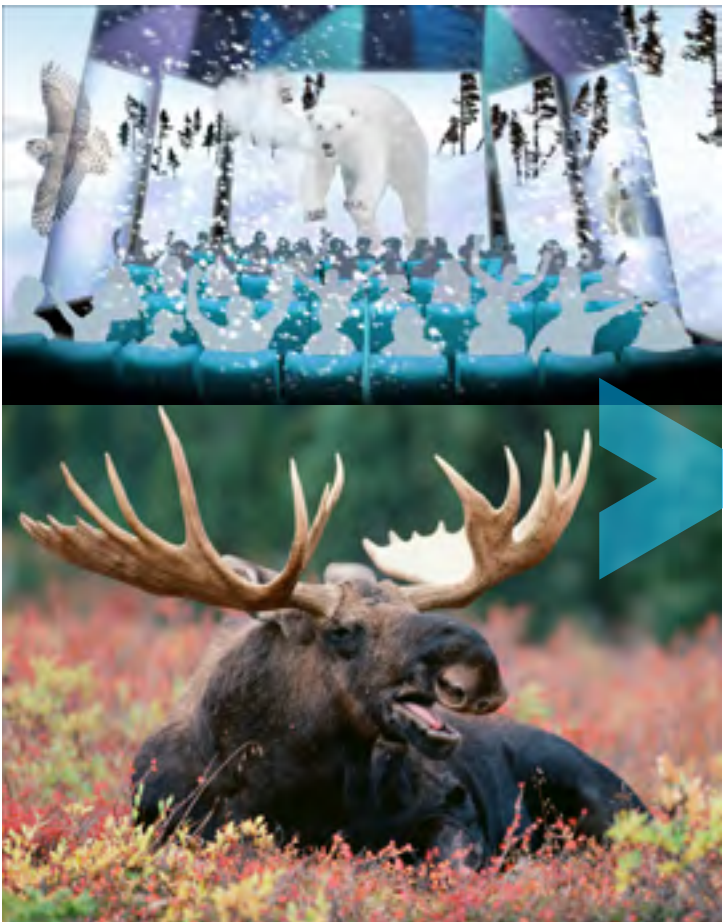
Project Timelines:

- April–September 2018:
Exhibit and base building design
- August–December 2018:
Exhibit production and fabrication
- November 2018–February 2019:
Base building construction; exhibit installation and testing
- February 2019:
Opening

Appendix A:

Other *Big Change, Big Impact* Projects

An Iconic New Vale Cavern Show



About the Project:

The new Vale Cavern show will feature the stories, the people and the natural history of Northern Ontario, a tradition that has allowed the Vale Cavern show to retain its position as a signature and iconic ‘must-see’ experience at Science North. Audiences will be immersed in new and innovative technology-based experiences that are not available anywhere else in Northern Ontario. This show will be a leap forward in innovation, just as Science North’s previous Vale Cavern productions have pioneered theatre technologies from 3D film with laser animation to 4D experiences combining 3D film, objects, special effects and motion seats.

The theme of the new multimedia experience, *Seasons of the North*, will resonate with tourists and local residents alike. The wide appeal of the new show will drive attendance to the science centre and attract new audiences. The reach of the new production will be extended through installation of customized versions at partner attractions in Northern Ontario.

Visitors will be taken on a seasonal journey featuring dramatic landscape vistas that showcase iconic creatures such as moose, bears, beavers and wolves. Sweeping views mixed in with intimate portraits of the Northern Ontario experience and a powerful score-based soundtrack will transport audiences on an unforgettable journey that will redefine how they see Northern Ontario.

Impacts of the Project:

- This iconic “must see” experience will increase tourism by attracting new visitors to Science North.
- During implementation of the project, 18 FTE jobs will be created and the total economic stimulus (direct and value-added benefits) will be \$3.53 million based on Ontario Ministry of Tourism, Culture and Sport TREIM.
- The project will further develop the pool of talent in Greater Sudbury’s film industry. With previous films, Science North worked with partners to develop Northern Ontario professionals capable of executing this kind of high impact production. All location shooting for *Seasons of the North*, as well as editing and post production, will be based in Northern Ontario.
- The experience will take audiences to Northern Ontario’s most famous natural attractions, promoting and highlighting the range of tourist and cultural opportunities in the region.
- Customized versions of the show will be a new product to market and sell to clients around the world, increasing the economic diversity of Greater Sudbury.

Measures of Project Success:

- Increase Science Centre attendance and revenue by 10%, membership revenue by 10%, and school attendance by 5% by the end of Science North’s 2018-2023 Strategic Plan.
- Conduct visitor experience feedback studies to ensure satisfaction at 95%.
- Conduct a Learning Impact Study to assess the science education impact of the new experience.
- Secure partnerships to develop, create and extend the reach of the new show.

Partnerships & Collaborations:

- Science North will pursue partnership opportunities with hardware providers such as SimEx-Iwerks, Dynamic Attractions, Christie Lights and Barco Projectors. SimEx-Iwerks is a Canadian themed entertainment special effects company based in Toronto that partnered with Science North for the hardware platform for *Wildfires! A Firefighting Adventure*.
- A version of the new show will be installed in at least two partner attractions in Northern Ontario.

Project Timelines:

- April–July 2018:
Concept development; hardware platform/media techniques research and decision
- July 2018–January 2019:
Storyboard/script development;
technical hardware design
- January 2019:
Completion of design; AV hardware and fabrication contracts awarded
- October 2018–February 2020:
Production and filming (filming starts fall 2018 to capture footage of all four seasons)
- February 2019–February 2020:
Fabrication; installation
- March 2020:
Opening

Appendix A: Other *Big Change, Big Impact* Projects

Impressive Surroundings



About the Project:

In 2019, Science North will launch a year-long celebration of its 35th Anniversary with special programming, openings of renewed visitor experiences and other events. This project will focus on improvements to prepare for anniversary celebrations and create impressive surroundings for visitors, including a new outdoor pavilion. The project will also provide appropriate infrastructure to support Science North's visitor experience renewal projects, improve accessibility for visitors and focus on health and safety.

An awesome entrance experience at Science North will create an impressive welcoming environment in the lobby that inspires and engages visitors. A showpiece of the space will be an iconic interactive exhibit that links to science and creates anticipation for experiences to be discovered within the Science Centre. This exhibit will have a big impact on visitors, creating a memorable experience and becoming iconic for Science North, helping to strengthen its brand. A prominent new volunteer recognition system will publicly recognize Science North volunteers and reflect the value of their work, and a new interactive donor recognition system will recognize donors/sponsors and encourage others to contribute.

The new **Outdoor Pavilion** will support Science North activities such as programming and festivals, helping to attract people to the site, bolster community support and increase the profile of Science North. Consultations with the community and collaborations with local architects and the Laurentian University's McEwan School of Architecture will ensure it meets the needs and expectations of the community and Science North's audiences.

Impressive grounds will result from work to rehabilitate the Science North site through replacement of paving stone and other infrastructure. A renewal of the Northern Forest exhibit and other treed areas will include removal of unhealthy trees and installation of outdoor seating. At Dynamic Earth, site work will improve accessibility and safety of visitors to the site. Outdoor lighting will be improved at both sites, which will lead to increased safety during evening events and improved security when facilities are closed.

Infrastructure to support Science North's visitor experience renewal projects and operations includes improvement of staff workspaces at Science North, providing project teams with more adequate spaces to work and improvements to meet accessibility requirements. Construction of storage spaces will add much needed secure space to store exhibit components and inventory.

Impacts of the Project:

- During implementation of the project, 32 FTE jobs will be created and the total economic stimulus (direct and value-added benefits) will be \$6 million based on Ontario Ministry of Tourism, Culture, and Sport's TREIM.
- The new pavilion will provide space to expand the Centre's programming and events. It will also increase the alignment of the site with community needs.
- Site improvements will encourage increased use of the Science North grounds by the community and visitors.

Measures of Project Success:

- Visitor experience feedback studies will be conducted to ensure satisfaction at 95% for the new lobby experiences.
- A Learning Impact Study will be completed to assess the science education success of the new lobby exhibit.
- Visitors to the sites will be impressed by the grounds – measured through surveys and feedback.
- Community partners will increase use of Science North's site for an additional 10 festivals/ events annually.

- Regulatory requirements for accessibility will be implemented before the legislated date.

Partnerships & Collaborations:

- Laurentian University's McEwan School of Architecture, Cambrian College and Collège Boréal will be involved in planning and design of pavilion.
- Community groups and the community at large will be consulted in the design and use of the pavilion.

Project Timelines:

Science North Entrance Experience

- June 2018-March 2019:
Needs assessment and design
- April 2019-May 2020:
Fabrication and Installation
- June 2020:
Grand Opening

Impressive Grounds

- May 2018-June 2019:
Project design and on-site work
(summer/fall 2018 and spring 2019)

- June 2019:
Work completed for Science North's
35th Anniversary

Outdoor Pavilion

- October-November 2018:
Community and partner consultation
- January/February 2019:
Initial concept and design/focus groups and feedback
- August 2019:
Final design
- September 2019-May 2020:
Construction
- June 2020:
Pavilion Grand Opening

Construction of Workspaces and Exhibit Storage

- August 2019-February 2020:
Project planning; architectural design
- March 2020-October 2020:
Construction
- November 2020:
New spaces commissioned

Appendix A:

Other *Big Change, Big Impact* Projects

Increasing Engagement with Indigenous Audiences in First Nation Communities



About the Project:

Science North delivers outreach programs, summer science camps, teacher workshops and other programming throughout Northern Ontario including road-accessed and remote First Nation communities. A base in Thunder Bay has supported outreach in Northwestern Ontario since 2010, enabling Science North to reach a larger audience and deliver more programs in First Nation communities.

The response to these science experiences has been tremendously positive. However, there is great demand for more programming and opportunities to deepen the experiences. Funding for this project will increase programs in First Nations schools including repeat visits to many communities and more e-workshops. Teachers will continue hands-on science education beyond Science North's programming, using tools and equipment left at the schools. Teacher workshops for educators in First Nations schools and public outreach experiences in First Nation communities will also be increased.

The Northern Expansion initiative will support increased programming in First Nation communities. A larger base in Thunder Bay will sustain Science North's presence in the northwest region and maximize reach of school and public outreach across Northern Ontario.

A Northwest Expansion Advisory Committee will provide advice on moving forward with recommendations in a report by Laridae Communications Inc. Science North commissioned this report in 2017 to review outreach efforts in Northwestern Ontario and determine the potential for expansion. The report outlines recommendations to deepen outreach in the short term and to plan for long term sustainability in the Northwest.

“I just wanted to let you know what an amazing job the presenters did at our schools today. They were kind, energetic, enthusiastic, engaging, and respectful. Our students really need these kinds of things and it was great to have presenters who were also fantastic role models for our youth. Thank you for this program, thank you for coming to our school.”

*Trevor Gerard,
Principal,
Migizi Miigwanan Secondary School,
Longlac, Ontario*

“There’s a lot of relations in terms of science and technology and we can really learn from each other. That’s where I think science and Indigenous knowledge can really strengthen our nation.”

Gordon Wabasse, Webequie First Nation

Impacts of the Project:

- Interactive science programs will enhance the quality of education for First Nations students. Teachers in First Nations schools will be inspired to make science fun in the classroom, and inquiry-based learning will help students be more innovative and critical thinkers.
- Children and their families will enjoy learning together at festivals, family days and other public outreach programs in First Nation communities.
- This project will build program sustainability for the future through expansion in Northwestern Ontario. Expanded programming will allow for multiple touch points with schools and communities throughout the year, provide better access to science learning in rural and remote communities across Northern Ontario, and increase informal learning programs for young people.
- During implementation of the project, 14 FTE jobs will be created and the total economic stimulus (direct and value-added benefits) will be \$2.54 million based on Ontario Ministry of Tourism, Culture, and Sport’s TREIM.

Measures of Project Success:

Measures of project success will be based on the number of program participants, communities reached and

partnerships as well as customer satisfaction surveys. Science North will compile evaluation comments and feedback from teachers and school administrators, and an impact assessment after three years will determine changes resulting from the funding, including the impact on First Nation communities.

During the 2019-2020 fiscal year, Science North will expand its programming to:

First Nations audiences

- deliver school outreach programs to 5,500 students in at least 21 First Nation communities.
- deliver 40 days of public outreach experiences to youth and the public in 35 First Nation communities.
- deliver 12 teacher workshops to educators from First Nations schools.
- increase partnerships to support delivery of science experiences.

Northern Ontario public and school audiences

- deliver 200 outreach programs days to 35,000 students in public schools, and deliver 250 e-workshops.
- provide 42 teacher workshops for public school educators.

- engage 3,750 participants in summer camps in 35 communities.
- deliver public outreach programs in 70 communities.
- deliver three Science Festivals with local partners.

Partnerships & Collaborations:

Enhanced programming will provide opportunities to deepen existing relationships, realize new mutually beneficial partnerships and cultivate strong collaborations over the long term. An Indigenous Initiatives Advisory Committee will help guide activities in First Nation communities and ensure programming is culturally relevant. The committee will also provide suggestions to make the science centres in Greater Sudbury more welcoming to Indigenous people.

Project Timelines:

- April–July 2018:
Identify new location and establish larger base in Thunder Bay
- June–September 2018:
Prepare staffing, equipment and programs for expansion of programming
- September 2018–June 2021 and beyond:
Deliver expanded programming in First Nation communities and across Northern Ontario

Appendix B: Executive Summary from Economic Impact Study, March 2015 by TCI Management Consultants

Executive Summary



Founded in 1984, Science North has served as Northern Ontario’s pre-eminent science museum and tourist attraction for the last three decades, celebrating its 30th anniversary in 2014. Not only renowned throughout Northern Ontario, it has a stellar international reputation by virtue of its work in developing exhibits and displays for other science museums worldwide. The facility has two operations in Sudbury – the main Science North facility on Ramsey Lake, and the Dynamic Earth operation (formerly known as the ‘Big Nickel’ attraction – just 6 km to the west). There is also a satellite operation in Thunder Bay.

At present, Science North employs 98 full-time salaried individuals as well as 140 casual, contract and hourly workers. Some 259 volunteers contributed 20,547 volunteer hours¹. The operating budget of the institution in 2014 was \$14.8 million. This alone would create significant benefit in the local, regional and provincial economy, but as will be shown, there are significant benefits from the expenditure of visiting tourists as well. Apart from the operating budget, there are positive economic impacts from the capital and construction expenditure that occurs each year as a result of maintenance and renewal expansion activity.

Science North is a very well utilized asset for Sudbury and Northern Ontario. Acknowledged as the number one tourist attraction in Northern Ontario², the facility

sold just under half a million tickets in fiscal 2013 - 2014. (This includes general admission tickets of approximately 347,000; nearly 54,000 school group users at the main Bell Grove site; and nearly 58,000 attendees to special science programs and workshops – most of whom were from outside Sudbury in communities throughout Northern Ontario. In 2014 - 2015, programs were delivered in 84 communities throughout Northern Ontario.)

The purpose of this analysis was to assess the economic impact of Science North according to four perspectives:

1. Impact of Science North from an operational perspective – in Sudbury, in Thunder Bay and across Northern Ontario;
2. Impact of Science North as a tourism generator – impact on Sudbury and Northern Ontario;
3. Impact of Science North’s ongoing capital investments; and
4. Impact of Science North based on its international sales operation.

The economic impact model used in this assessment was specifically created by the Ontario Ministry of Tourism, Culture and Sport for use in modeling the

benefits associated with expenditures in the recreation and tourism industry in the province. Known as the Tourism Regional Economic Impact Model (TREIM), this model enables the assessment of the economic impacts of a given tourism or cultural development at a regional level or that of the province overall.

The findings of this analysis with respect to each of these dimensions of impact can be summarized as

1. Impact of annual operating expenditures:

In 2013/14 the annual operating budget of Science North was approximately \$14.8 million.

This is associated with the following economic impacts:

- \$17.4 million in GDP provincially
- 329 jobs (full-time equivalents – FTEs) across the province
- \$12.5 million in labour income
- \$7.2 million of additional tax revenues generated to all levels of government

2. Impact as a tourism generator:

In the 2013/14 fiscal year it is estimated that Science North attracted over 111,000 tourists from outside of Greater Sudbury, who spent an estimated \$31.8 million in the local economy.

This expenditure had the following impacts:

- \$21.5 million in GDP provincially

- 337 jobs (FTEs) across the province
- \$13.9 million in labour income
- \$10.2 million of additional tax revenues generated to all levels of government

3. Impact of ongoing capital investments:

The total value of Science North's capital investment over the 30 years of its existence in terms of new construction and exhibits is estimated to have been approximately \$152 million, measured in 2014 dollars. This is associated with:

- \$73.6 million in GDP provincially
- 732 jobs (FTEs) across the province
- \$50.4 million in labour income
- \$32.9 million of additional tax revenues generated to all levels of government

4. Impact of export sales:

Since 1994/95 Science North has been involved in the development and sale of exhibits and film sales for other science centres and related institutions globally. The value of all of this activity, measured in terms of 2014 dollars, is estimated to be \$54.2 million. Each year these sales, which are revenue for Science North, are in turn re-spent in the local economy as they then become part of the operating budget of the institution. They thus help create economic impact that is generated in the economy of Northern Ontario and the province

overall each year. (For example, the exhibit production and film sales occurring in 2013/14 helped to fuel the economic impact of \$20.0 million in GDP, as presented above.) However, for the overall magnitude of this impact over the twenty years in which exhibit and film production for sale has been occurring it is possible to examine the total impact in a manner analogous with #1 above – the cumulative impact of all capital and construction expenditures. This yields the following results:

- \$61.7 million in GDP provincially
- 1,155 jobs (FTEs) across the province
- \$42.9 million in labour income
- \$25.9 million of additional tax revenues generated to all levels of government

In addition to these quantitative economic benefits, there are also less tangible ways in which Science North has had a positive economic impact upon the Sudbury Region and the economy of Northern Ontario in terms of being a catalyst for other types of development and contributing to a positive image and brand for the area. These are also commented upon in the report.

1 According to the 2013/14 Annual Report

2 See: <http://fednor.gc.ca/eic/site/fednor-fednor.nsf/eng/fn04276.html>



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