



actúa™

Youth · STEM · Innovation  
Jeunesse · STIM · Innovation

Youth. STEM. Innovation

**ACTUA**

2015/2016 ANNUAL REPORT





## Who We Are

Actua is Canada's leading science, technology, engineering and mathematics (STEM) education outreach organization. We represent 33 network members located at universities and colleges and an Outreach Team that annually engage 225,000 youth in 500 communities nationwide. Our for-youth-by-youth program delivery model demonstrates real-world applications of STEM and is inspiring a new generation of innovators.

Actua is a national leader in breaking down the barriers that prevent many of Canada's youth from accessing transformational STEM experiences and participating in STEM studies and careers. Our national inclusivity programs are customized to engage girls and young women, Indigenous youth, new Canadians, as well as economically disadvantaged youth, and youth living in remote communities. Canada will not achieve its full innovation potential without the full participation of these groups.

Working with our network members, corporate partners, government agencies and other like-minded groups, we are moving the dial on Canada's future economic and social competitiveness and prosperity. Together we are focused on cultivating a strong science culture to advance the future of innovation.



## Message from the Chair

The new federal government has strongly signalled a refocusing on science, technology and innovation as essential for Canada's future social and economic prosperity. This is significant for Actua, which has been engaging youth in STEM experiences that build the early innovation pipeline for the past twenty years. Actua and our stakeholders have long recognized that our youth are the driving force behind the innovation-focused economy of tomorrow.

As a long-standing board member and Chair of Actua, I have witnessed the impact of providing transformational STEM experiences to all youth, especially for the most underserved. Actua's Board continues to look for ways to enhance this commitment. For example, we are currently looking at how we can effectively contribute to the Truth and Reconciliation Commission recommendations through the work we do with 35,000 Indigenous youth each year.

The Board looks forward to continuing its work in supporting our amazing university and college-based network members and to advancing the innovation agenda in Canada.

**Paul Ledwell**

*Chair, Actua Board of Directors*



## Message from the CEO

Youth.STEM.Innovation. This is our new tag line—straightforward and completely encompassing of our mission, programs and impact. In the past twenty two years Actua has engaged millions of youth in STEM experiences that build their innovation capacity and contribute to the innovation culture of Canada.

Over the past year we worked with our 33 university and college-based network members, our leading corporate funders, all levels of government, as well as other leading science and youth-serving organizations to engage and inspire over 250,000 youth in 500 communities nationwide.

We also launched Actua's Codemakers program, supported through our partnership with Google Canada. Codemakers is a national initiative designed to transform the way youth engage with computers, shifting their roles from consumers of technology to innovators and producers of technology. Over the three-year duration of our partnership with Google Canada, we expect to directly engage 100,000 youth in hands-on opportunities to innovate with technology. Already the program has garnered significant interest from parents, teachers and youth. Moving forward we will continue to act as a strong voice for the critical importance of digital literacy for youth.

Our focus on underrepresented youth continues to be incredibly relevant and important, and we are proud to build on our models of successful engagement of Indigenous youth, girls, and other youth facing significant socio-economic challenges in STEM.

Canada's new federal government has indicated strong support for youth, STEM, innovation, and diversity. We look forward to working with the government to ensure all youth have the opportunity to pursue post-secondary education and careers in STEM.

As we approach 2017 and Canada's sesquicentennial celebrations, we will be engaging thousands of youth across Canada through a celebration of innovation and an unparalleled cross-country STEM event. Stay tuned for details!

**Jennifer Flanagan**

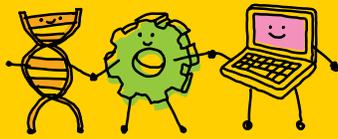
*Actua President and CEO*

Follow my blog <http://actua.ca/en/blog>

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# Actua's Program Delivery Model and Impact

We mobilize the dynamic enthusiasm and skills of young leaders across Canada who share their passion for science, technology, engineering and math with Canada's youth.



## NETWORK MEMBERS

**33** network members located at universities and colleges across Canada engage **800** undergraduate students in science and engineering fields as instructors and **500** high school students as volunteers who serve as incredible role-models for youth.



## OUTREACH TEAM

A team of highly trained instructors from across Canada are equipped to deliver programming in rural and remote areas not yet served by our network members and incubate new programs and growth opportunities for Actua.

## NATIONAL IMPACT

Together, we are annually engaging and inspiring **225,000 Canadian youth** in **500 communities** across every province and territory!

## ONE MILLION FACE-TO-FACE HOURS

Actua's network delivers over one million face-to-face hours of high impact, evidence based programs each year.



The Honourable Kirsty Duncan, Minister of Science, Dr. Mario Pinto, President of and Natural Sciences and Engineering Research Council of Canada, Jennifer Flanagan, CEO of Actua with network member Directors at Actua's 2016 National Conference.

“

*We want to help create a vibrant science culture in Canada and to do that our young people need a solid STEM foundation so they can take on the knowledge-based jobs of the future. I look forward to working with organizations like Actua to help our young people get excited about science and research and to encourage them to pursue careers in STEM fields and take on these challenges for the betterment of all Canadians.*

”

–The Honourable Kirsty Duncan, Minister of Science

# Network Members

Actua supports 33 university and college-based network members. These network members share Actua's commitment to engaging all young Canadians in hands-on STEM and to breaking barriers to youth participation in STEM studies and careers. Network members offer a wide variety of on and off campus programming including significant outreach work within their local communities and beyond. This outreach is how Actua collectively impacts 500 communities covering every province and territory each year.

## British Columbia

**Thompson Rivers University,  
Kamloops, BC**  
EUREKA! Science Program

**University of British Columbia,  
Vancouver, BC**  
Geering Up

**Simon Fraser University,  
Burnaby, BC**  
Science ALIVE

**University of Victoria,  
Victoria, BC**  
Science Venture

## Yukon

**Yukon College,  
Whitehorse, YK**  
Science Adventures

## Alberta

**University of Lethbridge,  
Lethbridge, AB**  
Destination Exploration

**University of Alberta,  
Edmonton, AB**  
DiscoverE

**University of Calgary,  
Calgary, AB**  
Minds in Motion

**Red Deer College,  
Red Deer AB**  
Science Promotion at RDC

## Saskatchewan

**University of Saskatchewan,  
Saskatoon, SK**  
SCI-FI Science Camps

**University of Regina,  
Regina, SK**  
EYES

**First Nations University of  
Canada, Regina, SK**  
FNU Health and Science camp

## Manitoba

**University of Manitoba,  
Winnipeg, MB**  
WISE Kid-Netic Energy

**University of Winnipeg, MB**  
Adventure Kids

**Brandon University, Brandon,  
MB**  
Mini University

## Nunavut

**Nunavut Research Institute,  
Iqaluit, NU**  
Simply Science

## Ontario

**University of Ottawa,  
Ottawa, ON**  
Adventures in Engineering and  
Science

**University of Guelph,  
Guelph, ON**  
Creative Encounters

**Western University,  
London, ON**  
Western Engineering Outreach  
Programs

**University of Toronto,  
Toronto, ON**  
Engineering Outreach

**University of Waterloo,  
Waterloo, ON**  
Engineering Science Quest (ESQ)

**Queen's University,  
Kingston, ON**  
Science Discovery

**York University, Toronto, ON**  
Science Explorations

**Queen's University,  
Kingston, ON**  
Science Quest

**Lakehead University,  
Thunder Bay, ON**  
Superior Science

**McMaster University,  
Hamilton, ON**  
Venture Engineering and Science

**Carleton University,  
Ottawa, ON**  
Virtual Ventures

## Quebec

**École Polytechnique de  
Montréal, Montréal, QC**  
Folie Technique

**Université du Québec à Trois-  
Rivières, Trois-Rivières, QC**  
Génitruces

**Centre d'interprétation des  
Biosciences, Laval, QC**  
Musée Armand Frappier

## New Brunswick

**University of New Brunswick,  
Fredericton, NB**  
Worlds UNBound

## Nova Scotia

**Dalhousie University,  
Halifax, NS**  
SuperNOVA

**St. Francis Xavier University,  
Antigonish, NS**  
X-Chem Outreach



From left to right: Kim Warburton, Vice President Communications and Public Affairs, GE Canada, Joanne Moniz, Outreach Programs Coordinator, Western Engineering, Western University, Winner of the 2015 Actua and GE Canada Award for Excellence and Jennifer Flanagan, President and CEO of Actua.

## Network Member Awards

Actua awards provide network members with the opportunity to be recognized for their excellence and success.

The **Actua & GE Canada Award for Excellence** recognizes network members who exemplify excellence while delivering on a shared national mission to provide transformational experiences in STEM so that ALL youth can be inspired to achieve their potential and fulfil their critical role in the world. The 2015 Actua and GE Canada Award for Excellence was awarded to Western Engineering Outreach Programs, at Western University.

The **Actua Experience Award** recognizes network members' commitment to engage underrepresented youth in STEM and provide them with the skills, knowledge and attitudes necessary to succeed in the 21st century. This year, we highlighted network member excellence and successful practices in the engagement of girls with The Actua Experience Award—National Girls Program and the 2015 winner was Virtual Ventures, Carleton University.

# Breaking Barriers to Youth Engagement in STEM

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## Indigenous Youth in STEM (InSTEM) Program

Actua's national Indigenous youth in STEM outreach program (InSTEM) represents a customized, community-based approach to engaging First Nations, Métis, and Inuit youth in locally and culturally relevant STEM experiences. Each year, 35,000 Indigenous youth are inspired to achieve their potential and fulfil their critical role in the world.

We work closely with Indigenous communities, Aboriginal Resource Centres at our network member institutions, Indigenous leaders and Indigenous organizations such as Indspire, the Aboriginal Human Resource Council, the Nunatsiavut Government, Inuit Tapiriit Kanatami (ITK), and Nunavut Sivuniksavut to ensure our model is reflective of successful practices in Aboriginal youth engagement. Our model starts with the premise that elements of STEM are intrinsic to Indigenous ways of knowing and day-to-day life of Indigenous peoples. As a result, we play a key role in facilitating the connections between aspects of culture, Traditional Knowledge and modern science, thereby opening the pathway for youth to explore their potential as future innovators in STEM.

*Actua's InSTEM Program has been documented as one of Indspire's Nurturing Capacity Projects. One aspect [of the model] that appeals to Indspire and Indigenous youth alike is how the program solidifies and validates the link between Traditional Knowledge and science. We look forward to supporting and exploring other synergies with Actua as we continue to support Indigenous youth in achieving their highest potential.*

— Sonia Prevost-Derbecker,  
Vice President of Education, Indspire



*To progress and move towards gender parity in STEM, girls need to feel connected and confident. They need to know what success feels like in STEM. They need as many opportunities as possible to build, design, and play with science and technology. They need to have opportunities to fail and learn to embrace failure as a necessary part of innovation. And, they need female role models who can push the stereotypes aside, look that girl in the eye, inspire them to keep going, and help them change their view of ‘who does STEM.’*

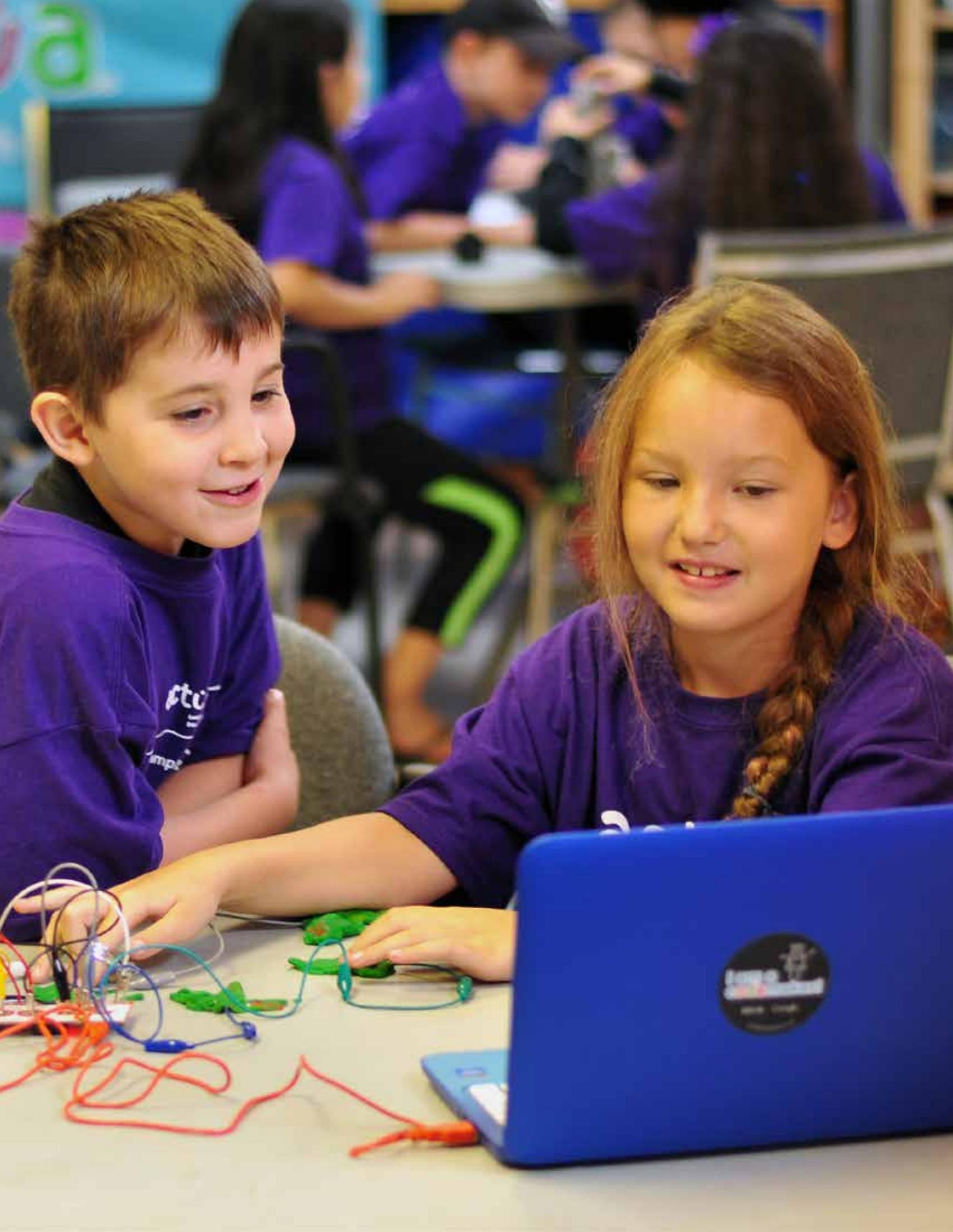
– Jennifer Flanagan,  
Actua President and CEO

## **National Girls Program**

We inspire girls to explore their important and unique roles in STEM. Through our inquiry-based, girl-led content, we encourage girls to take risks, invent, and communicate their learning with others in the safety of an all-girl environment, and in the presence of accomplished women role models and mentors. Our National Girls Program plays an important role in building girls’ self-efficacy, resilience, and future economic independence. Each year, Actua reaches over 6,000 girls annually through these high impact, all-girl initiatives.

## **Go Where Kids Are Program**

Actua’s Go Where Kids Are Program is a highly effective strategy for engaging underserved youth that would otherwise never come to our programs. We do this by partnering with youth-serving organizations that engage at-risk youth, new Canadians, and youth facing other socio-economic challenges. We are grateful for the partnerships we have built with local Boys and Girls Clubs, YM/YWCA’s, Family Service Centres and community centres. These organizations open their doors to Actua programs, making it possible for 30,000 underserved youth to access our transformational STEM education programming every year.



# /code:makers\_



## Codemakers

Codemakers is a national program delivered by Actua, in partnership with Google Canada, to transform the way youth engage with computer science. From 2015-2017, 100,000 youth across Canada will be engaged in digital skill building experiences that move them from being consumers of technology to producers of technology.

The project pairs the creative minds of Canadian Google engineers with Actua's top computer science thinkers to develop dynamic new computer science and technology experiences for youth. Through hands-on learning, Codemakers inspires young Canadians to embrace computer science as a pathway to invention and future discovery and to participate in new and emerging careers.

*The outsized ambition of the Codemakers program is matched only by Actua's extraordinary capacity to deliver and delight at every turn. Actua and Google's goal for Codemakers is to engage more than 100,000 young Canadians across every province and territory to become the innovative technology builders of tomorrow. Not only is Actua on track to meet this goal, it's spearheading a movement around how we engage Canadian youth in STEM programming and curricula.*

—Aaron Brindle, Head of Public Affairs,  
Google Canada

*It is excellent that youth have the opportunity to experience what it is to be an engineer or a scientist or a community leader through activities that involve simulated real life scenarios, problem solving and designing and building. [Actua's] involvement of local industry representatives, researchers, and scientists as mentors also helps make the experience real for youth and helps them to see themselves in these roles in the future.*

- Mayor, Jeannie Ehaloak, President, Nunavut Association of Municipalities



## Actua in the North

Every year, Actua reaches 8,000 youth in 35-40 communities spanning the Yukon Territory, Nunavut, and the Northwest Territories. We build sustainable, meaningful relationships with Northern communities to ensure that the STEM content we deliver is reflective of local cultural and economic needs.

Through direct connections with local industry, researchers, and education institutions, we facilitate exposure to northern career opportunities. These connections are made possible through partnerships with institutions like the Canadian High Arctic Research Station, the Nunavut Arctic College and the Nunavut Research Institute, Yukon College, the University of Alberta, and Ocean Networks Canada that work with us in the development of unique program content and experiential learning opportunities.

We help youth and their families make sense of the development that is happening around them and equip youth with the problem solving, collaboration and critical thinking skills that prepare them for their future role as informed community leaders and decision makers.

Through opportunities to role play as scientists, researchers, engineers (and more), youth work together to solve simulated, real-world challenges and become better equipped to form Canada's in-demand skilled workforce. Actua in the North inspires northern youth to be Canada's current and future innovators and entrepreneurs, guiding economic development in the North.

### **This year we engaged the following northern communities:**

**Yukon:** Carcross, Carmacks, Dawson City, Faro, Haines Junction, Kluane First Nation, Mayo, Old Crow, Pelly Crossing, Ross River, Teslin, Watson Lake, Whitehorse

**Northwest Territories:** Aklavik, Behchoko, Deh Gah Gotie Dene Council, Deninu K'ue First Nation, Fort Simpson, Fort Smith, Inuvik, K'atlodeeche First Nation, Ka'agee Tu First Nation, Liidlii Kue First Nation, Lutsel K'e Dene First Nation, Nahanni Butte First Nation, Pehdzeh Ki First Nation, Sambaa K'e Dene First Nation, Tuktoyaktuk, Yellowknife, Yellowknives Dene First Nation (Dettah)

**Nunavut:** Arviat, Baker Lake, Cambridge Bay, Chesterfield Inlet, Coral Harbour, Gjoa Haven, Hall Beach, Igloolik, Iqaluit, Kugluktuk, Pangnirtung, Qikiqtarjuaq, Rankin Inlet, Repulse Bay, Whale Cove

## Board of Directors

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**Susan Holt (Vice-Chair)**

Chief, Business Relationships (Executive Council Office) Province of New Brunswick

**Jennifer Flanagan (Secretary)**

CEO, Actua

**Kim Warburton (Director)**

Vice-President, Communications and Public Affairs, GE Canada

**Sharon Varette (Director)**

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**Claude Laguë (Director)**

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**Karen Kabloona (Director)**

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**Marie-Josée Lamothe (Director)**

Managing Director, Branding, Google Canada

**Kris Smith (Director)**

Executive Vice President, Refining and Marketing, Suncor Energy

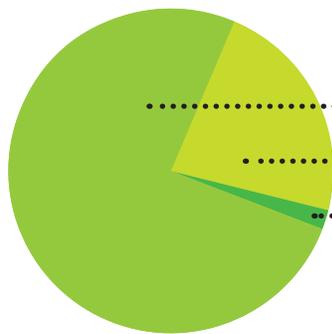
**Jan O'Donnell (Director)**

Contract CFO



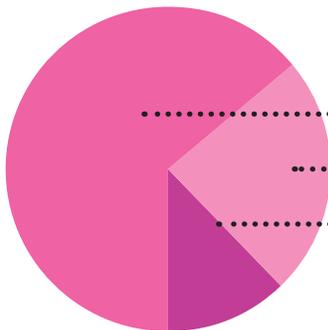
## Financial Summary

The majority of our resources are directed to program development and implementation. This includes supporting the critical services delivered by our network of 33 network member organizations located at universities and colleges across Canada. In 2015, our budget was \$3 million. This does not include the local operating budgets of our 33 network members.



### Revenues

- ..... Corporate - 65.5%
- ..... Government/Foundation - 32.7%
- ..... Other - 1.8%



### Expenses

- ..... Local Program Delivery - 64%
- ..... Network Member Services - 24%
- ..... Program Development and Administration - 12%

# Supporters

## Innovator



SUNCOR  
ENERGY  
FOUNDATION

## Cornerstone



imagination at work



Canadian Northern Economic  
Development Agency

Agence canadienne de  
développement économique du Nord



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## Ambassador



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Un organisme du gouvernement de l'Ontario



Polar Knowledge  
Canada

Savoir polaire  
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## Major Patron



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