

# Actua 2023/2024 Annual Report

30 YEARS OF BREAKING DOWN BARRIERS

**actua**

Youth • STEM • Innovation  
Jeunesse • STIM • Innovation



Actua is Canada's leading science, technology, engineering and mathematics (STEM) youth outreach organization.

We are on a mission to unlock the infinite potential of youth while radically and relentlessly removing barriers to STEM.





# TABLE OF CONTENTS

<b>Board of Directors</b> . . . . .	<b>4</b>	<b>Industry Innovation</b> . . . . .	<b>17</b>
<b>Message from the CEO &amp; Board Chair</b> . . . . .	<b>5</b>	Cyber Smart Education Project . . . . .	18
<b>Our Programs and Impact</b> . . . . .	<b>7</b>	Exploring Digital Agriculture . . . . .	19
Actua's 30 Years of Impact . . . . .	7	Rewing Up Diversity in the Automotive Industry Project . . . . .	20
Our Reach . . . . .	8	<b>National Educator Professional Learning Program</b> . . . . .	<b>21</b>
Network Members . . . . .	9	<b>Highlights</b> . . . . .	<b>22</b>
<b>Our Programs</b> . . . . .	<b>11</b>	<b>Financial Overview</b> . . . . .	<b>25</b>
National Girls Program . . . . .	12	<b>Supporters</b> . . . . .	<b>26</b>
Indigenous Youth in STEM . . . . .	13		
Black Youth in STEM . . . . .	14		
Go Where Kids Are . . . . .	15		
Actua in the North . . . . .	16		

# BOARD OF DIRECTORS

## Trevor Cuddy, Chair

Director, Continuing Professional Development, Temerty Faculty of Medicine, University of Toronto

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President and CEO, Actua

## Mike Munoz, Treasurer

VP of External Relations, Suncor

## Denise Williams

Special Advisor to the Dean & Visiting Lecturer, Beedie School of Business, Simon Fraser University & Member of Cowichan Tribes

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Professor and Dean, Faculty of Applied Science, University of British Columbia

## Dr. Katharine Smart

Pediatrician

## Marshall Self

Managing Director, Finance & B2B, Google Canada

## Mary Wabano-Mckay

Vice-President, Nyaagaaniid-Anishinaabe Initiatives, Equity and Student Success, Algoma University

## Dr. Tibetha Kemble

Project Lead - Indigenous, Accelerating Clinical Trials Consortium, University of Alberta

## Tyler Wish

CEO, Stillmind Therapeutics

# MESSAGE FROM THE CEO AND BOARD CHAIR



As we reflect on Actua's journey over the past 30 years, we're reminded of our roots and the transformative impact we've had in Canada. Born from the passion of university students in the mid-90s to ensure all youth were inspired by STEM, Actua set out to engage the hardest to reach youth in every corner of the country. Today, we proudly stand as Canada's largest youth STEM outreach organization, representing a network of over 40 universities and colleges committed to the same core purpose of relentlessly removing barriers to STEM.

We are happy to share highlights of 2023/2024 throughout this annual report. We've hosted events that welcomed inspiring speakers such as Canadian astronauts Jeremy Hansen and Jenni Gibbons.

We've organized land camps that connected Indigenous cultures with STEM while providing Indigenous learners with high school credits. We've engaged with teachers and educators on ways to make STEM learning more inclusive and accessible to equity-deserving youth. We've also shared resources and information with parents on a variety of topics, including how to keep youth safer online.

**“Each action we take is a step closer to achieving our mission and growing youth literacy in science and technology.”**

# MESSAGE FROM THE CEO AND BOARD CHAIR

Throughout the year we witnessed numerous examples of recovery in the aftermath of the pandemic, and the momentum is growing. Youth are back at our summer camps and in our workshops. Teachers are back in the classroom and hungry for resources and support to help them connect with their students. And our funders are fired up and ready to make a difference with us.

In fact, this year Actua was announced as a recipient of the Federal government's Strategic Science Fund with \$38.4 million over five years. The Strategic Science Fund supports organizations like ours to enhance Canada's science, technology and innovation excellence. We are extremely proud to be recipients of this investment.

“We extend our sincere appreciation to our partners, funders and network members, whose unwavering support has been instrumental in our journey.”

Together, we envision a future where every young person has equal access to the opportunities afforded by STEM education, and we remain committed to realizing this vision through collaboration and innovation.

— **Trevor Cuddy**, Board Chair  
— **Jennifer Flanagan**, CEO and President



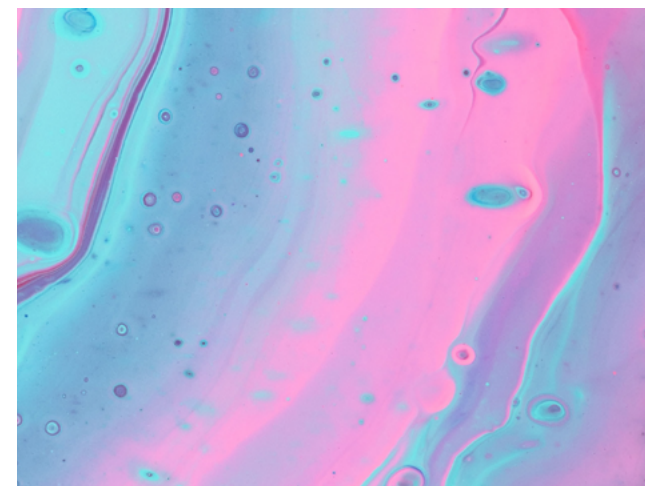
## OUR PROGRAMS AND IMPACT

# ACTUA'S 30 YEARS OF IMPACT

Actua was launched in the mid-90s by a passionate group of university students on a mission to inspire more youth with STEM. They knew that too many young people were being left behind in STEM learning. But, as they began to engage more youth in STEM, they realized engagement alone was not enough. They needed to break down the systemic inequalities creating barriers to youth engagement in the first place. They recognized that doing this work would require collective action among all stakeholders in the innovation economy.

Fast-forward 30 years, Actua has become Canada's largest STEM outreach organization. We represent a national network of over 40 universities and colleges that engage youth ages 6-26 in STEM learning experiences that are anything but ordinary. That's because together, we believe in being the change we want to inspire. We never settle for "good enough" – we set lofty goals and "actua"lize them. And, above all else, we are relentless in our pursuit to dismantle systemic inequalities so all youth can benefit from and participate in STEM.

As we celebrate Actua's remarkable journey, let's not only reflect on our past achievements but also look forward to the next 30 years. We know that there are barriers that still exist for many young people when it comes to accessing STEM education and pursuing STEM careers. The Actua network is committed to keeping that spark of curiosity burning, unlocking the incredible potential within each and every young mind.



## OUR PROGRAMS AND IMPACT

# OUR REACH

**375,000**

youth engaged annually

**600**

communities across  
Canada reached

Together with a national network of over 40 universities and colleges, Actua annually engages 375,000 youth in 600 communities nationwide in transformational STEM learning programs that build critical employability skills and confidence. Actua focuses on engaging underrepresented youth through specialized programs for girls and young women, Indigenous youth, Black youth, newcomers, other youth facing socio-economic challenges, and those living in remote communities.

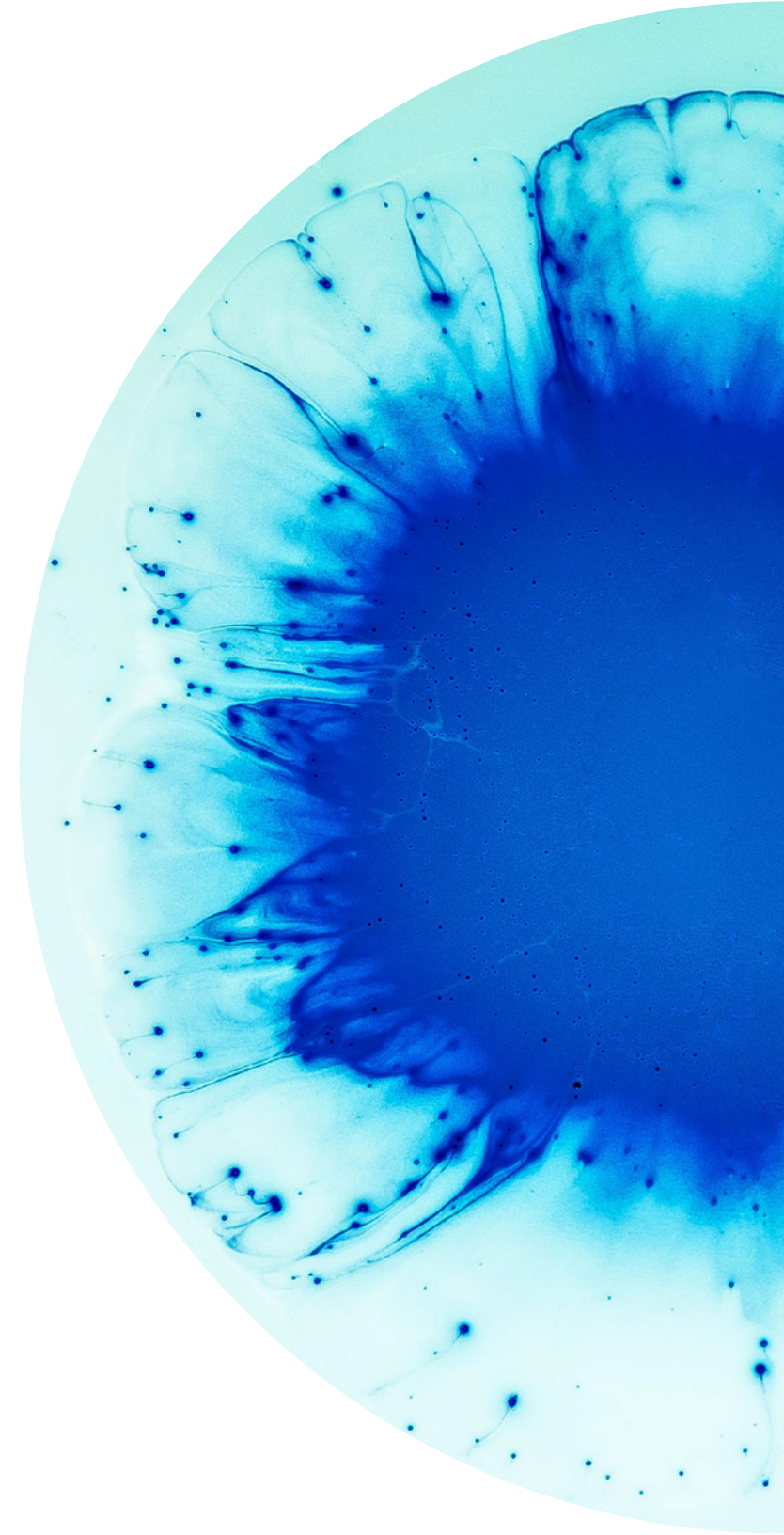
To help improve youth STEM skills, increase STEM graduates and enhance Canada's science, technology and innovation literacy and performance, the Actua network delivers a wide range of high-quality STEM experiences. As a result of the program, youth surveyed said:

**81%** learned something  
new about STEM

**64%** increased their confidence  
in their STEM abilities

**51%** were more or much  
more interested in going  
to university or college

**45%** were more or much more  
interested in studying STEM in  
university or college





# OUR PROGRAMS AND IMPACT

## NETWORK MEMBERS

Actua is proud to support and represent a network of members located at universities and colleges across Canada. All network members share the mandate of developing essential employability skills and confidence in youth in STEM. Actua and its network members deliver on and off-campus programming.

To support the delivery and development of high-quality programs focused on building the most relevant and in-demand skills needed for youth to thrive, Actua provides network members with peer-to-peer networking and professional development, including live and on-demand courses covering topics such as national trends in STEM outreach, equity and inclusion in STEM, content development and more.

### YUKON

**Yukon University**  
Youth Moving Mountains  
Whitehorse

### NORTHWEST TERRITORIES

**Aurora College**  
Aurora Research Institute STEM  
Outreach Program  
Inuvik, Fort Smith and Yellowknife

### NUNAVUT

**Nunavut Research Institute**  
Simply Science  
Iqaluit

### BRITISH COLUMBIA

**Simon Fraser University**  
Science ALIVE  
Burnaby

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

**University of British Columbia**  
Geering Up  
Vancouver and Kelowna

**University of Northern British Columbia**  
UNBC Active Minds  
Prince George

**University of Victoria**  
Science Venture  
Victoria

### ALBERTA

**NorQuest College**  
Indigenous House of Learning  
Edmonton

**Red Deer Polytechnic**  
Red Hot Science  
Red Deer

**University of Calgary**  
Minds in Motion  
Calgary

**University of Lethbridge**  
Destination Exploration  
Lethbridge

### SASKATCHEWAN

**First Nations University of Canada**  
FNU Science Outreach  
Regina

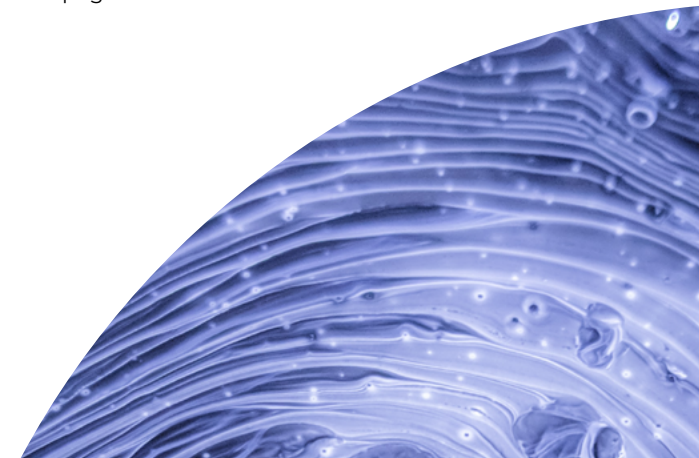
**University of Regina**  
EYES  
Regina

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

### MANITOBA

**Brandon University**  
Mini University  
Brandon

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



# OUR PROGRAMS AND IMPACT

## NETWORK MEMBERS

### ONTARIO

#### Algoma University

Waawaaskonwe Niigaan ISTEAM Program  
Sault Ste. Marie

#### Canadore College

First Peoples' Centre  
North Bay

#### Carleton University

Virtual Ventures  
Ottawa

#### Lakehead University

Superior Science  
Thunder Bay

#### McMaster University

McMaster Engineering Community Outreach  
Hamilton

#### Nipissing University

NUScience Explorations  
North Bay

#### Ontario Tech University

Ontario Tech University Engineering Outreach  
Oshawa

#### Queen's University

Queen's Engineering Outreach  
Kingston

#### Sheridan

Youth Amplified  
Oakville

#### Six Nations Polytechnic

Six Nations Polytechnic STEAM Academy  
Ohsweken

#### Trent University

TRACKS Youth Program  
Peterborough

#### University of Guelph

Creative Encounters  
Guelph

#### University of Ottawa

uOttawa Engineering Outreach  
Ottawa

#### University of Toronto

Engineering Outreach  
Toronto

#### University of Waterloo

Waterloo Engineering Outreach  
Waterloo

#### Western University

Western Engineering Outreach Programs  
London

#### York University

Science Engagement Programs  
Toronto

### QUEBEC

#### École Polytechnique de Montréal

Folie Technique  
Montreal

#### Musée de la santé Armand-Frappier

Programmes jeunesse  
Laval

#### Université du Québec à Trois-Rivières

Génitruucs  
Trois-Rivières

### NEW BRUNSWICK

#### University of New Brunswick

Worlds UNBound  
Fredericton

### NOVA SCOTIA

#### Dalhousie University

SuperNOVA  
Halifax

#### St. Francis Xavier University

X-Chem Outreach Program  
Antigonish

### NEWFOUNDLAND AND LABRADOR

#### Memorial University

Memorial Engineering Outreach  
St. John's



Each year at its National Conference, Actua presents the **Actua Award for Excellence** to a network member who exemplifies annual excellence in realizing our shared mission and goals. The 2023 Actua Award for Excellence was awarded to **EYES** at the **University of Regina** for successfully growing their programs to intentionally meet the needs of the youth they serve.

## OUR PROGRAMS AND IMPACT

# OUR PROGRAMS

Actua is a national leader in breaking down the barriers that prevent equity-deserving 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, Black youth, newcomers, other youth facing socio-economic challenges and youth living in rural and remote communities.



## OUR PROGRAMS

# NATIONAL GIRLS PROGRAM

**20,000**

girls in all-girls programs

**160,000**

girls in other programs

Actua's National Girls Program, now over 20 years old, inspires girls and young women to fulfill their unique and important role in STEM. These all-girl programs are led by instructors who serve as inspiring role models, mentors and allies breaking down long-standing stereotypes about women in STEM. Network members deliver these programs in addition to regular co-ed programming through science clubs, day camps, overnight camps, conferences, career fairs and special events. This program plays an important role in building girls' self-efficacy, resilience and future economic independence.

As part of our efforts to create inclusive, bias-free learning environments that advance gender equity, the National Girls Program welcomes gender-diverse youth, including but not limited to cis girls, trans girls, non-binary youth, gender non-conforming youth and genderqueer youth.

We also support gender equity and 2SLGBTQ+ awareness training for all instructors, intentional gender equity policies in co-ed programs, and general principles around inclusivity and creating a safe space for learning.



## OUR PROGRAMS

# INDIGENOUS YOUTH IN STEM

**40,000**

Indigenous youth reached annually

**200**

Indigenous communities



In Michif, we have a word for this learning experience, *Kiskinohamaw*. It means ‘to show them so they can teach themselves’. That’s what we’re doing through our program. We’re showing Indigenous youth a way that they already know through experience and mentorship. We’re helping them to see themselves in STEM and as future leaders.”

— **Joel Gamache**, Senior Manager,  
National Indigenous Youth in STEM Program

Actua’s Indigenous Youth in STEM program (InSTEM) is designed to break down barriers to Inuit, Métis and First Nations youth engagement in STEM fields. These are barriers that, over time, have contributed to significant disparities in high school and post-secondary participation and completion rates among Indigenous youth. Guided by Actua’s Indigenous leadership team, InSTEM engages Indigenous youth in culturally relevant STEM experiences that build skills and confidence and allow participants to recognize and celebrate their existing cultural knowledge as Indigenous Peoples.

We work closely with Indigenous communities, leaders and organizations to ensure Actua’s model is reflective of successful practices in Indigenous youth engagement.

InSTEM is guided by the national priority to engage and involve more Indigenous youth in STEM-related careers. The underlying premise of InSTEM is that the Traditional Knowledge of Indigenous communities and the prior skills and experiences of young people are the foundation onto which Western STEM concepts can be built.

The program includes land-based for-credit programming for Indigenous high school students to support high school graduation rates among Indigenous youth.



## OUR PROGRAMS

# BLACK YOUTH IN STEM

**10,000** Black youth  
reached annually

The Actua network has long recognized that Black youth in Canada are often discouraged from pursuing STEM due to long-standing stereotypes and a lack of role models. Actua's National Black Youth in STEM program, which is now in its third year, intentionally increases access and creates quality STEM and digital literacy opportunities for Black youth across the country.

Programming for Black youth is designed to create safe, culturally-relevant and engaging learning environments where Black youth can visualize themselves in science, technology, engineering and math, and gain the skills and confidence needed to fulfill their important role in STEM.



Actua's Black Youth in STEM program offers a sense of relatability. The kids need to see you and think, **wow, I can be just like you.**"

— Jennifer Ladipo, National Programs Manager, Actua



## OUR PROGRAMS

# GO WHERE KIDS ARE

**125,000** youth engaged annually

Actua's Go Where Kids Are Program recognizes that many youth do not have the opportunity to attend a STEM program, even if offered at no cost.

To engage these equity-deserving youth, Actua and our network members partner with youth-serving organizations such as family resource centres, immigrant community organizations, BGC Clubs, YM/YWCAs and others who already have these youth engaged. Our commitment is to provide sustained programming in these locations, returning each year to strengthen the impact of the programming among the underserved and underrepresented youth we reach.



## OUR PROGRAMS

# ACTUA IN THE NORTH

**10,000** youth in Northern Canada are engaged annually in community-based programs

Network members at Yukon University, Aurora College and Nunavut Research Institute are engaging youth in the Yukon, Northwest Territories and Nunavut. To further expand our reach in the North, we created Actua's Outreach Team. Our Outreach Team is a group of dynamic STEM instructors who engage youth in Canada's hardest-to-reach northern communities. In addition to STEM learning, they connect youth with local industry, researchers and education institutions so that youth can learn more about northern career opportunities.

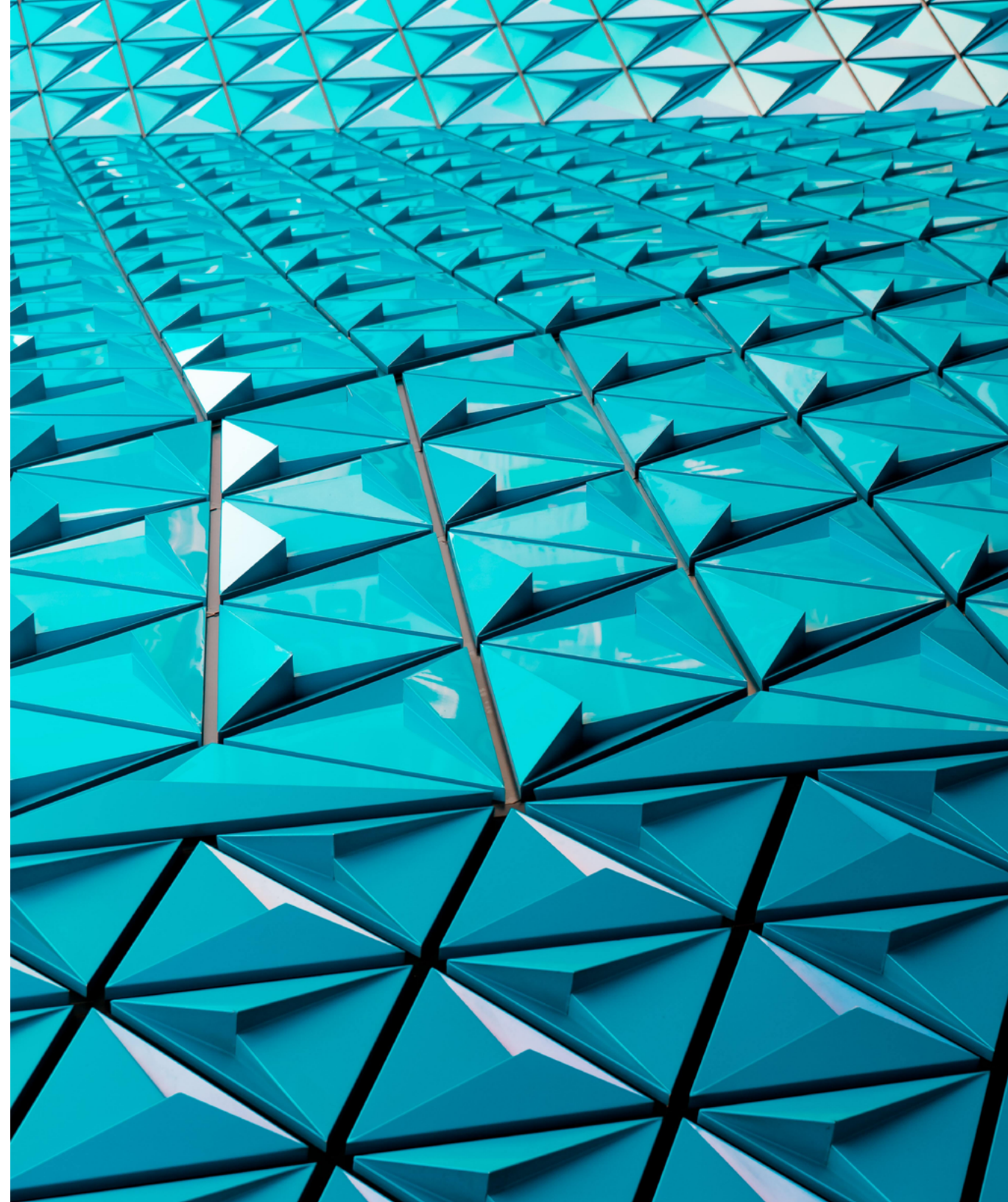
Actua has been a trusted and valued STEM outreach partner for dozens of communities across the Northwest Territories, the Yukon, Nunavut, Northern Quebec and Labrador. Programming includes customized content that showcases Northern science, Traditional Knowledge and connects to northern economic development opportunities. Actua has built sustainable, meaningful relationships with northern communities to ensure that the STEM content reflects local cultural and economic priorities.





# INDUSTRY INNOVATION

In addition to its national programs, Actua implements learning opportunities that reflect our commitment to innovative content and a dedication to preparing youth for the future of work. Youth's perceptions, interests and career opportunities are being reshaped by their engagement in these groundbreaking activities. With a special focus on equity-deserving youth, our projects help create a diverse talent pipeline across Canada's most in-demand sectors.



## INDUSTRY INNOVATION

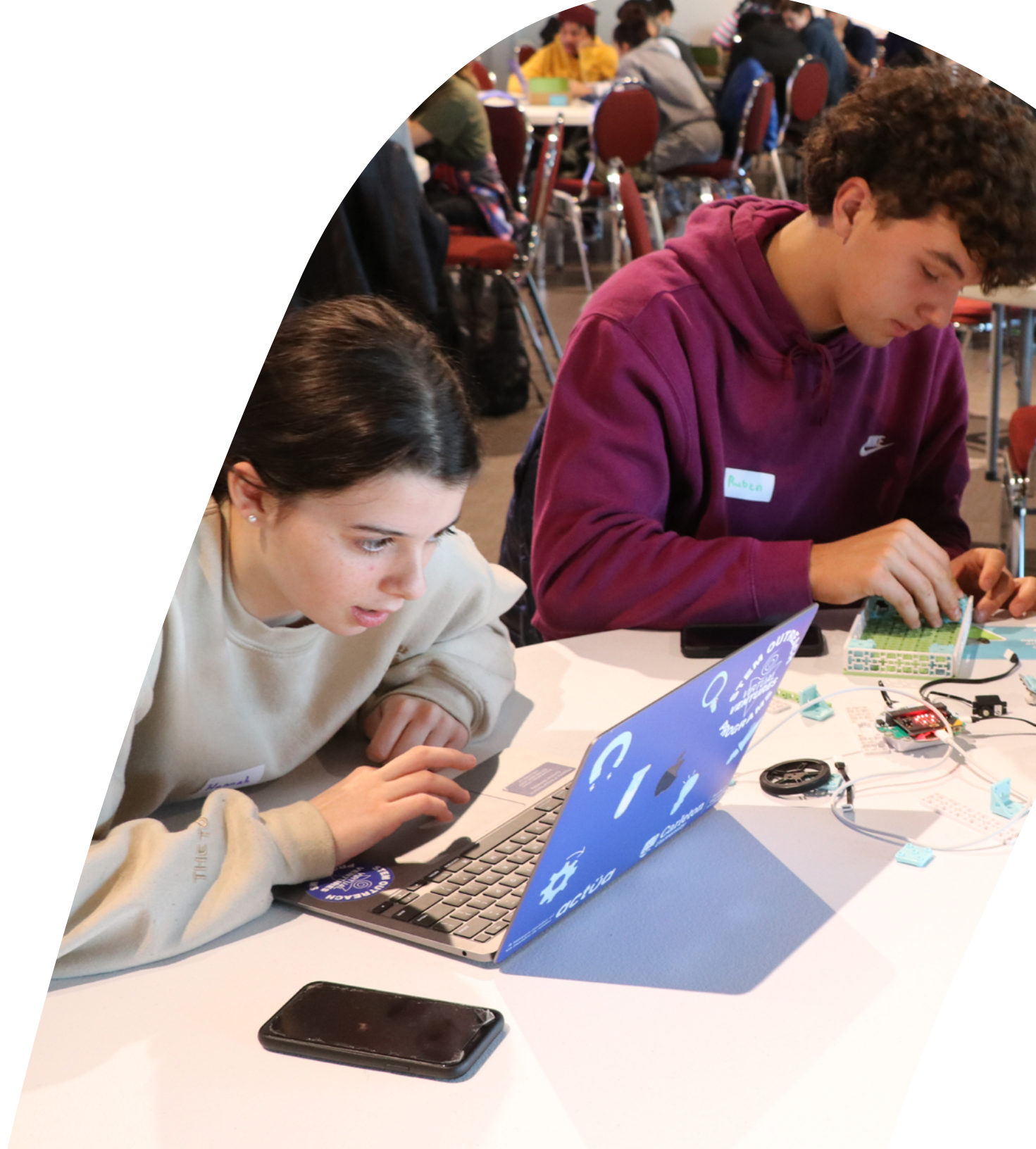
# CYBER SMART EDUCATION PROJECT

**Actua's Cyber Smart Education Project** aims to empower youth to explore, create and connect responsibly online. All of the resources created for this project are built on three pillars: cybersecurity, cyber safety and digital citizenship, ensuring youth participants have the knowledge and skills to be responsible and empowered online.

The project helps youth understand how to critically assess online interactions, avert online threats and use technology in innovative, healthy and safe ways while also introducing them to careers in cybersecurity. Our goal is to create a new cyber-smart generation ready to embrace the challenges of the digital age.

**71%** of Cyber Smart participants said they would modify their behaviour to be more positive and safer online

Compared to just **13%** of youth who did not participate



## INDUSTRY INNOVATION

# EXPLORING DIGITAL AGRICULTURE

Actua, Enterprise Machine Intelligence & Learning Initiative (EMILI) and Agriculture in the Classroom Canada have come together to support Protein Industries Canada to address the agriculture industry's growing need for a diverse and skilled workforce.

### **Actua's Digital Agriculture Project**

is working to address the growing need for a diverse and skilled workforce in Canada's agriculture industry. Digital agriculture is a rapidly evolving field. By involving youth in this sector, we can foster a culture of innovation for the future of agriculture and food sustainability in Canada.

**70% of youth in digital agriculture programming said that because of the program, they are interested in learning more about agriculture and digital agriculture**



## INDUSTRY INNOVATION

# REVVING UP DIVERSITY IN THE AUTOMOTIVE INDUSTRY PROJECT

Actua with support from the Ontario Centre of Innovation, Ontario Vehicle Innovation Network and Toyota Canada Foundation launched the **Revvig Up Diversity in the Automotive Industry Project (Revvig Up)**.

The project engaged young people from diverse backgrounds in Ontario to help them gain skills and knowledge in automotive-related STEM fields. This program is especially important because the automotive industry is changing and now requires more STEM skills than ever before.

**48%** of youth in Revvig Up said that the automotive and vehicle technology industry is full of opportunities and possibilities for me

Girls seeing opportunities within this field rose from **24%** (pre program) to **45%** (post program)



# NATIONAL EDUCATOR PROFESSIONAL LEARNING PROGRAM

Actua provides educators, including K-12 pre-service and classroom teachers, administrators and post-secondary faculty members with professional development opportunities and resources designed to enhance learning outcomes and equip youth with the latest, most in-demand STEM skills. This includes coding and digital skills, robotics, artificial intelligence, cybersecurity and digital citizenship, and engineering design/design thinking.

In 2023, our network members and education team travelled throughout the country to engage **10,000 teachers** in training and presentations at educator conferences, professional development days, after-school and weekend training sessions and provide in-classroom mentorship and support resources.



# HIGHLIGHTS

## Strategic Science Fund



Actua received \$38.4 million over five years from the Government of Canada's **Strategic Science Fund**. With this significant investment, the Actua Network aims to diversify Canada's talent pipeline by delivering equity-focused science and technology skill development programs with a significant focus on girls, Indigenous, Black and other equity-deserving youth in 600 communities. Additionally, Actua seeks to enhance scientific literacy among youth, families and communities on crucial subjects such as health, climate, AI, manufacturing and cybersecurity. We strive to cultivate a world-class, equity-centred scientific research capability among young people while promoting knowledge exchange through national and regional forums to advance Indigenous land-based science. All of this will contribute to a stronger, more inclusive science culture in Canada.

## Actua's National Conference

In February 2024, Actua hosted its annual **National Conference**, welcoming network members to Ottawa to discuss important themes around supporting youth with skills and confidence in STEM and to celebrate our collective impact. The most notable moments of the conference included the opening keynote featuring **Canadian Space Agency Astronauts Jeremy Hansen and Jenni Gibbons**, who discussed Canada's role in space exploration, overcoming challenges and goal setting. Actua welcomed 105 representatives from 35 network members as well as 30 educators to this event, held over three days.



# HIGHLIGHTS

## Forward Summit West and East



Actua partnered with **Forward Summit**, Canada's leading event for advancing economic reconciliation, for Forward Summit East and West by engaging high school and post-secondary Indigenous youth to attend as youth delegates. Actua and the Forward Summit believe that aligning Indigenous worldviews and Ways of Knowing with the Western education system lays the foundation for Indigenous people's full participation in Canada's economy and is a fundamental element of reconciliation. Actua partnered with the **Calgary Board of Education** to engage high school youth for Forward Summit West in 2023 and 2024, and brought together post-secondary students from across the country to attend Forward Summit East. In all three summits, the youth participated in a youth panel, where they shared their perspectives and ideas with an audience of Indigenous and non-Indigenous industry professionals, and engaged with industry leaders to learn more about future career pathways.

## Akwesasne InSTEM Educator Land Camp

In June 2023, Actua and **network member Virtual Ventures at Carleton University** welcomed **13 Ontario educators** to the Akwesasne InSTEM Educator Land Camp. The objective of this immersive land-based learning experience was to enhance and create awareness in the educators' understanding of the profound value of Indigenous Ways of Knowing and their role in STEM education. By nurturing this understanding, educators can better support Indigenous youth to grow their confidence and sense of belonging in STEM education.



## Jennifer Flanagan selected to be part of UN Delegation



In March 2023, Jennifer Flanagan, CEO of Actua was selected to participate in the UN's sixty-seventh session of the **Commission on the Status of Women** as part of its International Women's Day celebration. Jennifer was **one of 15 Canadian women** who contributed to the discussion around innovation and technological change and education in the digital age for achieving gender equality and the empowerment of all women and girls.

## IDEAS Summit

In October 2023, Actua held its third annual **IDEAS Summit: Inclusion, Diversity, Equity and Access in STEM**. Educators across Canada gathered virtually to engage with diverse voices, perspectives and expertise in STEM fields and education, empowering and enriching their learning experience. Notable guests included **Canadian Space Agency Astronaut Jenni Gibbons** and **Dr. James Makokis**.

## Nunavut Arctic College Partnership

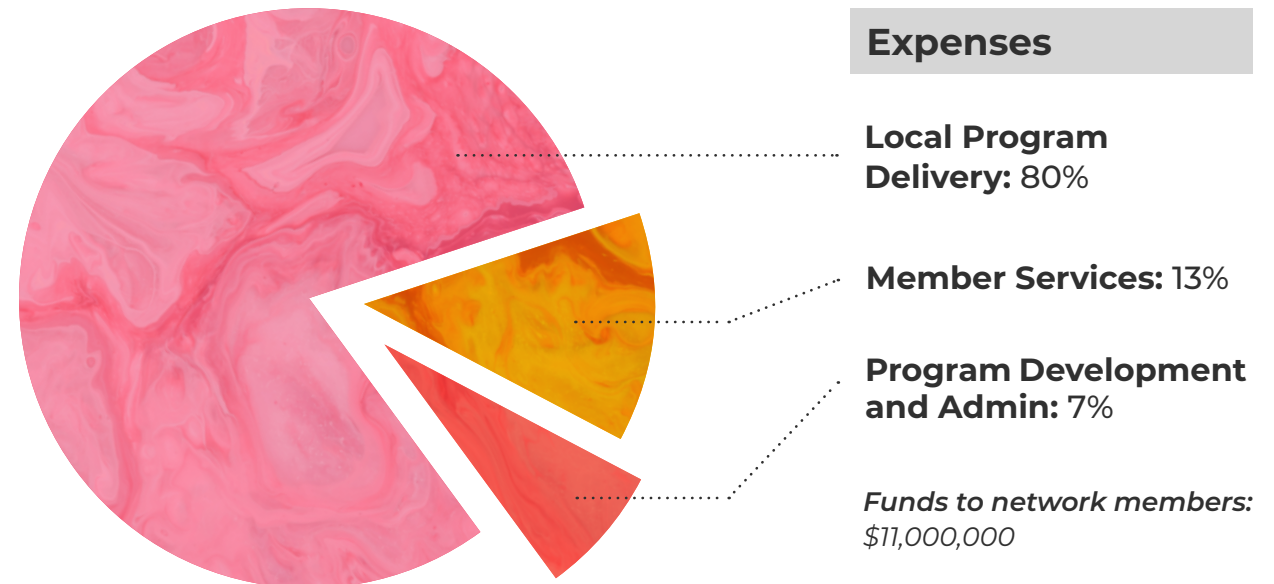
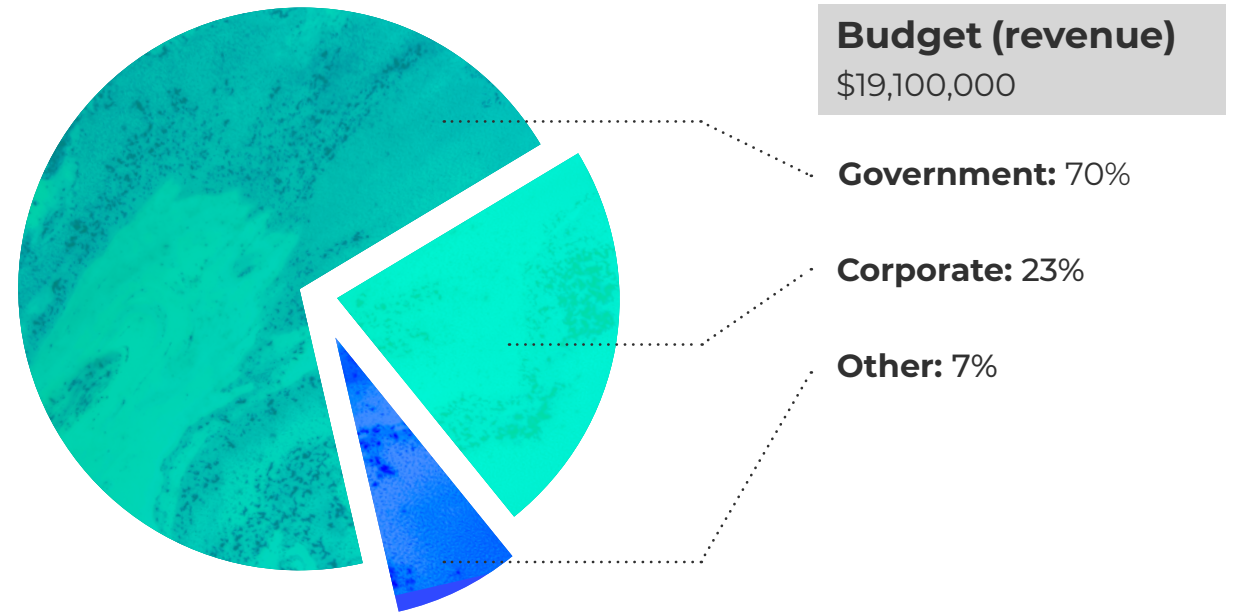


In March 2023, Actua's education team travelled to Nunavut to provide STEM teaching workshops in collaboration with the **Nunavut Arctic College teacher education program**. The two-day workshops in Arviat, Nauyasat and Iqaluit explored methods to combine Indigenous Knowledge with STEM subjects. In addition, Actua has developed two for-credit courses for the college's Nunavut Teacher Education Program based on the Nunavut Arctic College's approach of Inuit Traditional Knowledge and language, delivered through culturally relevant learning opportunities.



# FINANCIAL OVERVIEW

Actua directs the majority of resources to the development and implementation of local programs. In 2023, Actua's budget was \$19 million with 70% coming from government sources due to several large federal grants. Corporate sector partners contributed 23%, while the remaining 7% came from other small sources. *This does not include the local operating budgets of our 40+ network members.*



# SUPPORTERS

With funding from | Avec un financement du

# Canada



# actüa

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