



Leading in Youth STEM Innovation



Accelerating Innovation in Canada

Canada's innovation capacity is lagging behind peer countries, with low numbers of science, technology, engineering, and math (STEM) graduates. To drive economic growth and competitiveness, it is essential to focus on innovation, which is a key driver of productivity.

By investing in innovation, Canada can unlock new opportunities, create new industries, and enhance its global competitiveness. MindFuel, a registered charity, has been instrumental in promoting innovation and entrepreneurship among young Canadians, developing a robust learning pipeline that attracts, retains, and mentors young people in STEM fields.

"MindFuel is creating a pathway for young innovators to become the next generation of STEM leaders."
Curtis Stange, President & CEO
ATB Financial

Important Statistics and Review Highlights

1. Canada ranks #15 out of 132 countries in innovation capacity and #12 among 16 peer nations for STEM graduates. (*Global Innovation Index (GII)*, World Intellectual Property Organization (WIPO), 2023)
2. According to OECD, innovation is a key driver of productivity, accounting for up to 70% of productivity growth. (*Compendium of Productivity Indicators*, OECD, 2024)
3. According to McKinsey Global Institute, "investment in innovation can spur significant productivity..., particularly in the longer run." MindFuel is expanding Canada's innovation talent pipeline, through early engagement in STEM learning & applied problem solving, critical to Canada's economic growth & competitiveness. (*Investing in Productivity Growth*, 2024, p.50)
4. MindFuel is making a significant impact:
 - **87%** of participants, post programming, stated increased interest in innovation & entrepreneurship.
 - **13%** of supported youth projects were commercialized.
 - **35%** commercialization of innovative technology after participating in the program.
 - Programming associated with: **5:1** return on investment in Alberta; **7:1** ROI across Canada.
 - **91%** talent retention in Canada; 79% in Alberta, reducing talent brain drain to other countries.

IMPACT: 2013-2022 SURVEY HIGHLIGHTS

- **1,720,000** hours of extracurricular learning
- **4,300** high school, middle school, and post-secondary participants ages 15 – 25
- **87%** confirm an ongoing interest in innovation and entrepreneurship
- **35%** commercialized a technology after the program
- **13%** of program projects commercialized & raised **\$43M** in venture capital
- **\$13.2M** revenue and 138 high skilled jobs (12/2024)
- Innovation programming associated with:
 - **5:1** ROI in Alberta
 - **7:1** across Canada

MindFuel's Impact

MindFuel has invested \$135 million into Canada's innovation ecosystem since 1990. Below is a summary of reach/impact achieved during the 2013 to 2022 timeframe:



E-STEM Learning Programs: Reached 4.7 million K-12 learners with interactive games, animations, STEM careers, and activities in all provinces & territories.

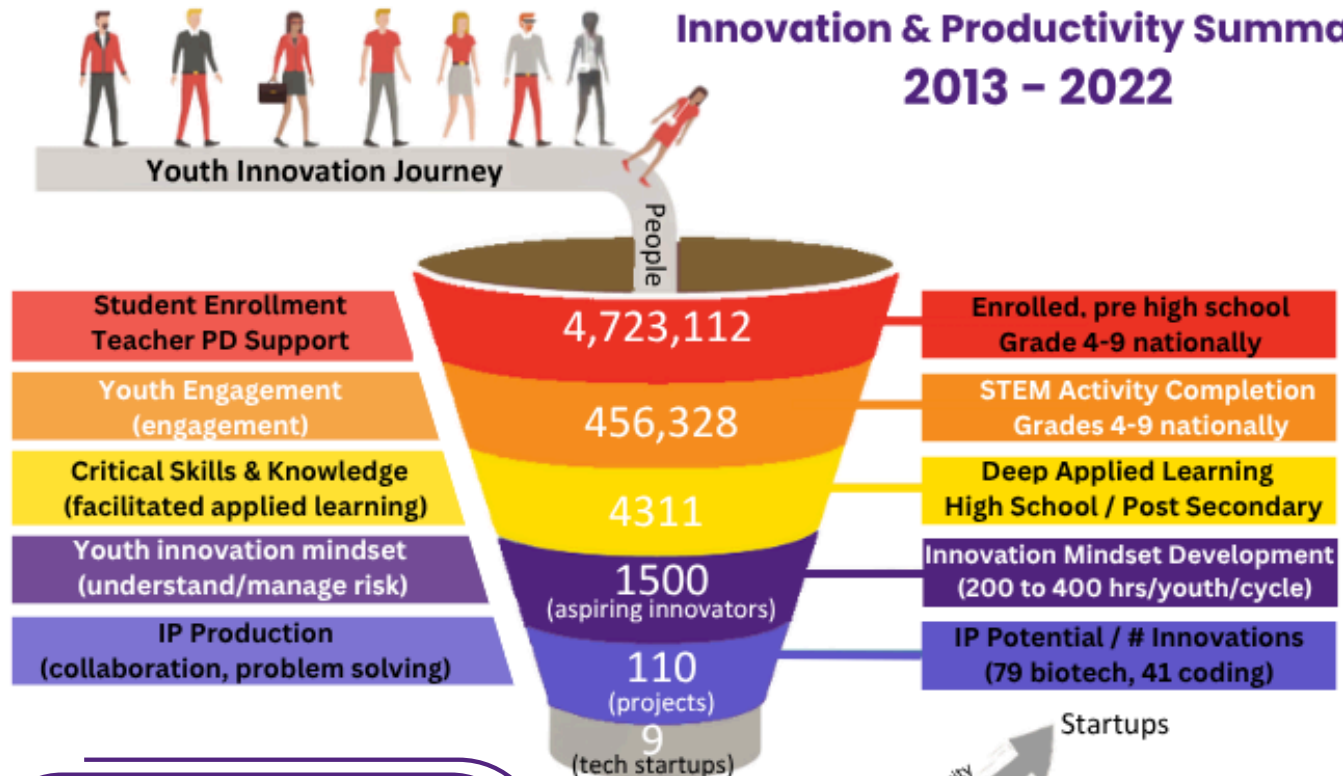


youth innovation programs: Supported innovation and entrepreneurial thinking development in 4,311 critical thinkers with 1500 youth ready to innovate (ages 15 to 25)



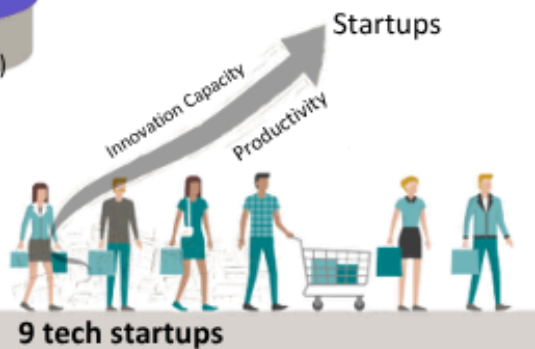
Entrepreneurship Outcomes: 110 projects (creative productions), with 79 in biotech. 9 biotech projects commercialized within 4 years, with \$43 million raised in venture capital as of December 2024, and 138 high-skilled jobs created.

Innovation & Productivity Summary 2013 – 2022



"This program is critical to Alberta's tech-futures – not only in talent development but also reducing brain-drain." Derrick Hunter, President & CEO Bluesky Equities Ltd.

"MindFuel builds confidence, makes students better science communicators, and results in critical outcomes and the confidence to pursue scientific discoveries." Alexis Hope, Designer & PhD Researcher, MIT.



- \$43M in venture capital raised
- 23 patents / trade secrets filed, pending, issued
- 91% talent retention in Canada
- 79% talent retention in Alberta
- 13% rate of project conversion to start up
 - (9 of 69 start ups surveyed)
- 138 highskilled jobs created (\$87K avg salary, 2024)
- \$13.2M in aggregated revenues (GDP)
- 4 yr avg. time from project start to commercialization

Building Strong Foundations for Innovations

By providing learning opportunities, mentorship, innovation skills development, project funding, and more, MindFuel drives innovation and entrepreneurship among young Canadians, which is essential for productivity growth. According to the Conference Board of Canada, innovation is a key driver of productivity. (*Innovation Report Card: Benchmarking Canada's Innovation Performance*, Conference Board of Canada, 2024)

Expanding Our Innovation Talent Pipeline

MindFuel's Connect2Innovate (C2I) develops youth talent in biotechnology, energy, health, agri & environmental technology. Based on 10+ years of successful youth innovation programming, C2I will help accelerate projects to commercialization by providing an interconnected "home" for students, educators, alumni, mentors, funders, and industry to connect, collaborate, create, and expand.

Annually, C2I platform will deliver:

- ✓ **130,493** engagements
- ✓ **3,123** applied learning skills
- ✓ **1,116** innovative mindsets
- ✓ **138** innovations
- ✓ **10%** project commercialization in 4 yrs (~14 start ups / year)

"There is no comparable experience for young people interested in entrepreneurship."
Jessica Puurunen, Start-Up Workshop Advisor.

Exceeding Expectations in the Decade Ahead

MindFuel will continue building and delivering leading STEM education and entrepreneurship programs to drive innovation and productivity among young Canadians. Our accomplishments over the past decade provide compelling evidence that ongoing investment into innovation and youth development is critical for boosting Canada's competitiveness in the global economy.

We will continue unlocking opportunities that help create innovative technologies in emerging industries that ultimately strengthen Canada's reputation and global competitiveness. By expanding its programs, MindFuel's C2I will make ever-greater contributions to Canada's innovation ecosystem, shaping the innovators of tomorrow and driving economic growth.

There is much work to do to achieve these ambitious and important goals. We invite committed individuals, companies, and governments to join us in achieving a shared vision to:

- 1. Optimize opportunities that enhance Canada's global reputation and competitiveness.**
- 2. Encourage ongoing collaboration between industry, government, and non-profit sectors to catalyze programs that deliver tangible results.**
- 3. Invest in MindFuel's youth development programs to nurture innovation, critical thinking and entrepreneurship among young Canadians.**

To get involved, reach us at:
connect2innovate@mindfuel.ca