

# FIRST Impact Award - Team 9277

**2026 - Team 9277**

**Team Number**

9277

**Team Nickname**

Sparkans

**Team Location**

Calgary, AB - Canada

**Describe the impact of the FIRST program on team participants within the last 3 years. Think about percentages of those graduating high school, attending college, in STEM careers, leadership skills, and serving as mentors/sponsors in FIRST programs.**

First graduating class June 2025. 100% alumni graduated high school and in STEM based university programs. Received over \$189.5k in scholarship funding. Current FRC members: 87% planning to attend post-secondary, 92% in a STEM field, 46% in Engineering. Over half (54.6%) maintain a 90%+ average across all subjects, 90% have average 80%+. Nearly half (44%) hold leadership roles. Improvement: 88% in technical skills, 82% in communication skills. 6 members mentor FLL/FTC teams this year.

**Describe your community along with its unique opportunities and circumstances. Think about your geographic region, diversity of town/school, language barriers, socioeconomic barriers, and cultural expectations.**

From an Alberta Public Charter School. Tuition-free, non-sectarian, non-profit. Lottery based system for entrance, not selective. Anyone in Calgary and surrounding areas can attend, ensuring socioeconomic status, academic background, or geographic location doesn't determine access. FRC available to anyone who wants to join. No tryouts, cuts, or selective admission. The school funds team registration fees, materials, parts. Fab Lab open all day to build robots. FRC project credits in CTS options

**Describe the team's methods, with emphasis on the past 3 years, for spreading the FIRST Mission in ways that are effective, scalable, sustainable, and creative.**

FLL/FTC mentorship and starting teams. Free FLL camps at STEMIA, local Science Centre and in community. Volunteering: VEX, FLL and FTC robotics tournaments. Participate in STEM competitions: Samsung Solve for Tomorrow, Technovation Girls, Hackathons. Donate 3D printers to schools in need. Every member participates in Outreach or Fundraising events. Members complete STEM for Everyone Youth Training. Student led workshops in off-season. Sparkans Code of Conduct: STEMInists, upstanders, supporters

**Describe your team's goals and the progress you have made towards them to fulfill FIRST's Vision.**

Goal: create an inclusive, innovative, and student-led STEM community. Tours of our robotics and STEM spaces to MLAs, industry experts, external visitors. Provide team information packages and robot demonstrations. Advocating for STEM learning by visiting Alberta Legislature with robots and STEM projects. Presenting to industry experts at STEMIA Founders Coffee, Platform Calgary Tech Crawl, STEMIA Tech Advisory Committee. TV News appearances. Weekly social media posts, school newsletter update.

**What impact has your team seen from your efforts described in the above question? How does your team measure impact?**

High School FIRST % participation increasing: 12%(2024), 16%(2025), 17%(2026), 153/900 students. Girls in robotics from 9(2024), 36(2025), 83(2026), 9X increase in 3 years. Team growth: 29(2025) to 45(2026). Continuous yearly sponsorships, new sponsors joining, recurring outreach events and attendance. 9277 members won 7/8 graduating class awards(2025). 100% of female alumni pursued a STEM post secondary path. 75% of alumni mentor or volunteer with FIRST. Participation, girls, leaders = impact.

**Please provide specific examples of how your team and team members act as role models within the FIRST community with emphasis on the past 3 years. How do you share these best practices with other teams?**

Continuous efforts to connect with and collaborate with others. Lending tools and spare parts, sharing swerve drive code with teams at Regional events (6 teams in Hawaii), organizing and attending scrimmages, providing tours of our robotics spaces, answering email questions from teams, sharing documentation binders, magazines. Toured Hawaii Kids and shared best practices. Started 1 FRC, 1 FTC and 1 FLL team, mentored 6 FTC teams, and worked with many FLL, FTC and FRC teams just starting up.

**Describe your team's initiatives to Mentor and/or Start other FIRST teams with emphasis on activities within the past 3 years.**

Started 1 FRC, 1 FTC and 1 FLL team, mentored 6 FTC teams, and helped many starting FLL, FTC and FRC teams. Started all-girls 10384 FRC team, won Rookie of the Year. Started FTC team 33509, won Inspire Award. Started FLL team Sparkids 62278 with two members, expanded team to 8 members in 2026. Won Engineering Design Award and 2nd Place for Innovation Project. 9722 have won the Inspire Award twice. Alumni from 9277 have started two FTC teams in another school, plan to start an FRC team in 2027.

**What other initiatives have you created, grown, sustained, or participated in (*FIRST* or otherwise) to help inspire young people to be science and technology leaders and innovators? What outcomes have you seen from your efforts in the past 3 years?**

Created 30 min FLL coding dropin sessions at Telus Spark on free days  
Created 3D Printers for All initiative, we donate 2 printers to a school in need, 5 schools, 10 printers in total per year. Sustained relationship with Makers Making Change, 3D print assistive devices.  
Created Technovation Girls club, global tech education initiative building apps, top in Canada, semi-finalists for world award. Participated in Samsung Solve for Tomorrow contest, won 2nd place and \$25000 for school electronics.

**Describe the partnerships and relationships that you've created with other organizations (teams, sponsors, educational institutions, government, philanthropic entities, etc.) and what you have accomplished together, with emphasis on the past 3 years.**

Traveled to Alberta Legislature advocating for increased funding and seat availability in STEM post-secondary programs, promoting greater accessibility for all students. Due to our efforts, the provincial government has agreed to invest 97\$ million into STEM education. Work with STEM Innovation Academy to integrate *FIRST* robotics into classrooms. Every student grade 7-12 has access to FLL, FTC and FRC programs. FLL mandatory program for grade 7, Spike prime programming and innovation project.

**Describe your team's efforts in the past 3 years to promote *STEM for Everyone*<sup>TM</sup> within your team, *FIRST*, and your communities.**

Developed Sparkans Code of Conduct: STEMInists, support each other, upstanders, celebrate successes. Every member of team completes the *STEM for Everyone* Youth Training Modules from *FIRST*. Identify Core Values we are good at and those we need to improve. Reflect on our behaviours and actions each month. Have triumphs and tensions form so members can share information freely with lead mentors. Triumphs are celebrated with the whole team each time they are submitted, tensions discussed privately.

**Explain how you ensure your team and the initiatives you have created will be sustainable.**

Team documentation of all processes for mechanical, programming, electrical, outreach events, fundraising initiatives, sponsorship processes in Teams channel, accessible to all members and mentors. Senior students train new members through workshops with hands-on learning and alumni return as mentors to continue passing down their experience and expertise. Mentors are provided *FIRST* training through PD sessions. Calendars from each year carry forward to ensure sustainability and improvement.

**Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.**

Identified inclusion as an area of improvement. More focus on reflection as individuals and how we treat others. Helping without judgement in promoting STEMInist ideologies. Continuous growth as individuals and team members, always looking for ways to improve in each of the core values. Monthly team reflection on triumphs identified. Finding ways to celebrate our successes and learn from our shortcomings. Share these ideologies with VEX, FLL, FTC teams to promote *STEM for Everyone*, Core Values

**Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique, particularly noteworthy, or had a large impact.**

STEM education in Alberta is behind the rest of the world. Most schools do not have 3D printers or access to robotics. We strive to educate industries, government officials, parents, students and educators what STEM education can be and the benefits to students taking part in *FIRST* robotics programs. Restructuring of CTS option courses to include project credits where students can complete FTC/FRC work in lessons: Media, Marketing, Mechatronics, Design, Programming. Integrating FLL into classes

## Essay

Impact doesn't begin with robots, it starts with expanding the STEM community around us. Three years ago, the Sparkans set out to change how students in Calgary access STEM education, transforming classrooms into inclusive spaces where students can begin their paths as innovators. Innovation starts with education. By reimagining how students can access, experience, and advance through STEM learning, Team 9277 creates lasting, measurable impact. This belief guides every initiative we design: impact that is inclusive, sustainable, and scalable beyond a single team or season.

Calgary is a diverse city with different socio-economic needs, and STEM is not always considered accessible due to the financial barriers associated with technology and equipment. The Sparkans address this directly within our team by partnering with our host school to cover registration costs and fundraising to offset parts and event fees, ensuring no student is excluded due to financial circumstances. By

removing financial barriers at both the team and entry level, we ensure that participation in STEM is determined by curiosity and commitment, not family income. Beyond our team, we purchased five SPIKE Prime kits to run free community workshops, introducing students in grades 1–9 to robotics through hands-on lessons in design, coding, and building.

Furthermore, we have expanded access to FIRST through free, resource sharing initiatives, including a free one week FLL Summer Camp, a Family Day FLL Coding Event, the donation of 3D printers to schools lacking funding, and the transfer of an older FRC robot to an aspiring team, lowering the barrier to entry for new programs.

Alberta's FIRST community was significantly impacted by COVID-19, declining from 249 registered FIRST teams in the 2018–2019 season to just 104 teams in 2020–2021. When the Sparkans were founded, we recognized rebuilding this ecosystem as both a responsibility and an opportunity. As of this season, Alberta has 209 registered FIRST teams, including 12 FRC teams. Through mentoring, starting new teams, and providing shared resources, we actively contribute to rebuilding Alberta's FIRST community toward pre-pandemic participation levels.

COVID-19 also resulted in the loss of Alberta's only all-girls FRC team (Team 4604 - the Intimitrons), leaving a critical gap in representation for girls in STEM. In 2024, we continued the Intimitrons' legacy by founding our all-girls sister team, the Sparkanovas (team 10384), now the only all-girls FRC team in Alberta. This initiative has played a key role in expanding female participation in robotics and providing visible leadership pathways for girls in STEM. These teams also shift team culture, increasing confidence, leadership participation, and retention for girls who may not otherwise see themselves represented in technical spaces.

To ensure long-term, equitable access to robotics education, we partnered with our host school, STEM Innovation Academy, to embed FIRST programs directly into the curriculum. All grade 7 students take a mandatory FLL robotics course, currently reaching 100 students, 33% of the junior high population. This structure ensures that every student who attends STEM Innovation Academy has free, guaranteed exposure to FIRST. To further strengthen this pipeline and smooth the transition between middle and high school robotics, we plan to introduce FTC for grade 8/9 in the 2026/2027 academic year. At the high school level, students in grades 10–12 participate across six FTC teams, including an all-girls FTC team, the Sparkavivas, and two FRC teams. This integrated pipeline removes financial and awareness barriers, allowing students to explore STEM at every stage in their education. By embedding FIRST into the academic structure of a public school, we created a model that can be replicated by other teams seeking long-term, equitable STEM access.

These initiatives have resulted in measurable and sustained outcomes across our team, school, and community. FIRST participation in STEM Innovation Academy has grown by 283% in just the last three years, supported by our FLL-FTC-FRC pipeline, and is expected to continue its growth. These outcomes demonstrate not only growth, but demand. Students are actively choosing robotics as part of their education. The introduction of our all-girls' teams and work towards inclusion has resulted in a nine-fold increase in female participation, from 9 students in 2022 to 83 in 2025. Most notably, 44.4% of students at STEM Innovation Academy have stated they chose to come for the robotics program.

Recognizing that STEM education does not end at the high school level, Team 9277 expanded our impact through advocacy at the Alberta Legislature. Students showcased their engineering projects and robotics programs in order to demonstrate the value of accessible STEM education within the Legislature building in Edmonton. Team members also met with Members of the Legislative Assembly to discuss the growing demand for STEM education and highlight the limits created by insufficient post-secondary funding and seat availability. By communicating student experiences and workforce needs, the Sparkans advocated for increased investment into STEM post-secondary programs provincially. These efforts resulted in a \$97 million increase in provincial support for STEM programs, creating 2,874 more seats for students pursuing science and technology programs. Through this experience, team members developed civic leadership skills while contributing to long-term improvements in STEM post-secondary education for students across Alberta.

Sustainability is a core principle of how the Sparkans design our initiatives, especially concerning outreach, so that they may endure beyond individual seasons and students. Our team maintains extensive documentation for technical system designs, programming, outreach efforts, and outcomes, as well as organizational processes, ensuring that no information is ever lost within the team. Leadership succession is intentional, with senior students mentoring and guiding younger students and alumni returning as mentors and volunteers to continue sharing their knowledge and experience. Financial sustainability is supported through our diverse funding sources, school partnerships, and community sponsors. This structured approach to sustainability, recognized through the Sustainability Award we were honoured with at the Canadian Pacific Regional last year, ensures our efforts to expand our impact continues to grow and enhance STEM opportunities year after year.

The Sparkans are supported by a dedicated network of educators and industry professionals who prioritize student growth and leadership. Our team is led by five teacher mentors and five external mentors, all of whom have completed FIRST Certified Mentor Training. Two mentors have also attended FIRST Professional Development in Houston, Texas, bringing back best practices in student leadership, sustainability, and inclusive team culture. This mentor structure ensures that students receive consistent guidance while maintaining a student-led environment focused on education, innovation, and long-term impact.

Beyond technical skills, Team 9277 emphasizes leadership, communication and problem solving as essential components of STEM education. Students get to lead outreach efforts, plan, and manage sponsorships and fundraisers, mentor other teams and participate in advocacy activities, developing their confidence socially and with many transferable skills. Over 90% of the team hold an academic average of 80+, and almost 50% hold positions of leadership either within the team or another of their extracurriculars. Through the Sparkans, our members have become not only engineers and programmers, but leaders within the community. This impact is reflected in post-graduation outcomes: nearly every major school award last year, including the Governor General's Award, Schulich Leaders Scholarship, Valedictorian, and multiple STEM leadership awards, were earned by a robotics student. These achievements reflect the leadership, time management, and communication skills developed through sustained participation in FIRST.

However, we don't measure outreach solely through attendance numbers or quantifiable growth. The Sparkans also evaluate the personal and educational impact FIRST has on our members, focusing on student confidence, community engagement, and the quality of outreach experiences. Through internal reflection and student surveys, 81.5% of members report improved communication skills, and 76.9% report stronger organizational skills as a direct result of participating on the team. These outcomes are not abstract or incidental, students identify clear growth in skills that translate directly to post-secondary success, workplace readiness, and leadership beyond robotics. By valuing qualitative outcomes alongside numerical data, we ensure our programs develop capable, confident, and adaptable STEM leaders.

The Sparkans measure success not by a single season, competition result, or award, but by the lasting legacy created through education and opportunity. By empowering students to become mentors, advocates, and leaders, we ensure that innovation through education continues long after graduation. Our alumni return to FIRST, our systems persist beyond individual students, and our advocacy creates pathways that extend far beyond our team. Our goal is to leave behind sustainable systems, expanded access, and inspired individuals who will continue to strengthen the STEM community in Calgary, Alberta, and beyond, fulfilling FIRST's vision of a world where science and technology are accessible to all and its mission to develop life changing robotics programs. ;

