

FIRST Impact Award - Team 3134

2024 - Team 3134
Team Number
3134
Team Nickname
The Accelerators
Team Location
Cass Lake, MN - USA
Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in <i>FIRST</i> programs as mentors/sponsors.
Our team is a positive force for change, helping us grow in ways we never thought possible. Students learn diverse skills such as manufacturing, programming, web development, communication, and teamwork. Every alum asked said that FIRST impacted their lives and career choices. We have a 100% graduation rate compared to our district, which was 45% last year. All our girls, except one who went straight into industry, have gone to college, 70% into STEM fields.
Describe your community along with how your team addresses its unique opportunities and circumstances.
We're a small school of 240 students on the Leech Lake Reservation in Minnesota, a rural area with few industries and a high poverty rate. Because of this, we have a 90% free/reduced lunch. Students pay nothing to participate; instead, the school, grants, partnerships, and fundraising finance our team. Our high school is 82% Indigenous, and many identify as Ojibwe; this inspires our uniforms, which include beaded earrings, ribbon skirts, and "Battle Braids," most of which we make ourselves.
Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?
At the heart of how we spread the FIRST message is the principle of meeting people where they are. To reach underrepresented groups, such as Native Americans, we have presented at the national UNITY & AISES conventions. We organize and support robotics events that travel around our region, visiting schools and communities. Additionally, we partner with professionals to create web and radio content from events. This includes a weekly Robotics Show to engage with our audience in the digital world.
Please provide specific examples of how your team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years.
Our girls are leaders in our school, participate in leadership conferences, and serve on the student council, including multiple former presidents. Our team sets high academic standards, with 80% making the honor roll. We regularly achieve recognition as a group, making the Conference and State All-

Academic teams. We are proud of our members who have earned such honors as the Harvard Book Award, Salutatorian, and the NMRC "Team Member of the Year" award, similar to the Dean's List.

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

This season, we are mentoring 5 FRC & 1 FLL teams. We were very excited to be part of re-starting a local FLL team that has been dormant for more than 5 years. In addition to this, we hosted a new FLL tournament in our region. We also know field time is critical to team growth and success. We have run, hosted, or meaningfully supported competition-based events for 273 FRC teams in the past three years. Our mentoring begins with our brother team but extends beyond to many others around us

Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?

We present FIRST at our middle school STEM Days and Tech Days in our district. This practice increased interest in the program and resulted in us adding some MS students who are genuine contributors to our team. When presenting to youth-centered groups such as UNITY (United National Indian Tribal Youth), we encourage kids to interact with hands-on activities. We do this when participating in any outreach event, like county fairs. Putting technology in kids' hands helps inspire their minds.

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

We are founders and leaders within the NMRC (Northern Minnesota Robotics Conf.), an alliance of 31 Northern MN & ND teams created to give kids more opportunities. We offer programming camps, scholarships, awards, robots for education, a mentor network, an FRC field with elements, and transport equipment across the region. We also partnered with St. Cloud State University to create a college course about STEM extracurriculars, primarily aimed at educators, hoping they may become mentors.

Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.

Being on a reservation, we are racially diverse by nature and are working with AISES (American Indian Science and Engineering Society) to promote racial diversity in STEM. We are a diverse team due to our openness to include others and ensure all are welcome during our recruitment efforts. Our ranks include members with both learning and physical disabilities, varied sexual orientations, ethnicities, and gender identities, including nonbinary members. We promote inclusion without restriction.

Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future

We have developed prominent leaders in each significant team aspect. The idea is that each area has a designated leader every year. They are in charge of helping split the work and teaching those unfamiliar with team operations. Ensure that in coming years, one person always knows the system and what works. If the leader is graduating or leaving, they are responsible for training the next generation, so we don't need to repeat mistakes already made.

Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the

past 3 years

We recruit sponsors by sending letters, making phone calls, meeting them in person, or having team members give presentations. We explain what we do, as well as possibilities, with their support. They are invited to our competitions and to our shops to see firsthand why their support is crucial. To show our gratitude, we send plaques for them to display and letters to update them on how we are doing. We also send Christmas cards each year to our supporters, whether individuals or organizations.

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

One area in which we need help is programming. Our school has added an assistant robotics coach, an FRC, and school alumni proficient in programming. We're working with this coach to grow our knowledge base and expand our abilities. Additionally, girls attend the NMRC programming camp and work to develop our collective knowledge. We encourage new team members to learn how to program, and we work closely with our alumni, who aid us in skill development and programming our robots.

Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.

Our goal is to expand STEM activity and participation in underrepresented groups. We presented our team at the UNITY and AISES National Conventions to inspire Indigenous youth. Working with the Beltrami County Ag Association on the North STAR Initiative, an innovative effort to erect a fairground building for storage, testing space, education, and engagement. We also provided mentorship and support to start our new FLL team. Providing a headstart for younger students to get involved with FIRST.

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 or particularly noteworthy.

Our team began and is leading the North STAR (Science, Technology, Automation, & Robotics) Center initiative, which will be the NMRC's home. This project brings opportunities to our region that currently do not exist. It will aid in deploying STEM resources and provide space for a field to be set up for teams to access permanently. Our efforts have secured working partnerships with government agencies, architects, and contractors. In the last year we have raised \$345,000 for the project.

Judge Feedback**Who/When****Feedback**

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If FIRST were to add another team to earn a spot to the world championships, do you believe it should be awarded to the robot performance side of the competition, or the judged award side?

An area the team has an opportunity to improve.

Something that really impressed the judges.

Essay

We are Team 3134, the Accelerators, an all-girls team from Cass Lake-Bena High School in Cass Lake, Minnesota. We're the only school we know of with two separate robotics teams, one for girls and one for boys. In 2013, our school's FRC team 3275 had one lone girl. This girl, Mariah Reyes, asked if she could

start another team in our school, and the district agreed to her request, and so began our team! We have separate teams to create space and opportunity for girls, promoting women's voices in STEM. In our school, this shows our classmates that women don't just do robotics but excel at it. We have disproven stereotypes and shown we are equal teams with our brothers, the Regulators, team 3275. Being an all-girls team helps address gender bias, which is still an issue in our modern-day world. Young women are often marginalized under the assumption that males will know better when it comes to engineering and mechanics. Boys often feel inherently inclined to take the lead on decisions or become overbearing toward girls regardless of who is more qualified. This isn't a concern with our independent teams. Our girls can fully express and act upon their ideas without fear of judgment from male teammates. We strive to operate by our core values, T.E.D.D (Teamwork, Encouragement, Determination, and Diversity). We developed these during a core values workshop we hosted for 5 FRC teams in our build space. We use our values to set the tone for all our activities, relying upon one another and encouraging experimentation, pushing our girls to persevere through our difficulties while having faith in everyone's unique abilities. We remind ourselves daily of these principles posted on team buttons and posters. Our members have said these core values have built a program that gives them confidence, makes them feel accepted, and teaches them to communicate effectively while working with a team. Cierra Wittner, alumni/mentor, said, "I feel like it's helped with public speaking and communications...it's helped me with networking...getting me out there and figuring out what I want to do." Current members feel similarly, believing robotics and our core values give a new outlook on STEM and teaches life skills. Young women join us for different reasons; each gets invested quickly, feeling at home and accepted as they explore and find their niche. Our team is a founding member of the Northern Minnesota Robotics Conference (NMRC). It was created so students in rural areas might have the same opportunities as urban ones. It's grown over the years and now reaches northern MN and eastern ND. They cover 35,000 square miles, providing STEM opportunities for its membership of 31 teams. In the past three seasons, 186 teams attended traveling events we ran or hosted on the NMRC's behalf. We ran, hosted and supported a programming camp for 70 kids from 27 teams the past two summers. We also actively support additional NMRC programs, such as scholarships, robot lending, and annual awards. Currently, we are leading several high-impact projects through the NMRC. The first project we are leading is a partnership with St. Cloud State University (SCSU), which created a new course about STEM extracurricular opportunities. The course teaches participants how to become coaches in STEM activities found in K-12. A large portion of it showcases FIRST Robotics. It's available to undergraduate and graduate students and as a license renewal workshop. It was taught for the first time last summer. The course is available to 10k+ students and 300+ pursuing careers in education. Over the next decade, SCSU anticipates 25,000 students will have access to this course, with 1,000 pursuing education careers. We've seen teams around us dissolve when their coach departed as they couldn't find a mentor. This program is a reliable way for new teachers to understand FIRST programs beforehand, increasing their knowledge and opening the door for possible involvement. The North STAR (Science Technology Automation Robotics) Center Initiative is another endeavor we are leading. It is being implemented via a partnership between the NMRC and the Beltrami County Ag Association. It is an innovative effort to erect a building on the Beltrami County Fairgrounds for education, engagement in STEM activities, and safe testing of robots in a full-sized arena. It is located at the center of the NMRC region, providing all teams with more significant access to resources. While its primary purpose is supporting FIRST groups, it will also help other youth organizations like 4-H and Boys & Girls Club. We began construction on phase two of this project this summer and provided much of the needed labor. To date, we have raised nearly \$350,000 for it. This is the only known program of its kind in our region and no precedent of a similar undertaking exists before our team's efforts. The third major initiative we are leading, launched last year, is a partnership with R & J Broadcasting to deliver robot-related content to the public. Two significant components of this partnership

are the broadcasting of robotics events and a weekly YLE (Your Live Event) Robotics Show. The content is broadcast online and on 12 regional radio stations. Last season, there were three competition broadcasts, and combined, they had over 3,800 views. The weekly show discusses FIRST, the game, and interviews teams. These first six episodes feature 17 different teams and FIRST volunteers during the build season. Episodes average 250-400 views in the first 48 hours of broadcasting. We started this program to spread the word about FIRST, explain robotics to viewers, and unite the community. It continues this year and helps recruit more students, inform our stakeholders, and expand our network. Utilizing our existing relationship with SCSU, we collectively applied for a grant to support robotics in greater MN. This collaboration has proven fruitful, resulting in an award of \$980,000. The money will fund 40 teams and provide 50 robotics students with paid internships. Additional funds are designated to larger FRC supporting groups like Jump Start and the NMRC for resources to continue their educational outreach activities with students. Even with all we have worked on, one of this year's projects we are most proud of was the creation of a new FLL tournament in our region. Our team hosted and ran this new event in Bemidji, MN, providing 12 teams the opportunity to compete locally. More remarkable still was that this event led to creating 6 new teams primarily due to the geographic closeness. It is only the third FLL event location held in greater MN. While we lead these larger collaborative projects, we continue our outreach around community-centered, team-implemented activities independent of the NMRC. Our team has constructed a billboard on a major highway in our community near our school, and it is seen by 20,000 people daily. Our team raised funding, filed permits, acquired materials, and designed it. Our team and alumni even did the actual construction of it. Many of our students pass by it on their way to school every day, and our team will feel the effect of the billboard for many years to come. Also new this year was the release of a documentary about our team called Brains, Braids, & Bots. Last season, we worked with a film crew, who visited us in the shop and followed us to some of our events. It became one of the feature films at the End of The Road Film Festival in Ely, MN, and received the Independent Spirit Award. The filmmakers have submitted it to 40 different festivals across the country. Plans are in the works for it to reach additional audiences through organizations like Public Broadcasting. It's our team's mission to spread STEM to underrepresented and marginalized groups. This is personal to our team as we are on the Leech Lake Band of Ojibwe Reservation. 82% of the high school student body identify as Indigenous people, most being Ojibwe. We mentor five teams within our community, three of which come from largely Indigenous communities. We provide year-round assistance with education, tech support, logistics, and team management. We fully embrace our cultural diversity, which heavily inspires our unique team uniforms. We often make beaded earrings and encourage members to make their own. Our drivers wear blue "Battle Braids," and our uniforms include ribbon skirts/shirts. Our teammates are encouraged to embrace the uniqueness of their culture. Outside our school, we traveled to California to be part of the AISES (American Indian Science and Engineering Society) National Convention. The most significant Indigenous STEM event in North America. Two other teams that we invited, from MN schools with high Native American demographics, attended alongside us. Our interactive demonstrations allowed any of the 2,700+ attendees from the US and Canada to drive FRC robots, review code, talk to students, and learn how to become involved in FIRST. We also focus on reaching Indigenous students about impactful STEM opportunities. This led us to participate in the UNITY (United National Indian Tribal Youth) National Conference. The event saw more than 2,500 high school students from across the country in attendance. Again, our interactive, hands-on sessions put robots in kids' hands to spark interest and engagement in programs like FIRST. Our all-girls team, from a small town on an Indian reservation, has made much progress. We've grown over the years, both in size and spirit, steadily becoming stronger. Every girl who comes in leaves more confident and sure of herself and her abilities. With our efforts, alongside partners SCSU, NMRC & R&J Broadcasting, we will continue to spread the message of FIRST. We will encourage women and Indigenous people to push themselves and find their

place in our shared world. We remain committed to showing that girls can lead in innovation and technology, Accelerating towards the future. ;

