

FIRST Impact Award - Team 3313

2025 - Team 3313

Team Number

3313

Team Nickname

Mechatronics

Team Location

Alexandria, MN - USA

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.

Team 3313 changes lives; in the past three years, 100% of our seniors have graduated. Our December 2024 alumni survey found that 100% of our alumni pursued higher education or entered military service, 57% said they were in a STEM field, and 100% said FIRST helped them build their confidence and critical thinking skills. Several alumni return annually to assist with our FLL/FTC tournament. We aim to foster personal growth by providing a fun and safe space for current, former, and future members.

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.

Alexandria, MN is a rural community of 15,000 with 16 large international manufacturing businesses, a thriving farm community, and over 350 lakes. Prospective students are inhibited by job/farm schedules, activity fees, and drive times of up to 30 minutes to school. We are over 2 hours from the closest metro area which limits our access to sponsorships and mentors; however, we have turned our rural area into an asset by partnering with our sponsors and other rural teams in the NMRC conference.

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.

We partner with Alexandria Community Ed to offer 4 FLL/FTC summer camps and support 3 FLL teams, reaching 9 different school campuses and about 3,000 youth. We partner with our school to bring our robot to the STEAM Expo to demonstrate FRC, reaching 1,200 people yearly. 3313 hosts an annual FLL/FTC tournament, recruiting about 50 volunteers. We measure our results through increased enrollment, positive feedback from parents and mentors, and increased participation of students and mentors.

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

3313 works to share our passion for STEAM, seeking to engage, educate, and enable the next generation of technology leaders. We engage our community with events like the STEAM Expo and informational presentations. We educate youth by hosting the annual 6th grade STEAM Day and 4 FLL/FTC summer camps. We enable students through assisting and mentoring FLL/FTC teams in our shop, developing a well-established community of STEAM innovators, striving to make science and technology fun and accessible.

What impact has your team seen from your efforts described in the above question? How does your team measure impact?
3313 has seen increased interest and participation through our efforts, reaching approximately 3,000 people at the annual STEAM Expo and around 900 students at the annual 6th grade STEAM Day over the past 3 years. Our FLL/FTC summer camps are in high demand. One of our FLL teams, 46828, is made up of entirely rookie members and mentors this year. The mentors and youth were inspired to join the program after attending our events and made it to sections with our mentorship and their determination.
Please provide specific examples of how your team and team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years. How do you share these best practices with other teams?
In 2024, we worked over 500 hours with our sponsor Brenton Engineering to host the NMRC practice field, inviting all ND, SD, and MN teams. Including 3313, 12 teams used the practice field, often to capacity. 3313 has participated in Jumpstart, with 5 students creating and giving 3 unique presentations in 2024 (building an initiative, FRC history, & motivation) working to improve FIRST teams. 3313 often shares computers, mechanical/3D printed parts, knowledge, and our space with other teams.
Describe your team's initiatives to Assist, Mentor, and/or Start other <i>FIRST</i> teams with emphasis on activities within the past 3 years.
3313 mentors FRC teams 8878 Arrowbot and 2024 rookie team 9745 Lazersharkz. We assisted 38 FRC teams, including all NMRC teams, and we hosted the 2022 NMRC Championship. We started, assisted, and mentored 2 FTC teams, starting one FTC team in 2024. We host an FLL/FTC tournament every December, with 24 FLL and 21 FTC teams in 2024. 3313 started and assisted 5, mentored 4, and hosted 3 FLL teams. 2 FLL teams were started in 2024. We have assisted FLL/FTC/FRC teams with parts, knowledge, and space.
What other initiatives have you created, grown, sustained, or participated in (<i>FIRST</i> 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?
To increase sustainability, 3313 has advocated for several years to have FTC be recognized as a school sport rather than a club. Finally, in the fall of 2024, FTC was offered as a school sport with a paid coaching position, quadrupling in size from 5 to 22 students. This allowed for the creation of another FTC team, 27955. 3313 now hosts 3 FLL and 2 FTC teams in our shop. We have dedicated over 250 hours to mentoring these teams this season alone, improving all aspects of FIRST in our community.
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.
At the Minnesota School Board Association (MSBA) conference, 3313 exhibits FIRST Robotics to over 2,000 school board members and superintendents. Our letter-writing campaign advocated for “Robots in the Rotunda” at the state capital. Strong partnerships with the manufacturing industry in our community led to PMMI sponsoring 3313 to present at the 2024 Chicago PACK EXPO, where we showcased our team and FIRST robotics to global manufacturing leaders, reaching 47,816 attendees and 2,696 exhibitors.
Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, <i>FIRST</i>, and your communities.
3313 is a team of unique individuals who aim to have a safe and welcoming environment, working to create a culture where each other’s pacing and growth are both celebrated and respected. This season we encouraged all members to invite at least two new students to our shop, including younger and female students. We created published resources and a Jumpstart presentation that promotes mental health and disability awareness, including developing a relationship with our local Special Olympics.

Explain how you ensure your team and the initiatives you have created will be sustainable.	
Fundraising supports FIRST from FLL to FRC. Within the past 3 years, 3313 has redefined our vision, working to build a cohesive community that educates our members on our short and long-term goals. We pair new members with veteran members, quickly engaging and supporting them, empowering new leaders. 3313 is sustained by our relationships and commitments to our community partners and sponsors. Students are given many opportunities to volunteer, growing their confidence and community awareness.	
Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.	
Our communication has suffered in the past years due to lack of motivation and social separation, and our team decided that we wanted to improve our communication skills. This year our mentors created a communication seminar for our new Impact Kickoff, where all team members learned about body language, effective ways to communicate, and awareness of areas needing growth. We created a Kanban board, keeping track of the team's goals and achievements, helping us to become more effective as a team.	
Briefly describe other matters of interest to the <i>FIRST</i> 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.	
The current FIRST driver station ramp is dangerous to volunteers, difficult to use, and often unavailable. To increase accessibility, 3313 decided in 2023 to create a new ramp in collaboration with a subsidiary of ProMach. In 2024, 3313 worked with FIRST representatives across the US and our sponsor to finalize designs to be shared with all FIRST teams. In 2025, two ramps will travel on different routes ending at worlds, with a planned implementation to all routes by 2026.	
Judge Feedback	
	After seeing our presentation and submitted materials, how could we improve? An area the team has an opportunity to improve. Something that really impressed the judges.
Essay	
Team 3313 Mechatronics is a 16-member team from Alexandria Area High School. Alexandria is a rural agricultural and manufacturing community in Minnesota. Started in 2009, the team consists of a growing number of amazing team members and mentors. We strive to engage our community through interactive STEAM-related events and community outreach. We assist or mentor 41 FIRST teams. In 2019, 3313 engineered a strong robot and won the Chairman's Award. During the COVID-19 pandemic it was difficult to transfer knowledge from veteran to rookie students. By 2021, the team had become disorganized and unskilled, down to one coach and one active mentor. In 2022, 3313 was just starting to ramp up its knowledge and effectiveness as a team. By 2023, many new mentors joined the team, enhancing team knowledge and experience. The team was in the early stages of rebuilding. In January 2024, 3313 created the R.E.S.P.E.C.T. initiative to help us redefine our mission: to Raise Awareness, Educate, Serve, Provide, Engineer, and Collaborate, because Together we are stronger. Together we can help build a brighter future. 3313 Raises Awareness of STEAM and FIRST programs in many venues. Since 2023, we have exhibited at the Minnesota School Board Association (MSBA) conference. This conference, located in Minneapolis, takes place over two days and introduces over 2,000 school board members and superintendents to various resources. At the event, our team collaborates with other Northern Minnesota Robotics Conference (NMRC) teams to advocate for FIRST. We annually demonstrate the previous FRC game, raising awareness for STEM programming. We approach school board members, providing resources and support to school boards when they start new	

programs. The STEAM Expo is an annual event hosted at our high school to demonstrate the STEAM opportunities available in our community. We host a popular booth at this event where we educate about FIRST opportunities and let community members drive robots, reaching 1,200 people each year. The majority of our 2024 FLL teams were comprised of students and mentors who were inspired to join FIRST after seeing our booth at the STEAM Expo. 3313 was invited by a multitude of sponsors to attend the 2024 Chicago PACK EXPO, travelling over 670 miles to supply the field elements that all FRC teams used to showcase FIRST during the event. Of the five FRC teams from around the country, three were from Chicago. We presented FIRST and our team's robot to the world's largest manufacturing expo, raising awareness of FIRST and educating CEO's, executives, and members of the most influential global businesses in the manufacturing industry, reaching 47,816 attendees and 2,696 exhibitors. Each interactive robot demonstration produced a crowd of interested industry executives, eager to learn more about the program, drive the robot, and learn how their company could support FIRST Robotics. Many industry leaders expressed how impressed they were with the robot's capabilities and our team's professionalism. These events have provided valuable career advice, helping our team members to envision new opportunities. Providing Educational opportunities has been a hallmark of our team. Historically, 3313 has collaborated with many different organizations to offer popular programs. We currently work with Alexandria Community Education since 2019 to promote our two annual FLL and FTC summer camps, running for four days each. During these camps, we create a unique FLL and FTC curriculum to inspire students to build their toolbox. 3313 aspires to better our team and all of FIRST within our community. In 2024, 3313 jumpstarted the creation of educational programs for other FRC teams by hosting three seminars at the 2024 Jumpstart at St. Cloud State University on the history of FRC, increasing motivation, and building an initiative, reaching an average of 18 people per seminar. We have capitalized on the unique opportunity of our shop being located in our middle school, collaborating with the science teachers to provide a full day of hands-on learning. We created the annual 6th grade STEAM Day, inviting everyone in for a tour, interactive experiences like our gearbox challenge, button designing, and driving the robots. 3313 realizes that education starts with our team. Recognizing that we were struggling with knowledge and experience in key areas, we created subteams in 2023: Design/CAD, Build, Programming, Electrical, and Impact. We implemented subteam camps to build varied skills and enabled mentors to help teach within their expertise. In 2024, we decided to bring the whole team onto Impact, splitting it into Outreach and Management. Our first annual Impact Kickoff in fall 2024 gathered our whole team to discuss the upcoming season's outreach efforts. The kickoff also focused on addressing a weakness on our team, creating a communication seminar where all team members learned about body language and effective ways to communicate, growing mutual awareness of areas needing growth. We are revolutionizing our team organization, allowing us to effectively take initiative within our community. Going into the 2025 season, 3313 exponentially ramped up, gaining mentors and students, growing initiatives, and strengthening relationships with FIRST, our sponsors, other teams, and our community. Service is an important aspect of 3313. Some of our opportunities to serve include acting as mentors, leaders, judges, leading educational sessions, creating programs, or assisting other community groups. In 2024, 3313 partnered with the local Special Olympics to assist with their state bowling tournament and the Polar Plunge. We have worked with High-Tech Kids, since 2019, to host an annual FLL/FTC tournament, hosting 24 FLL and 21 FTC teams in 2024. We recruit about 50 volunteers including several alumni, and showcase our FRC robot to raise awareness for all levels of FIRST. Prior to the tournaments, 3313 hosts a practice tournament to prepare our volunteers and our local FLL teams. We have dedicated over 250 hours to mentoring our local FLL/FTC teams during 2024. Our goal is to provide a fun and engaging environment for elementary and middle schoolers to explore the skills of FIRST. 3313 believes that part of our role is to Provide opportunities, practice space, supplies, parts, and knowledge to the teams that we assist, mentor, and start. Our FTC team was struggling due to accessibility, awareness, and scheduling conflicts. To increase sustainability, 3313 has advocated for six years to have FTC be recognized as a school sport rather than a club. Finally, in the fall of 2024, FTC was offered as a middle school sport with a paid coaching position for our FTC head coach, more than quadrupling the team size to 22 students. This allowed 3313 to start FTC team 27955. Now, 3313 creatively hosts FTC teams 16981 and 27955 and FLL teams 43037, 46827, and 46828 in our shop. In addition to supporting our local teams, in 2024, we started and assisted the first two FLL teams in Ashby, Minnesota, along with assisting a new rookie FLL Explore team in Alexandria. Inspired by the RESPECT initiative, we decided to Engineer a new driver station ramp to address long-standing issues with the original FIRST ramp. While the original ramp was well-intentioned, it was ready for a redesign. Our goal was to increase the safety, portability, and availability of the ramp. In 2024, we collaborated with a

subsidiary of ProMach, to design a prototype ramp. We tested the ramp at two 2024 regionals, bringing in students, mentors, and volunteers who use wheelchairs to evaluate the ramp compared to the original official FIRST ramp. We also consulted FTA's and head refs. We utilized the feedback we received to work with our design team and FIRST representatives to create a finalized ramp design, which will be made available to all teams worldwide. In 2025, there will be two new official FIRST ramps available at different regionals each week, with both ramps ending at worlds. There is a planned implementation to all North American regionals by 2026. Creative Collaboration is another hallmark of what allows 3313 to make successful initiatives, which would not be possible without our sponsors. We engage in and lead a variety of activities within the NMRC, a coalition of 32 Minnesota and North Dakota teams with the goal to assist and elevate each other through collaboration. In an effort to empower all FIRST teams in our area, 3313 first collaborated with NMRC and our sponsor Brenton Engineering to host a practice field in rural Minnesota in 2024. We formally invited all Minnesota, North Dakota, and South Dakota teams to the practice field, providing an opportunity for all teams to train together for the competition. Teams traveled up to three hours to practice on our field. In 2024, we provided over 500 hours of field management, which we are continuing to offer in 2025. We build field elements for the NMRC field, which is utilized at multiple NMRC events and used as a practice field at the Great Northern Regional. We traditionally built wood elements; however, in 2025, our collaboration with sponsors allowed us to fabricate aluminum and polycarbonate elements which are sustainable and reusable. 3313 shares transportation with other NMRC teams to regionals in an attempt to save on costs and grow connections with other teams. In 2023, we traveled with 4480 from Upsala to the Central Missouri regional. In 2025, we are traveling with 4539 from Frazee and 3275 and 3134 from Cass Lake-Bena to the Iowa regional. Together, we have worked with our school, the FIRST community and our sponsors to raise awareness, offer educational opportunities, serve others, provide field elements, engineer solutions, and collaborate with sponsors to provide a space for competition practice. Together, we build RESPECT on our team, in our community, and in the world. ;

