

## FIRST Impact Award - Team 4607

**2025 - Team 4607**

**Team Number**

**4607**

**Team Nickname**

C.I.S.

**Team Location**

Becker, 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.**

-Our students: 100% graduate high school; 96% pursue post-secondary education or military careers; 69% pursue STEM fields. -Sponsors prefer hiring alumni as interns and employees. -6 alumni serve as FRC 4607 team mentors and FTC/FRC head coaches. -Our mentors fill the roles of Granite City Regional Chair, 3 planning committee members, MN FIRST Safety Manager, & CSAs. -30 students supported by 20 mentors. -Our team develops leaders, giving them the confidence to hold top school leadership roles.

**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.**

Becker, MN, is a rural town of 5K people supported by farming, small businesses, and a few industrial businesses. - We cultivate strong relationships with our sponsors and reciprocate their support by volunteering at their events. -Our outreach serves the community and raises STEM awareness with 1.5K+ volunteer hours in 2024 alone. -Our rural location motivated us to form the Central MN Robotics Hub (CMNRH) to connect 17 FRC teams. -2024, Started and ran annual town celebration benefit.

**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.**

-In 2022, we created Coding for Cookies, a STEM initiative for Girl Scouts to earn robotics badges. We have hosted 189 Girl Scouts and this year expanded the program statewide. We created portable robotics kits to ensure sustainability. -Spreading STEM awareness at 10+ annual robot demonstrations, showcasing the benefits of FIRST for young and old while also generating funding and support. -Robo-Camps future expansion supported by \$4K in new grants.

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

Leadership: Since 2023, new team members have gained experience through the B-Bot initiative, where mentors and experienced students guide them through building a kit bot. Inclusivity: Create opportunities for those under-represented in STEM through programs aimed at girls, children with disabilities, and accessibility for all. Coopertition: Foster collaboration through opportunities with the CMNRH, Jumpstart preseason training, and our open shop policy.

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

We measure impact by the continuity and growth of our initiatives. -Last year's B-Bot students are vital team members, having learned necessary team skills, both soft and technical. It also yielded 3 new mentors. -Coding for Cookies has expanded statewide. A team member's passion for robotics and Girl Scouts led her to achieve the Girl Scout Gold Award through her work. -The CMNRH has grown to 17 area teams; Jumpstart has expanded to 4 states, and our open shop policy has benefitted 38 teams.

**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?**

We build connections and share resources. -Founded Jumpstart providing preseason presentations/roundtables from students/mentors. This initiative is expanding to new states. -Our team led 53 Jumpstart sessions in the last 3 years. -Host teams for Kickoff. -In 2023, started and ran the 1st annual off-season Central MN Conference Championship; assisted 2024's host team. -Host full-field practices and events, created Shamrock Showdown in 2024 and new this year, hosting 3 Week 0 scrimmages.

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

In the past 3 years: -We mentored 207 students across 39 FLL and FTC teams. -FRC teams: Mentored 2, Assisted 28 teams in 2024 alone, and actively collaborate with 17 CMNRH teams. -Our open shop policy applies to our facilities, equipment, and expertise. 38 teams have been in our facility. -Providing pit assistance and sharing resources are key parts of our team. -Invested \$20K+ to build a full Reefscape field accessible for all teams.

**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 the Vermillion League in 2017, we continue to host and support FTC events for the 21 Vermillion League teams. -Launched Robo-Camps to ignite interest among elementary/middle school students; 70+ participants since starting these in 2023, along with increased FLL registration. -In 2025, started an alumni network, connecting current and past members to share real-world experiences and to engage former students as future mentors and FIRST volunteers.

**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.**

-Successfully advocated for a \$42M school referendum to build a STEM center and provide shop and school renovations. -In 2022, 6 students showcased robotics at the Chicago Packaging Machinery Manufacturers Institute (PMMI) Expo. -Competed in the 2023-24 PMMI PACK Challenge and earned Best in Show. We are advocating to bring this challenge to MN to give students real-world robotics applications. -In 2023, we advocated for a \$980K DEED grant which supports STEM programs across Minnesota.

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

-We seek guidance from our school Gender Sexuality Alliance to ensure an all-inclusive environment. Annual team LGBTQ+ presentations foster understanding and respect. -Ran regional Women in STEM seminars for the past 2 years. -Offer sensory kits to share neurodiverse resources at regionals. -Support Miracle League to give people with disabilities access to play baseball. -Consulting to start a unified robotics program. -Waive registration fees for low-income students.

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

-Jumpstart: Secured DEED grant to host at St. Cloud State University. Medtronic collaboration is expanding events outside of MN. -Girl Scout adoption of Coding for Cookies initiative + utilization by other FRC teams. -Becker Robotics Booster Club fundraising sustains all levels of Becker FIRST. -Strong relationships with sponsors ensure financial sustainability. Relationships are fostered through student presentations, visits, and newsletters. Sponsors appreciate our support at their events.

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

One of our biggest challenges is keeping an organized and accessible team history. Steps we are taking to improve our documentation processes include: -Set up nonprofit Microsoft accounts to retain valuable information after students graduate and their school accounts are disabled. -Collect and consolidate team data and track updates. - Organize department and event content on a shared OneDrive account. -Standardize outreach and event sign-ups. - Digitize medical forms for accessibility.

**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.**

We strive to be a community support group using robotics to make a difference. We extend our impact beyond STEM through initiatives like Adopt-A-Road, Becker Backpack Buddies, Faith in Action, Veterans Day Breakfast, Compassion Connection, Memorial Day Service, nursing home visits, and Miracle League. We invested over 1500 hours in 2024 as a team doing community service. These efforts strengthen our community relationships, earning support to amplify our ability to create positive change.

**Judge Feedback**

	<p><b>What information would you like us to include or expand upon?</b></p> <p><b>An area the team has an opportunity to improve.</b></p> <p><b>Something that really impressed the judges.</b></p>
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**Essay**

FRC 4607 C.I.S. (Coalition of Independent Students) is a student-led team of 30 members from a small, rural town of 5K people. We spark innovation, ignite leadership, and catalyze lasting change in our schools, communities, and FIRST. We address gaps in STEM opportunities, advocate for STEM funding, and raise awareness about the benefits of FIRST.

Community Involvement: We identify needs within our community and partner with local organizations to address them. In 2024 alone, our team contributed over 1.5K volunteer hours to support others and the environment. We pick up litter for Adopt-A-Road, rake leaves for the elderly with Faith in Action, host annual Veterans Day breakfasts, collect resources for foster families through Compassion Connection, package meals for food insecure students with Becker Backpack Buddies (1350 meals since 2023), and visit the elderly at local nursing homes. One of our new volunteer highlights is Miracle League, a baseball league for individuals with disabilities. Our involvement with Miracle League has sparked us to create a unified robotics program for our area. Our vision is to pair FRC members with individuals who are physically and/or developmentally challenged to share STEM experiences. Unified participants will engage in a simplified version of FLL, focusing on robots and fun. We are networking with teams to learn about the logistics of their established programs, and we are working with our school to launch this effort. Through unified robotics, we will expand STEM accessibility and foster inclusivity, lighting a pathway for joy and STEM discovery.

**Showcases:** We embrace opportunities to spark interest in STEM and FIRST across all demographics. We participate in parades, the school activity fair, and our town's business expo. We engage in onsite STEM demonstrations for our industry partners, local colleges, MN State Fair, and this year, an out-of-state air show, to raise FIRST awareness and support among key stakeholders and broader audiences. Our team is featured across mainstream media, including newspapers, social media, and TV news, igniting an interest in STEM and sharing the light of FIRST.

**STEM Advocacy:** Recognizing a need for STEM funding in Minnesota, our students traveled to the State Capitol in 2023 to present to the DEED Grant allocation committee. We successfully advocated for \$980K to support statewide STEM initiatives and MN FIRST grants. In 2024, 5 team representatives returned to the State Capitol to promote legislative support for FIRST through the Robots in the Rotunda showcase. We rallied support for a \$42M school district referendum by making promotional videos and calling 300+ people. The referendum passed, providing funding for a STEM center and \$200K for shop renovations. This benefits more than just us, as we have hosted 38 teams at our school, sharing resources through our open shop policy. This February, our newly completed STEM center and competition field will provide teams with the space and equipment to practice and compete in preparation for their regional events. Our advocacy efforts strengthen STEM resources for the entire region.

**Coding for Cookies:** To combat gender disparity in STEM, we created the Coding for Cookies program, where Girl Scouts learn to code FLL robots and drive FTC robots. So far, we've helped 189 Girl Scouts earn robotics badges. This fall, we donated a portable Coding for Cookies kit worth \$3.5K to the MN Girl Scout Council and trained their members to use this resource. Coding for Cookies is now a part of the Girl Scouts Programs on the Go, making it accessible to troops statewide. We make Coding for Cookies kits available to other FRC teams, 3 of which have utilized our resources to reach more Girl Scouts. This initiative sparks curiosity in young female minds, fostering a culture for female science and technology innovators.

**Inclusivity and Safety:** We recognize that students need safe, inclusive environments. To promote a culture of safety, we partner with Xcel Energy for student CPR/AED certifications. Over half of our team has been certified for the past 3 years. To promote mental health awareness, we share resources through team presentations and supply sensory bags at competitions. To promote inclusivity, we give team LGBTQ+ presentations with the guidance of the school's Gender Sexuality Alliance. These actions foster a supportive culture where students feel accepted and empowered, allowing them to thrive.

**PMMI (Packaging Machinery Manufacturers Institute) Pack Challenge:** To address a gap in real-world engineering exposure for students, we are working to expand the PMMI Pack Challenge to Minnesota. In 2023, our team earned the opportunity to compete in this challenge, which is typically limited to teams within the Chicago area. Over the course of 18 months, our students designed and constructed a packaging machine that was presented at the 2024 Pack Expo in Chicago. We earned Best in Show and \$10.5K in prize money. We are investing part of the prize money in a truss structure that will elevate our full-field events. We are working to create opportunities for other local teams to compete in future PMMI Pack Challenges by starting a qualifier event in our home state. Our involvement with PMMI also sparked a connection between their organization and FIRST, leading them to become 1 of FIRST's 25 strategic partners.

**Starting, Mentoring, and Assisting:** In the past 3 years, we have mentored 22 FLL teams (126 students) and 12 FTC teams (81 students). In 2024, we assisted 28 FRC teams and mentored our 13th and 14th FRC teams. We maintain an open shop policy, sharing our facilities, resources, and knowledge with others, benefitting 38 teams in the past 3 years. This year, we are devoting more than \$20K in funds and materials to build a full FRC field in our STEM center, to be shared with other teams. We founded the CMNRH in 2015, looking to sustain the teams we have started (15 teams since 2015). The CMNRH has grown to a thriving 17-team network that meets weekly to troubleshoot challenges, share knowledge and resources, and spark mutual growth. Our collaboration ignites passion and drives innovation in students and teams.

Jumpstart: Recognizing a gap in season preparedness, we created Jumpstart in 2015. Jumpstart is a free preseason training initiative with presentations and roundtables run by students and mentors. We host the largest annual Jumpstart event at St. Cloud State University. In the past 3 years, we have presented 53 sessions. Medtronic joined forces with Jumpstart and now hosts annual training events across 4 states, expanding our initiative. In 2024, our initial spark spread to Denver, Fargo, and Boston, and Jumpstart will be introduced in Phoenix in 2025. More than 3800 attendees have benefitted from the 327 sessions that have been offered in 15 Jumpstart events. FIRST's light illuminated Medtronic through Jumpstart and is now a FIRST strategic partner.

Failure Modes and Effects Analysis (FMEA): Our team adopted FMEA to address robot failures. FMEA identifies mistakes and effectively helps us prevent them from reoccurring. To share this pivotal process with other teams, we provide comprehensive resources on our website, offer 1-on-1 support, and deliver FMEA presentations at numerous Jumpstart events. Familiarizing students with FMEA processes has sparked success at competitions and prepared our students for STEM careers.

Sustainability: Understanding the challenges of long-term sustainability, we evaluate our team structure and processes through regular Strengths, Weaknesses, Opportunities, and Threats (SWOT) analyses. Our 3:2 student-to-mentor ratio bridges gaps in training and experience while fully supporting students. By refining our documentation, we preserve team history and retain standard operating procedures. Initiatives such as the CMNRH, PMMI Pack Challenge, and Jumpstart expand our FIRST network. Strong relationships with our sponsors and booster club secure necessary funding. These efforts ensure that we will continue to spark lasting change.

Hosting Events: We identify the need for accessible FIRST events in our area. In 2023, we started and hosted Conference Championships, an annual, off-season competition. Participation has grown from 17 to 24 teams in the first 2 years. This year, we will host 3 Week 0s, a Week 3 Scrimmage, and FTC scrimmages in our new STEM center. Student coordinators organize these events, illuminating leadership opportunities. Hosting these events ignites excitement for STEM in our families, sponsors, and communities and strengthens our local FIRST support network.

Granite City Regional: In 2024, we started the Granite City Regional in St. Cloud, MN to provide central MN teams with a regional event closer to home. In 2024, a central MN regional became a reality when we hosted 54 teams at the inaugural Granite City Regional. Our team continues to fill the roles of Regional Planning Committee members, Regional Chair, CSA, Field Supervisors, Safety Manager, field resetters, and many volunteers to set up and tear down the event. We were also able to showcase FTC. Hosting a regional allows accessibility for local sponsors, families, and friends to experience the excitement of FIRST competitions.

FRC 4607 C.I.S. is a driving force for change in STEM, fostering leadership, innovation, and community impact. Through advocacy, mentorship, and our initiatives, we are expanding STEM accessibility and inspiring the next generation of innovators. We are committed to creating opportunities, building connections, and continuing to spark passion for STEM in our community and beyond.;

