

***FIRST* Impact Award - Team 4607**

2023 - Team 4607
Team Number
4607
Team Nickname
C.I.S.
Team Location
Becker, 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.
Team 4607's high school graduation rate is 100%, and 93% of our alumni have gone on to pursue higher education. 60% of our alumni have chosen a career in STEM. We also have alumni members in 4 of the 6 military branches. 50% of our mentors last year were FIRST alumni.
Describe your community along with how your team addresses its unique opportunities and circumstances.
Community support for our team is overwhelming despite operating in a small town of under 5,000. 4607 is located near an industrial park that houses 8 of our long-term sponsors. Collectively, these sponsors donate approximately \$10,000 every season. Our community presence and connections last season helped us gain the support of 10 new sponsors to cover costs for the FIRST Championship. Multiple local businesses ran fundraisers in which we received a percentage of their profits.
Describe the team's methods, with emphasis on the past 3 years, for spreading the FIRST message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?
In 2022, our new Outreach department started Coding for Cookies. 4607 is investing nearly \$3,500 into a portable robotics kit with resources to send to other FRC teams. For sustainability, we created a binder providing a step-by-step process to host an educational session. At annual showcase events, we present at the MN State Fair and the Benton County Fair, engaging with the public and local teams. Our YouTube channel has over 49,000 views, exposing people to 4607's culture and values.
Please provide specific examples of how your team members act as role models within the FIRST community with emphasis on the past 3 years.
In 2015, 4607 and the Central Minnesota Robotics Hub created JUMPSTART, an initiative to spread knowledge to FIRST teams through presentations from students and industry professionals. This annual training event has grown to host over 300 participants and presenters in 2022. 4607 has progressed from running JUMPSTART in other facilities to hosting and running it in our high school this year.

Representatives from 10 other teams presented, as well as JUMPSTART partners AndyMark and REV Robotics.

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

In 3 years, we have started and mentored 4 FRC teams, and assisted 10. We have mentored 6 FTC and 7 FLL Challenge teams, and last year we started and assisted 5 FLL Explore teams. 4607 actively mentors Team 8516, Wired Up. We presented at the PACK EXPO together, and strategized with them after Kickoff. We lent our swerve drive to the 2052 KnightKrawlers, with which they won their first regional of 2022. 4607 hosts and runs a Kickoff event with training sessions for Minnesota teams.

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?

This year, 4607 created Coding for Cookies which has hosted 10 sessions and introduced 93 Girl Scouts to STEM. We host K-12 Girl Scout troops in our facilities, and establish a familiarization of STEM concepts. Using our unique resources, we teach them to code FLL robots, operate an FTC robot, and understand an FRC robot's mechanics. Girl Scouts earn their robotics badges, and we connect them with a FIRST team. Since 2022, we have expanded our local FIRST teams from 5 to 19.

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

In the last year, we worked with Becker Backpack Buddies to pack over 600 meals for low-income families. Annually, we serve breakfast to local veterans on Veterans Day. This year, we raked leaves for the elderly and assisted Beyond the Yellow Ribbon in educating children on healthy exercise habits. We also promote STEM to local youth by showcasing our robot at a town-wide Easter event. Recently, we have adopted a 2-mile stretch of road in the Sherburne Wildlife Refuge.

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

This year, ambassador students from 4607 met with Becker's GSA for guidance on creating a more inclusive environment. We then held an LGBTQ+ education training at our team's large group meeting. Moreover, Coding for Cookies aims to improve women's underrepresentation in STEM. We presented at Kickoff and JUMPSTART on prioritizing mental health. Recently, we have included the entire team in large decisions—rather than just the leadership team—regarding goal setting, SWOT, and core values.

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

Our FMEA documentation tracks failures to avoid repeating problems. All 11 departments on 4607 annually update binders and documents for sustainability of the future team. This year, we implemented a study hour 3 days per week so students prioritize their academics, ensuring continued robotics participation. From a financial standpoint, we write biweekly newsletters to update and engage sponsors. Additionally, the team keeps an emergency fund of \$10,000.

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

past 3 years

Our Business department mails letters to at least 80 local companies each year requesting sponsorships. "Thank you" letters are also sent out each season. 4607 has tiers reflecting donation amounts that advertise sponsors on our robot, website, and apparel. While visiting sponsors, we tour their facilities where we present our team, display our robot, and discuss FIRST. We serve food at Liberty Paper Incorporated's annual luncheon, and build benches for our local Lions Clubs.

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

As we reviewed our core values, we acknowledged that 4607 did not fully promote our team standards. Without reinforcement, we cannot claim to have upheld these. We now advocate our principles through annual goal setting and core value training. Our values are reiterated at weekly large group meetings, where the entire team has a chance to understand and define them. The team also underwent communication training to recognize individuals' different methods of interacting.

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

4607's mission is continually sustaining a team that operates with student leadership and mentor guidance. Students are offered networking opportunities in the FIRST community and the wider world. We host and run numerous events to nurture STEM appreciation and inspire youth. 4607's student-led dynamic requires students to master interpersonal skills. In doing so, members build self-confidence in their capabilities and are inspired to take responsibility in coordinating projects and events.

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.

While we are supported by mentors, 4607's team culture places heavy emphasis on student leadership. In the interest of building tomorrow's leaders, every team event is coordinated by students. We hold weekly leadership conferences prior to our large group meetings, which are directed and presented by department leads. Students have the ultimate say over all decisions, large or small. This culture shapes our members into strong leaders who are prepared to thrive in FIRST and beyond.

Essay

Who Are We? FRC 4607, C.I.S. (Coalition of Independent Students) strives to produce tomorrow's leaders by providing young adults with valuable experiences. We are from the small town of Becker, Minnesota with a population of under 5,000. We embody dedication, cooperation, and inclusivity. Above

all, 4607 develops leaders who positively influence our team, FIRST, and our community. Within Our Team 4607 strives to mold every member into a leader by promoting student initiative. This ensures that our team is well-rounded and better equipped to deal with challenges. One way we promote student leadership is through events we host, as coordinator roles are encouraged for both new and returning members. Coordinating events teaches individuals communication, delegation, and guidance skills. Additionally, frequent interdepartmental meetings allow leads to present their progress and foster teamwork. Leads are responsible for cultivating their departments and guiding them toward success. Our business lead claims, "4607 has not only taught me skills applicable to my future career, but it has also helped me to be more confident in my organizational and leading abilities." 4607 remains sustainable by constructing a strong foundation for the team's future. This year alone, we have logged over 200 hours training our rookies. We prioritize passing down the knowledge and skills of our leaders to new and future members. Our students also inspire the future of FIRST by actively mentoring 13 FTC and FLL Challenge teams. 4607 members provide support shaped by our past FTC and FLL experiences, guiding young FIRST members away from avoidable mistakes. Recognizing the hardships that can come with leadership, 4607 emphasizes the importance of mental health. We hold required study periods 3 days a week, allowing team members to put other obligations first. Furthermore, mandatory team safety presentations highlight the significance of mental health and offer resources for help. Our students take a stand by pushing for fair and equitable treatment of the LGBTQ+ community. Last year, we met with our school's administration to make changes in bathroom policies for transgender students. After implementing these improvements, we sent an ambassador group to meet with our school's Gender Sexuality Alliance (GSA) to gain fresh insight. They encouraged us to examine our practices and ensure they were consistent and inclusive. We now give our members the chance to specify their pronouns in various ways, including their website bios and optional pronoun pins. 4607 also addresses LGBTQ+ education with various presentations at the start of the season. Valuing every member of our team is an essential tenet of our coalition. Our team addresses the gender gap in STEM, recognizing that action is necessary to welcome more women into robotics. Through our efforts we have closed this gap on 4607: women's participation has progressed in the past year from 31% to 50%. This brings new ideas and perspectives into our team from a group that is often marginalized in STEM. Within FIRST 4607 exemplifies leadership within FIRST as a whole. Our team motto, "Innovation cannot happen in isolation," motivates us to work alongside and aid other FIRST teams. To demonstrate, last year we lent our swerve drive to the 2052 KnightKrawlers in response to their request. Additionally, at the Great Northern Regional, our team helped the 8887 Knights prepare their robot for competition. This rookie team arrived at the regional with nothing but the frame of their robot, anticipating to experience a regional rather than compete. With our assistance, along with other teams' supplies, they competed and won the Rookie Inspiration Award as well as the Highest Rookie Seed Award. This season, we mentored team 8516 Wired Up after helping them start in 2021. Together, teams 4607 and 8516 traveled to and presented at the PACK EXPO in Chicago, Illinois. 4607 was 1 of 6 FRC teams in the entire country who were chosen to attend. Through demonstrating and showcasing our robot, we displayed FIRST to 40,000 business owners and representatives from over 40 industries. A few months later, we invited team 8516 to participate in game breakdown sessions following Kickoff. There, we worked together to share new design ideas and understand the game. In our ongoing journey to address mental health, 4607 is expanding outwards. Our members gave a mental health presentation at Kickoff to raise awareness to other FIRST teams. Extending this advocacy, we are also giving a presentation at the Seven Rivers Regional that addresses mental health. Introducing these conversations to a wider audience brings in more voices and experiences, promoting members of FIRST to prioritize their well-being. Our team uses a Failure Modes Effects Analysis (FMEA) process to predict and prevent failures from occurring and repeating. This process is utilized by searching for the root cause of errors within our strategy, safety,

and the robot itself. Our FMEA process is a key strength that we share with teams throughout FIRST. This offseason, we presented this process 3 times at various events. In addition, we broadcast our current FMEA status at competitions to share our procedures and gain other teams' interests. By incessantly sharing our knowledge about this process, we aim to improve other teams' chances for success on and off the field. Since 2015, 4607 has run JUMPSTART Robotics Training at St. Cloud State University. This year, due to rising costs, we could no longer afford the University's space. In order to keep this event free for FRC teams, 4607 took initiative and moved JUMPSTART to our high school. Although this was a challenge to coordinate in a smaller venue, we understood the program's value, especially in educating new FIRST members. During this event, our students and mentors gave 9 out of 35 total educational presentations. We continue to host and run this event annually. Nevertheless, 4607 aims to be a team of problem solvers who lead the way to solutions. Within Our Community Our team leads by fulfilling various needs within our community and introducing STEM to our rural area. Within the last year, we have worked with multiple organizations such as Becker Backpack Buddies, Beyond the Yellow Ribbon, and the Becker Chamber of Commerce. The Becker Backpack Buddies program allowed our team, along with the National Honors Society (NHS), to pack 640 meals for underprivileged students across our district. These meals are intended to be taken home by students to ensure no child in Becker goes hungry. Beyond the Yellow Ribbon is an organization that "connects military service members and their families with community support and resources." This group hosted an event in Becker with the Lewis Sports Foundation, created by former NFL player Dr. Leo Lewis. There, 4607 members volunteered and personally cooperated with Dr. Lewis to teach military youth how to play sports. 4607 is dedicated to offering our capabilities to fill needs in our community. Being located in such a small town and therefore having access to fewer resources, our team has adapted and created opportunities to introduce people to STEM in the smallest corners. Working with the Becker Chamber of Commerce, we helped arrange an Easter event for children of surrounding communities. In turn, we also introduced the FIRST mission by showcasing our robots to the children attending the event. As leaders in the community, it is 4607's reliability that prompted these organizations to seek out our help. For 2 of these 3 events, our team received requests for volunteers with less than a day's notice. Even with little preparation, our team embraces opportunities to cooperate with other groups to positively affect people's lives. Currently, 4607 leads the push for equal representation in our community by providing STEM access for underrepresented and excluded groups, ensuring a sustainable future for our team and STEM. In 2022, 4607 created Coding for Cookies, an initiative that works with the Girl Scouts to increase representation of women in STEM. Coding for Cookies provides an outlet for K-12 Girl Scout troops to gain exposure to STEM and robotics with hands-on learning. Throughout 10 sessions, 4607 has hosted 12 troops, inspiring nearly 100 Girl Scouts from 5 towns to earn their robotics badges. Demonstrating the positive effects of Coding for Cookies, a Girl Scout from the latest session was inspired to join our team. She explained, "Everybody on 4607 has extremely contagious energy and passion for what they do. Their welcoming atmosphere and continuous encouragement motivated me to help the team make an impact." Due to the success of Coding for Cookies, we are expanding this opportunity beyond our team by creating a portable robotics kit for other FRC teams to borrow. This kit contains materials required to run a session, including: age-specific instructions for individual troops; FTC and FLL robots and their peripheral equipment; and custom FLL game mats designed for accessibility. With these tools, FRC teams will be capable of conveniently hosting local troops in their own facilities. This will allow even more Girl Scout troops to earn their robotics badge, which they may not have the resources to attain otherwise. Through this initiative, FRC members gain experience in teaching and practicing as leaders to prepare them for their futures. C.I.S. Demonstrating leadership demands dedication, cooperation, and inclusivity. These necessary qualities fortify the foundation of FRC 4607, C.I.S. and its members. Without these skills, our team structure and motivation for success would crumble. While shaping students into

passionate leaders, we fulfill the mission of FIRST through our team, robotics, and our community. 4607 members' influence expands beyond FRC and paves the way for us to positively impact the world.;

