FIRST Impact Award - Team 7028

2026 - Team 7028

Team Number

7028

Team Nickname

Binary Battalion

Team Location

Saint Michael, 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.

We are proud to say we have a strong alumni network. 100% of our alumni have graduated from our high school. Many of our alumni have joined Bison Robotics at NDSU where they do Ri3D and volunteer at multiple regional events like the Great Northern and Granite city regionals. One member, Jacob, helped mentor a team in Fargo in 2025. Two of our alumni who were on our team when we started are now mentoring FTC and FRC. We encourage and welcome any alumni who want to get involved with our team.

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.

Our small community primarily supports sports. We have limited opportunities for STEM activities and technology involvement for students. When we started our robotics team, it was one of the first times students outside of tech classes got an opportunity to see the industrial technology part of the building. Activities like Science Olympiad and Math League existed, but nothing truly dived into the technology and engineering part of STEM. Our robotics team provides that outlet for students now.

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 have been able to effectively spread the mission of FIRST and maintain sustainability by increasing our FTC teams through exposure to our robotics program. Our FTC program scaled up from 3 teams to 10 teams in the past 3 years due to mentor involvement and high school interaction. We created a Build-a-Bot program where roughly 50 kids took home drivable robots they assembled. This allowed us to introduce robotics while making it fun and creative.

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

The main goal of our program is to “give students the chance to learn something new about STEM and have fun doing it.” This is so young people get a vision of what STEM looks like and to take the ideals of

FIRST with them when going into the field. From the growth of our one FRC team to a fully fleshed out FIRST robotics program in our community, we are impacting young people going into science and technology every day, every year.

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

We have been able to measure our efforts through the increased enrollment in our FTC program. Three years ago we had 25 FTC students and now we have 71 students. We are looking to continue expanding each year. Additionally, we can measure the impact of our efforts by seeing the percentage of FRC rookies that came from FTC. Last year, 55% of rookies on the FRC team were from FTC but this year, it increased to 75%.

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 have solid student mentorship representation within our FTC teams. FRC students help teach robotics skills that can be applied to the FTC robots being built. 7028 is an active participant at Jumpstart in Minnesota by giving presentations which can help other FRC teams with certain aspects of robotics. We also are a part of the Central Minnesota Robotics Hub where students and mentors from various teams collaborate with each other every week about the build process and strategy.

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

We've experienced steady growth within our FTC program in the past three years due to the commitment of our mentors and students. We noticed some teams in Minnesota who have an FRC team don't have FTC opportunities in their area. At 2025 Jumpstart, two of our students who did both FTC and FRC gave a presentation on how to start an FTC team. We are working with teams who attended to help start more FIRST programs in their communities.

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?

We created a project called "Build-a-Bot." Dedicated team members took on this season-long project to design and put together 50 robot kits. This was created to give kids a free STEM experience they could take home. Parents were grateful for this event and asked how their child could get more involved in robotics. Spots for the event filled up fast and several asked when we would put the event on again. We are improving the robot kits and will be doing this event again this year.

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.

For years, our team has had a vision of building our own STEM center. Our superintendent took an interest in our team after our success in the 2024 season. She, in tandem with the school board, made sure the STEM center was a part of the 2025 referendum. Voters approved a bond that included an addition for a STEM center, which will be attached to our high school. The visibility of our robotics team in the community helped pass the bond. The STEM center is currently in the design process.

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

We never discriminate based on immutable characteristics. We encourage the women and LGBTQ+ members on our team to get involved with the SWIFT Initiative (created by Team 3130) at competitions. For our community, we made the Build-A-Bot program free for families to keep it accessible to all. We as an association provide financial assistance to families when needed to ensure cost is never a barrier to student participation.

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

Over the past three years, we have focused on mentoring and growing our FTC program to be strong and sustainable for future generations. Designated high school student mentors from FRC support the FTC middle school students. This prepares FTC students to join the FRC team in the future. FIRST ideals and FRC team goals are taught at a young age so they can be sustainable and used as they move through the programs.

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

One area we can improve upon is helping other teams. Instead of waiting for others who are struggling to approach us, we would like to start the practice of seeking them out. We are working to improve this by attending our district's HUB meetings, being more active within Jumpstart presentations, and stopping by pits if we notice something happened during a competition.

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.

Two initiatives that helped our team and increased FIRST exposure were senior centers and “Project Pencils”. We visited a retirement community to do a robot demo and a presentation. The seniors were excited to learn about the opportunities the youth have in their community. We participated in an event called “Project Pencils” that provides underprivileged kids with school supplies and we did a robot demo to give a STEM experience to kids who might not have access.

Essay

Team 7028 was formed in 2017 by a few students who wanted to learn about STEM and have fun while doing it. Since then we have curated a program that empowers students to grow into passionate and skilled STEM leaders who will make an impact through STEM awareness, advocacy, and education.

While embracing the mission of FIRST, our team is transforming the culture of science and technology in our community. We have worked to increase the visibility of robotics so we can grow the sustainability of various STEM opportunities and connections within our community. But this didn’t happen overnight. Visibility

The Impact of Worlds

7028 is a team who consistently competes with nearly 40 members. It may seem like robotics is well known, but community members were surprised to hear we have a robotics team. People usually think

robotics is like BattleBots rather than a STEM outreach and competition program. However, our school district and community became more aware of our team when we got our ticket to Worlds in 2024. We represented our school in a world-wide competition. In Houston, we were a part of the Curie division's winning alliance, placing 5th in the world at Einstein. When local media shared our story, our community was proud and named 7028 "Citizens of the Year." This generated interest for our robotics programs and people wondered how to get involved and learn more about FIRST robotics.

Visibility in Schools

We make time for the next generation to ensure a sustainable future for STMA Robotics, STEM students, and supporters. We have visited our local elementary schools and a low-income school in a neighboring district. We set up interactive and educational demonstrations for the students as well as provided ways to get involved with STEM. Our team welcomed questions and set aside time to create individual connections with the students. The experience benefits elementary students because it fuels the next generation of robotics kids. We plan to continue these visits annually, improving our outreach with younger students.

In 2025, we increased the visibility of our FIRST Tech Challenge(FTC) program by reaching out to our middle schools. The principals loved the idea of having more STEM exposure for their students. We did a demo of our FIRST Robotics Competition(FRC) robot and let the kids drive some FTC robots. Along with answering questions, team members explained the roles in robotics and how kids could get involved. We distributed flyers containing more information about robotics and how to register.

Our visits to both elementary and middle schools have informed students, parents, staff, and faculty about the STEM and robotics programs within community education. This visibility within our schools has been a contributing factor in the growth of our FIRST Lego League (FLL) , FTC, and FRC teams.

Visibility in Community Groups

We maintain an active relationship with several civic groups by doing various fundraisers and events within the community. Our local Lions groups have given us opportunities to interact with the community at meat raffles in local restaurants, serving at an annual pancake breakfast, and running a BBQ tent at our local city festival. This helps increase visibility with the general public.

In the summer of 2025, one of our school board members reached out and invited us to help with "Project Pencils." This non-profit organization provides kids with necessary school supplies. We supported their efforts and included STEM exposure during the event. This helped us reach a population who often doesn't have ready access to STEM opportunities. New backpacks, school supplies, and our robot put smiles on the kids' faces.

The events around our community led to our local food shelf asking for our help with a project to design and build an insulated box to store food outside. This will allow people to pick up food if they are unable during the hours the food shelf is open. The Lions supported us with a monetary donation and another sponsor supplied us with materials to build the box. These relationships with civic organizations have given us opportunities to make an impact on the community.

Visibility Across Generations

An important population we have created a connection with is our local scouting groups. In 2024, we helped the Girl Scouts achieve their STEM badge. Our team members led stations to give them first-hand STEM Experience. We purposely paired the women on our team to work with the girls, applying the FIRST principle that STEM is for everyone. In 2025, we introduced the Cub Scouts to the engineering process. We gave them the challenge of making a project where they researched, created, tested, and redesigned their project. Giving the Scouts a look at our robotics team highlighted the similarities between Scouts and FIRST creating a bridge between the programs and a future STEM pipeline of robotics students.

As much as young people matter to the future of STEM, we wanted to enrich the older generation through STEM interactions with students. In 2025, we expanded our outreach efforts to include retirement communities. The seniors we visited were not only impressed by our robot but by the professionalism of our team members. Because of this, the seniors wanted to learn more about our program. We have now made it a permanent part of our outreach effort. One resident we visited said, "These kids changed my outlook on the future." This showed us the value of reaching this segment of the population.

Build-a-Bot

One of our proudest accomplishments was giving kids a free hands-on STEM experience. We called this project “Build-a-Bot” and developed it for kids aged 6-9. Dedicated team members worked on the project all season. We made sure enrollment was open to all kids and cost wouldn’t be an issue. We did this by personally funding and designing 50 robot kits that assembled a drivable robot they could take home. This was our team's first big outreach project created to share the robotics experience with young members in our community. At the event, kids followed our instruction booklet while placing motors and connecting wires. We could see their excitement once their robot started moving. Families had questions on how to get their child involved in robotics and expressed gratitude for this free event. It gave their child the chance to try STEM without having to make a large time commitment–essentially try it before you buy it. The visibility at this event helped increase involvement with the FIRST programs we offer to our community.

The visibility of our robotics team generated interest in STEM through our various events. This has helped support how we want to keep FIRST robotics as a sustainable program and a vital part of our community.

Sustainability

Sustainability in FLL, FTC, and FRC

STMA Robotics is an association which supports all FIRST programs. We aim to keep a steady stream of kids going through the stages of FLL, FTC, and FRC. To smooth the transition between the levels, some of our high school FRC students mentored FTC students who were excited to learn from these older role models. FRC members were teaching robotics skills that could be applied to their FTC robots. We can see this impact mentoring has had over time because in 2026, 9 out of 12 FRC rookies came from our FTC program.

The increase in FTC and FLL participation ensures a sustainable STEM program for the community. We can see this through the 145 students who went through our FLL program and the 10 FTC teams with 140 kids completing the program over the past three years. This growth has helped establish a strong foundation that can sustain itself for future years. This sustainability benefits our FRC team as students advance through the levels. With the close relationships between the programs, rookies entering the FRC team feel confident in jumping right into the build season.

Sustainability of STEM

Our high school recognized the importance of STEM and added robotics classes to the curriculum. These were created with FIRST in mind. In Robotics 101 class, students work through the process of building an FTC robot. Additionally, Robotics Open Shop class provides students the chance to work on FRC skills during school hours. Further interest in these STEM classes led our district to explore options on how STEM can be a physical part of the community.

STEM Center

With the growth of STEM in our community, what was once a singular FRC team has now grown into a sustainable FIRST program. This has led to space constraints for current and future expansion. On November 4, 2025 our community's taxpayers passed a bond that included a $4.5 million STEM center. Our visibility in the community played a role in this. We introduced voters to FIRST, which influenced their decision to support STEM sustainability within the community. This ~10,000 sq. ft. building is currently in the design phase. It will have dedicated practice space for our FIRST programs with a full FRC field, along with classrooms, fabrication space, and machines for STEM education. Once the STEM center is built, we plan to host robotics events. The STEM center is a direct response to what we have achieved in competition and outreach by showing the value of STEM education in the community.

The STEM center is becoming a reality due in part to our visibility in the community. We will have a permanent foundation to support, sustain, and spread the principles of FIRST.

Being seen by our community and advocating for growth in science and technology has been imperative to the mission of our team and FIRST. Those in our community who have been introduced to the values of FIRST have been inspired to get involved and support STEM education. Visibility of our team, which shows the impact of FIRST, has and always will be a core value of our program. This allows us to create a sustainable place of belonging for those wanting to explore STEM. ;