

Executive Summary

1) 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.

FIRST has significantly impacted our team and students to pursue STEM careers. 100% of our alumni have entered post-secondary education pursuing STEM fields, receiving a combined scholarship total of \$77,000 in the last two years. 2 alumni went on to become our mentors and 5 additional 7166 alumni spoke in our inaugural panel, sharing college experiences and how *FIRST* transformed their life. 2 current members mentor younger *FIRST* teams and all have assisted at least one team.

2) 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.

Nestled between farmland and forests, Laingsburg is a rural town with a population of less than 1,500. Devoid of manufacturing and large employers, the average one-way commute is more than 20 miles. Residents strongly support the education of its 1,134 K-12 students. Curriculum lacks STEM opportunities: no shop, drafting, computer science, or even videography. 26% of students are economically disadvantaged. Laingsburg draws community crowds with festivals such as Summerfest and Winterfest.

3) 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. (*FIRST* mission – provide life changing robotics programs that give young people the skills, confidence, and resilience to build a better world.)

STEM Night is our largest annual event, drawing more than 200 people. Using low-cost supplies, stations are designed to pique children's interest in STEM. Attendees immerse themselves in *FIRST* by driving robots. Participants code FLL models and watch them come to life. 27% of attendees have enrolled in our program, resulting in the launch of 21 FLL and 4 FTC teams. We also welcome students whose home district does not have *FIRST*; 20% of our K-12 participants do not attend Laingsburg schools.

4) Describe your team's goals and the progress you have made towards them to fulfill [FIRST's Vision](#). (Vision to transform culture by creating a world where science and tech are celebrated and where young people dream of becoming science and tech leaders).

We seek to provide STEM opportunities for students in our rural community. Each March, we spend time in kindergarten classrooms, reading STEM books and facilitating physics lessons to ignite the interests of young scientists. One student we read to has a new dream of becoming an aerospace engineer. Our annual summer camp provides students with age-appropriate activities which pique interest in coding and inquiry. In our demo booth at Summerfest, children interact with LEGO models and robots.

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

We continually collect data to analyze our impact. Given our small community, the growth of even one student is impactful. 50% of our Explore members were students we've read to. Our annual summer camp reaches capacity within 3 weeks of its opening. Almost 45% of summer campers have enrolled in our program over the last 2 years. Overall, our program has experienced 650% enrollment growth and 1,050% team count increase. We were recognized by our State Senator and Representative at the Capitol.

6) Please provide specific examples of how your team and team members act as role models for the *FIRST* community with emphasis on the past 3 years. How do you share these best practices with other teams?

We are passionate about making a difference in the *FIRST* community. We have hosted programming and CAD workshops and a design/coding/business review. Teams 6548 and 7097 asked for advice on building sustainable programs, including gaining sponsors and starting younger teams. Our Leadership Seminar teaches teams to identify their team's Why and use it to develop goals. 7166 volunteers for events such as meets and competitions, including 3 members refereeing FTC and FLL State Championships.

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

A cohesive *FIRST* program is crucial to our sustainability. We started a record 33 teams in the last 3 years; 22 in our own town and 11 FLL teams in nearby Bath Community Schools. We mentor all 24 teams in our program and assist countless teams including 6548 and 5234 with software, team structure, fundraising, and more. We hosted 2 FLL Explore festivals and 3 FTC league meets, an infinite increase within the last 3 years. Most of our 1600 volunteer hours go to working with other *FIRST* teams.

8) 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?

Our mission is to Inspire the Next Generation of STEM leaders. We strive to encourage young girls to pursue STEM by hosting *Girls Who Code* with local Girl Scouts and visit classes to showcase the roles females hold on our teams. These efforts have resulted in a 12% growth in female participation and establishing all-girls teams at each level of *FIRST*. We learned there is only one all-girls event in the State and seek to change that by hosting and running InnovateHER, an FTC all-girl event.

9) 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.

As founding members of Capital Area Robotics, we focus on building a viable robotics base in Mid-Michigan. We donate our time to our local Lions Club for their events and created a new logo for sponsor Mid-Michigan Animal Medical Center. Our 2024 custom Student Leadership Seminar expanded by 300%, including a team from Minnesota. The close relationship we have with CAMC allowed 4 members to be invited to their Faces of Manufacturing podcast, which reaches thousands of business professionals.

10) Describe your team's efforts in the past 3 years to promote [equity, diversity, and inclusion](#) within your team, *FIRST*, and your communities.

We foster a safe and diverse environment. 45% of our K-12 program is gender minority, 48% at FRC, and 50% of 7166's SMEs are female. We routinely field 2 female drive teams at off-season all-girls events. We receive training from external professionals to support neurodivergent individuals and mental health, including our team members with hearing and learning impairments. Our program fundraisers keep dues affordable while offering need-based scholarships to maintain "accessible for all" vision.

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

Creating a pipeline by starting in kindergarten ensures our team sustainability, along with sponsorships and fundraisers. 50% of sponsors have partnered with us for 2+ years, but we continually seek new sponsors and grants. Our annual tech raffle produces \$6,000 in annual profit. Veteran FRC students mentor and support our 24 younger teams through their competition season. Our best indicator of success is the 100% retention rate of our 8th grade apprentice program and the 200% growth of 7166.

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

7166 is working to ensure our culture of community service remains strong. We are involved in at least 30 events each year, requiring many volunteers. Veteran members pair with new students and volunteer together to help ease the anxiety that comes with something new. Volunteering at our younger levels is also encouraged; 10 FTC members volunteered 240 hours in 2024. Additionally, we provide training for students, so they feel prepared to coach and assist FLL-C and FLL-E teams.

13) 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.

To sustain our student-led philosophy, we created a Student Leadership Team. Each year, students must attend Leadership Seminar, apply and interview for a role. This group is the first point of contact for member concerns and team issues. For example, the Leadership Team is collaborating with mentors to develop attendance thresholds for team travel. Leadership Team also developed Homework Lab, a quiet place for members who are struggling with their academics to complete assignments and get help.

Essay

Since our inception, we have used robots to build leaders. What started as a small group of students has expanded into a vibrant FIRST Robotics K-12 program. We have tenaciously cultivated friendships and developed partnerships within our community. Nestled between farmland and forests, Laingsburg is a rural town with a school population of 1,134 students. 10% of our students are in *FIRST*. While other cities may have miles of manufacturing, we have miles of nature. Despite this, Laingsburg is a close-knit community which supports one another. As our community supports us, we strive to give back, make an impact, and Build our Legacy.

To us, *FIRST* is more than “a thing to do after school”. It is where we found friends and a larger circle with similar interests. Giving back to the *FIRST* community is built into the ethos of our team and our members devote almost 1,600 hours each year volunteering. We have innovated a system of volunteers to help assist our 24 K-8 teams. Our 31 members take turns volunteering at meetings, supervising team activities and providing one-on-one help. This greatly alleviates coaches’ stress and allows our members to build their own leadership skills. Our members serve as junior mentors or permanent assistants for our Explore, Challenge and FTC teams within the same season. We also support the *FIRST* community by volunteering at events, including refereeing local Challenge and FTC qualifiers and even State Championships.

Supporting our community is immensely important to us, as we understand the power of paying it forward. We have been sought out by our mayor on multiple occasions for special projects, including hosting a rock painting booth during Summerfest and lining Main Street with lighted milk jugs to help Santa find his way. We volunteer alongside our local Lions Club at least 5 times each year. Our largest initiative to help our community was organizing a can drive to support our local library’s book drive. Through our efforts, we successfully raised \$800.

To help infuse STEM into our district’s curriculum, we designed Robotics Read Aloud, an event where our team reads picture books to our kindergarten classes and guides students through a physics lesson called Bunny Helicopters. We further excite the students by bringing our FTC and FRC robots to each classroom for robot demonstrations. 50% of our current Explore members were students who participated in this activity. Growing interest in *FIRST* at the youngest level yields greater student participation at the FRC level in the future.

Accessibility to *FIRST* is a necessity. To keep dues low and provide need-based scholarships, we use proceeds from our tech raffles, car washes, and 50/50 raffles at

Owosso Speedway to offset costs. In the last 2 years, we have raised more than \$18,000. Scholarships are offered to our entire program as we do not want cost to be a barrier for participation.

Encouraging girls to become STEM thinkers and innovators is important to us, as nearly 50% of our team is underrepresented. One way we engage with girls is by partnering with our local Girl Scouts. Another way is through our all-female FTC and Explore teams. We do no special recruiting to attract gender minorities, it is through word of mouth, the pipeline we've built, and our culture that we have such a strong underrepresented population. Overall, we have seen a 12% increase in female participation over the last 18 months, and have been selected as a First Like A Girl Ambassador, a program dedicated to empowering females in STEM and inspiring them to pursue careers in these fields.

Running events are opportunities to bring *FIRST* to our community. Through our record setting growth, we sought to host our Wolfpack Explore Festival. This year, 21 teams, including 6 rookie teams from Bath Elementary, showcased their team posters and models, shared what they learned with reviewers and family, and immersed themselves in STEM labs like water density, Snap Circuits, and slime. During the Explore festival, our Challenge and FTC teams attend to support their younger members, volunteering at STEM stations and demonstrating their robots. These demos have contributed to our continued pipeline of students.

We also began hosting and running FTC league meets. We invite our community, business leaders, and even our mayor to attend. These events offer a first-hand experience for Laingsburg to see how competitiveness and Gracious Professionalism can coexist.

Another vital benefit of hosting these events was that 2 school board members served as reviewers for our Explore festival. Although we present to our school board twice a year about the skills we learn and the success of our K-12 program, having our school board participate in the event provided a greater impact. They had the opportunity to meet students, learn about the *FIRST* Core Values, and see models in action.

An outreach event which consistently captures the attention and participation of our community is our highly anticipated annual Family STEM Night. This engaging event serves as a vibrant platform for fostering enthusiasm and curiosity about STEM and *FIRST*. Over the past two years, we have welcomed more than 450 enthusiastic community members, a huge turnout considering our town's tiny population. Throughout the event, various interactive stations were strategically set up, each crafted to captivate and challenge young minds. From activities designed to enhance spatial reasoning to those refining fine motor skills and stimulating logical thinking, every station offered a unique opportunity for hands-

on exploration and learning. As a direct result of the event's impact, numerous new members signed up, resulting in a **1,050%** increase in the number of teams in our K-12 program. This includes 14 LEGO Explore Teams, 5 LEGO Challenge teams, and 4 FTC teams.

An area in which we have shown great growth is using our experience to assist other teams. We are unique in being a member of two different robot coalitions- ShiaRobots of Shiawassee County and Capital Area Robotics. Through these affiliations, we have cultivated friendships and partnerships, allowing us many firsts. For example, we hosted a design, programming, and business review, inviting 16 teams from our two groups. Students had the rare opportunity to share innovative ideas, support one another, and brainstorm together. The business teams talked about how to bolster student attendance, fundraising and team finances, and how to manage a large team size. We also hosted a programming workshop, which attracted six FRC teams. This initiative strengthened our relationships with FRC teams across the state, allowing us to help write, review, debug, and troubleshoot their drivetrain codes. We also hosted CAD workshops to help team 7202 understand the power of OnShape.

As our own team becomes larger in both size and reputation, we look for opportunities to assist other teams in their endeavors. For example, teams 6548 and 7097 asked us to participate in Q&A sessions. For over two hours, students from each team asked us about our team structure, our process for establishing a 501c3, how we recruited and gained sponsors, and how we juggle mentoring youth teams while working on our own projects. Team 6548 found our discussion so valuable that they attended our 4-day Leadership Seminar to continue to develop their team's philosophy and goals. When we learned that our FRC neighbors, 5234, had replaced their head mentor with someone new to FIRST, we immediately invited them to share our workspace, assisting them with fabrication, code, and battery wiring. We were excited to learn they made it to playoffs during their second event.

An event we love to run is Leadership Seminar. Open to any FRC member, our unique curriculum teaches students how to be leaders by practicing active listening strategies, sentence starters, and how to have difficult conversations. Attendees learn team building activities and how to delegate tasks. This year, we also invited a mental health professional to teach participants how to recognize burnout and empathically support neurodivergent members. In the last year, Seminar saw a 233% attendance increase and even included a team from Minnesota!

Another area we saw an opportunity to make an impact was by expanding *FIRST* into a new county. Because our program accepts students without a *FIRST* footprint, 20% to be exact,

we have an opportunity to get families excited to start *FIRST* in their home districts. By establishing a relationship with a Bath Elementary School teacher, we were able to start 6 LEGO Explore and 5 LEGO Challenge teams in Clinton County. With constant communication and openly sharing our resources, materials, best practices, and human capital, we are happy to see Bath Schools not only start a vibrant LEGO program, but also an FRC rookie team in 2025!

Given our program size, we quickly ran out of district provided space. Working with Shiawassee County teams, we learned that we were not alone in need of adequate facilities and began seeking a space which would serve as a dual county robotics center. 7166 members presented to local economic development partnerships to seek funding sources to secure a facility which will, when opened, benefit more than 300 robotics students in Shiawassee and Clinton Counties. Teams will have their own pits with shared workspaces to foster collaboration and Coopertition. The facility will have a full sized FRC practice field, which would be the first in either county, as well as a field for FTC and game tables for LEGO Challenge.

7166 has lofty goals: to expand *FIRST* to as many area districts as possible, to give back to our and the *FIRST* communities, to mentor and support other teams, to remain sustainable, and to develop a robotics center to provide a facility for robotics students like us. Through hard work and unwavering commitment, we are confident we will continue to Build Our Legacy.