

- 1. Describe the impact of the FIRST 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 FIRST programs as mentors/sponsors**

4499's Cycle of Success initiative (COS) has jumpstarted 60% of our high school students careers through internships, where they can apply the skills learned through FIRST. COS creates a peer to peer teaching environment that's lead by senior students and alumni of which in the past 3 years 100% graduated high school, 100% pursue college degrees in STEM and 55% of alumni return to assist the team as mentors.

- 2. Describe your community along with how your team addresses its unique opportunities and circumstances.**

4499 is a community team with 20 students from 6 schools, 4 cities, and 2 countries. We establish connections where our students can impact society locally, regionally, and across the globe. At practices our team eats, does homework, and has fun together year-round. When one of our members had to move out of the country, we adapted by meeting virtually and assigning tasks that can be done outside the shop. Our team's shop has been shared with 160 people and 12 teams over the past 3 years.

- 3. 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?**

4499 promotes FIRST's message through our two recent programs, Rover Camp that we debuted at CSU and our Welding Camp, teaching 40 CSU students. Others are continued like the 4-language translation of our book series and the virtual integration of STEM camps for DIY. These initiatives are effective, scalable and sustainable because they are based on direct interaction where students leave an outsized impact and train the next generation.

- 4. Please provide specific examples of how your team members act as role models within the FIRST community with emphasis on the past 3 years.**

4499 supports other teams through rookie survival kits and sharing of our safety program. Our students are engaged in advocacy efforts for FIRST through our roles as co-chairmen on the Colorado FIRST Student Advocacy group, advisors, referees, demonstrators, and reviewers. We hosted a 2 day workshop, How to Swerve, where 7 teams participated in hands on classes making a fully functional a swerve bot. This was a great success that 5 of these teams are fielding a swerve bot this season!

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

To help other FRC teams with training, material, and mentorship, we provide Drop-In Shop days. We reach out to 439 members through Shop-Talk where students share different ideas between teams discuss different findings weekly during build season. We have also presented in webinars focusing on computer vision, electrical design, and Adobe Cloud where we were able to connect with 8 FRC teams. We have assisted 23 FRC teams, 8 FTC teams, mentored 2 FTC teams, 1 FLLC and started 1 FLLE.

6. 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?

4499 launched an initiative focused on giving female students a stronger voice and connecting them with other women in STEM careers. The women involved in this initiative are excited and are encouraging their coworkers to get involved. We hope to have 10 women from 6 companies participate in this initiative by next year to inspire girls in STEM. We also provided in-person camps in 5 countries, impacting 282 children. We donated 103 STEM kits and 25 rover kits to share STEM with students.

7. 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

This year we partnered with CSU to host a STEM camp for 30 kids, and are planning to return this summer to continue this new pipeline of promoting FIRST. 60% of our team collaborated with USDOT, and Virginia Tech to build a rover improving the safety of first responders. We explored new technologies and methods that were part of a professional industry from this project. For the past 5 years, we have welcomed Jeffco school district leaders to our regional expanding their knowledge of FIRST.

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

4499 is a free, student-led team providing hands-on experience to students who may not have access to such opportunities. With our diversity plan, we ensure that team members have a voice and feel respected. It promotes a safe and diverse environment; respect of all members including our differences and encourages open and free views without fear of judgement. With our virtual meetings, webinars, and remote collaboration we strive to promote equity and inclusion across our team and community.

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

4499 has secured funding for the future through fundraising, grants and internships with sponsors. Our Cycle of Success initiative has brought in over \$30,000 to support the team and is a continuation of support for our future by empowering our alumni to be a support structure of ongoing mentorship, leadership, and an inspiration to our students. 55% alumni have returned to assist in this team initiative. Our ongoing outreach initiatives inspire students to join FIRST and our team.

10. Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years

4499 has had 15 sponsors that support us financially, provide supplies and mentorship. We post appreciation of support on social media, display logos on our robot and team shirts, send newsletters and do onsite visits with our robot. We participate in local community events like showcasing our robots at conferences, parades, and FIRST events where we highlight skills we learned, such as CNC machining, vision tracking, and project management.

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

4499's significant growth in recent years created difficulties in knowledge transfer. In 2023, 4 students will graduate with very strong manufacturing and programming skills, leaving large shoes to fill. We welcomed 12 students to our family, and our senior leadership students teach, guide, and assist these students to fill the roles of our graduating students. By allowing the new students to program older robots or machine new parts, we help them develop confidence while working side by side.

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

4499 gives students the opportunity to grow in leadership, communication, teamwork, and innovation skills used in professional environments by running our team like a business. 4499 students use management software to keep track of progress, tasks and communicate with teammates to build collaboration skills. We see the growth of students as technology innovators and leaders through expanded roles and responsibilities in the team and community.

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 or particularly noteworthy.

Our team has a unique scalable leadership model that fulfills the FIRST mission and vision. Our focus is to build quality engineers and leaders by focusing on core values on the field and in our community. We provide a hands on learning experience to students in our community who may not have school sponsored opportunities. Our program, and those who come out of it, have an outsized impact wherever they go from our initial home in Ft. Collins, to across the Great Plains and internationally.

14. (OPTIONAL) Please use this space to ask 1 question to your FIRST Impact Award Judges which will be answered after each event with feedback from the judges (250 characters maximum). Note: Questions asking what is required to win the award will not be answered.

It is possible one program may have a moderate impact on a large group of students while another program may have a transformative impact on a smaller group of students. Based on the models you've seen what could each of these teams do to improve?