

FIRST Impact Award - Team 3489

2025 - Team 3489
Team Number
3489
Team Nickname
Category 5
Team Location
Summerville, SC - USA
Describe the impact of the <i>FIRST</i> 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 <i>FIRST</i> programs.
Within the last 3 years, 66% of Category 5 members have gone on to pursue STEM fields at a higher level in universities such as Kettering, Clemson, and UNC Chapel Hill. Participating in FIRST through Cat 5 has also empowered students to obtain internships with prominent STEM employers such as Boeing and NIWC. Several of these FIRST alumni have continued to be involved with the FIRST, with 55% coming back periodically to mentor current team members, and making themselves available for advice.
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.
Category 5 prioritizes accessibility & affordability to reach as many individuals as possible, regardless of background or socioeconomic status, by partnering with Young Scientists of South Carolina to operate as a community-based team. We currently reach students from 4 schools across 3 districts. We also create opportunities for the team to utilize facilities and build connections with district leadership, alumni, and school admin, enabling us to implement FIRST in classrooms.
Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> Mission in ways that are effective, scalable, sustainable, and creative.
Cat 5 uses two main strategies to impact our community: -Reaching over 1,000 people through a strong social media presence: Instagram, TikTok, Facebook, and YouTube -Hosting and supporting STEM Events, FLL/FTC/FRC competitions, camps, etc. These allow us to sustain our efforts throughout the FIRST pipeline. Our cross-program involvement, along with relationships with local schools and businesses, helps actively develop the next generation while also sustaining our team.
Describe your team's goals and the progress you have made towards them to fulfill <i>FIRST's</i> Vision.
Our ultimate goal is to encourage accessibility in FIRST. Cat 5 focuses on being affordable to give as many students the opportunity to join as possible. We are striving towards this goal by changing our student fee structure. Instead of out of pocket payments, students are encouraged to fundraise at least

\$1500 to support the team. This “fee” is also chipped off by outreach attendance in order to also diversify attendance at these events. The initiative has brought in \$9,200 this season.

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

Taking steps towards making FRC accessible for local youth allows us to increase our community impact significantly. We have 38 rostered students this season, a 40% increase from last year. We have seen a 150% increase in outreach participation through our implemented fee structure. Our students have operated STEM summer camps, presented at outreach events, and volunteered at several local FLL and FTC competitions such as those in Summerville and Colleton County.

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?

Category 5 members established the FIRST South Carolina Youth Advisory Council to provide a voice for students. Since its fruition, the committee has presented at the World Championships annually since 2022. This helped to inspire FIRST Headquarters to establish similar councils in 15 other states with its bylaws in place to be a foundation for FIRST HQ to become a national CTSO. The YAC has also expanded this year with collaboration from 13+ FTC and FRC teams across the state.

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

-Mentoring 2 & coaching 2 FLL Explore teams -Mentoring 6 FLL Challenge teams -Pipeline implementation by starting 2 FTC teams: coaching 1 & mentoring 1 -Started FTC 23855 and FRC 10367 to provide students with an opportunity to build leadership skills -Delegating team members to the teams we coach/mentor, ensuring we have maximum impact -Classpacks, impacting 2431+ students yearly; equivalent to 359+ FLL 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?

Demystifying robotics is critical in inspiring youth to participate in initiatives like FIRST. To aid this mission, Category 5 has: -Provided teachers with STEM kits with lessons showcasing force, motion, friction, and electricity -Presented workshops on technical and soft skills: 8 at FLL and 2 at FTC kickoffs, and at the Peachtree Georgia Symposium -Hosted and ran 3, week-long FIRST camps for the past 2 summers where 73+ students have learned about tools, engineering design, programming, etc.

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.

Category 5 has partnered with several organizations, such as Young Scientists of SC, who help us drive STEM accessibility in as many communities as possible. Cat 5 also builds strong relations with school districts, such as Dorchester District 2 and Colleton County; we have hosted various STEM events and continue to support the implementation of classpacks. We maintain these relationships through email and social media contact, press releases, and outreach events.

Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, <i>FIRST</i>, and your communities.	
Cat 5 strives to create a fun and safe learning environment for all team members. Realizing the importance of having role models in the STEM community, especially for girls, we regularly support/volunteer at initiatives such as STEMINIST Girls Camp and the Menstrual Products Initiative with FIRST SC. Additionally, we work to ensure inclusivity within our team by joining Autism Understanding Through Outreach and distributing over 100 fidget kits at FRC competitions.	
Explain how you ensure your team and the initiatives you have created will be sustainable.	
Cat 5 understands that longevity & sustainability are critical for long-term success, which is why we have created a pipeline that guides students through competitive robotics from a young age. After participating on our FTC team, students can join our rookie team where they learn the fundamentals to succeed in the FRC build season. Our alumni often remain in contact as mentors, visit whenever possible to aid in the build season, and inform students of STEM opportunities after high school.	
Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.	
Social media involvement is one of the most efficient ways to connect with youth as well as raise team awareness. In the last 90 days we have reached over 1,000 different accounts on Instagram, 24.2% of which were not already following us. We plan to increase our Instagram following from 600 to 1500 followers by launching a podcast, "Metric, Standard & In-Between." The purpose is to make information about FIRST more digestible, allowing people from all backgrounds to engage.	
Briefly describe other matters of interest to the <i>FIRST</i> 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 accessibly encourage student mentorship on our team, we use a leadership structure derived from a continuation of our previous 7-division lead system with an expansion our our captain responsibilities to encase 3 roles: CEO, CFO, and COO. This is in pursuit of more balance in decision-making processes and to cater better guidance to divisions while working towards team goals. We also continue to implement our "senior shadow" program to support the transfer of knowledge as students graduate.	
Judge Feedback	
	What is something in our essay or executive summary that could be better represented in our presentation? An area the team has an opportunity to improve. Something that really impressed the judges.
Essay	
STORM'S A BREWIN'	
Team 3489: Category 5 (Cat 5) was established in 2010 with a mission to inspire younger generations by	

spreading STEM throughout South Carolina while promoting Equality, Diversity, and Inclusion (ED&I) along with Gracious Professionalism. By engaging all members in community initiatives, we have amassed 7200+ hours over the last 3 years collaborating with local and FIRST communities. Through interactive activities at events, Cat 5 has demonstrated that STEM can be fun for everyone, reaching 193K+ people.

MAKING LANDFALL

Cat 5 maintains relationships in our community with sponsors. Young Scientists of South Carolina, a non-profit, continues to be one of our strongest relationships as they support us in various ways: providing insurance, helping fundraise, and providing project funding. We also make an effort to uphold relations with surrounding school districts. In Dorchester District 2, we work out of Summerville High School (SHS), host FLL qualifiers at SHS and Ashley Ridge High School, and mentor various district FLL teams. For the past 12 years, Cat 5 has partnered with Colleton County School District (CCSD) to host and run the Ace Basin Qualifier. From this partnership, we were able to start and mentor their first FTC teams.

The magnitude of Cat 5's outreach would not be possible without our sponsors. Team 3489 has obtained various sponsors, from corporations like Boeing and Naval Information Warfare Center to local businesses like CEMS Engineering and Coastal Coffee Roasters. For others like NASA, REV Robotics, Gene Haas Foundation, LEGO Foundation, Kettering, and others, sponsorships are attained through student-written grants, bringing in over \$32k. We maintain relationships with sponsors through emails, media, and work with them at outreach events.

Category 5 has been actively improving our social media engagement by creating numerous initiatives: weekly vlogs, participation in Community FIRST Day, and collaborations with other FRC teams and FIRST SC. Over the last 3 months, we have seen a 68.3% increase in engagement on our Instagram. On YouTube, we have seen a 10.3k average in views. To further our interaction this season, our students have conceptualized a podcast, "Metric, Standard, & In-Between," that features 2 student hosts along with a guest speaker to show a more in-depth discussion about the game, season, and our team behind the scenes.

WINDS OF CHANGE

Cat 5 is building the future generation through FIRST and STEM awareness. We ensure to maintain an active community presence through our outreach, mentorship, and advocacy.

We heavily emphasize FIRST outreach. Cat 5 plays key roles at numerous events, working with students to inspire them to continue their journey through the FIRST pipeline and beyond. Cat 5 members have supported over 31 FLL events, 11 of which we hosted, as well as supporting 4 FTC, and 4 FRC.

For the past two summers, we have hosted and run a total of 6 Storm Chaser camps to support students entering FLL Explore, FLL Challenge, and FTC programs. This summer, our FLL camps flourished with a 50% increase in the previous number of students. These camps integrated NASA Astro camp lessons and provided an immersive experience in coding, STEM activities, and FIRST Core Values. Our Storm Chaser Camps have impacted 73+ students. Additionally, we supported 5 STEM camps and 4 FIRST camps, impacting 394 more students.

Our team goes beyond FIRST outreach by actively promoting STEM awareness in our community. We showcase competition bots, demonstrate our STEM kits and ambassador robot at events such as the Air Show at Joint Base Charleston, Collins Aerospace, and Flowertown festival.

Through mentorship across the pipeline, we are able to provide teams with the specialized support, guidance, and resources needed for success. Within FLL Explore, we mentored 2 teams and coached 2 others. In FLL Challenge, we mentor 6 teams. For FTC, we started 2 teams in underserved communities like CCSD, who we still mentor and coach. This summer we also started a rookie FRC team, Storm Surge, designed to help incoming underclassmen improve their understanding of FIRST and STEM fundamentals.

Our students established the FIRST South Carolina Youth Advisory Council (YAC) in order to advocate for students across the state and ensure they felt represented. The YAC became the 1st student-run Career and Technical Student Organization in FIRST. Due to its successful establishment, the YAC gained the attention of FIRST Headquarters, and we were given the opportunity to present at the 2022, 2023, and 2024 FIRST World Championships and FIRST Community Conference regarding the development of youth leadership in FIRST. Following this collaboration, HQ is in the process of emulating the YAC's by-laws to establish councils in 15 other states. We, along with other YACs, meet as a council with FIRST HQ to discuss regional STEM integration and development.

BACKYARD AND BEYOND

Category 5 works to continue broadening our cone of impact; we emphasize how we can influence beyond our local communities and create initiatives to reach our goals.

1. Project Tropical Storm

Our Project Tropical Storm initiative aims to strengthen the FIRST pipeline by addressing the lack of FLL opportunities in elementary and middle schools. Cat 5 has written a LEGO Foundation grant and regrant, resulting in the total acquisition of 120 class packs: 1 FTC, 3 FLL Challenge, 16 FLL Explore, and 80 FLL Discover, along with 20 SteamParks. This has an implementation cost of over 200K. Last year, classpacks were rotated through different classrooms and grade levels, allowing schools to have every student interact with them. We also consistently saw teachers consume all included supplies, requiring frequent restocks. This year, we are re-granting previous classpack teachers as well as awarding new ones to further this expansion. With these classpacks, Cat 5 has been able to bring FIRST to 22 schools across 8 school districts, including communities with a lack of programs, like Allendale and Bamberg counties.

The projected impact of the initiative was originally to reach 600 students per year, however since implementation in 2022 we have impacted over 3031 students. As of May 2025, we will reach an additional 2431 students with the new classpack rotations.

2. Educational Resources

Our team strongly believes that STEM should start in the classroom. To support our educators, we've created various resources including STEM kits. Funded by the FIRST ED&I grant, these kits are equipped with activities like binary bracelets, popsicle catapults, and playdough circuits.

Our team facilitates workshops across the pipeline, including presenting at the Peachtree GA Symposium regarding the development of a complete FIRST Ecosystem and hosting workshops at FTC and FLL Kickoff for 3 years.

To align with our mission, Cat 5 is collaborating with the South Carolina Center of Assistive Technology and Educational Research to enhance the inclusivity of our classpack resources by aiming to foster inclusive educational practices and provide tools for educators. Through this collaboration, the center will be critical in developing tailored resources for students, with goals to empower educators using these modified classpacks. 3.ED&I Awareness

Cat 5 is committed to making STEM and FIRST accessible to all. To amplify understanding of neurodiverse needs, Cat 5 joined Autism Understanding Through Outreach (AUTO) and STEM on the Spectrum. To increase our activity/ engagement within these organizations, we became AUTO certified ambassadors to further promote awareness. Last season we also created and distributed 100+ fidget toy kits at FRC competitions and plan to do the same for 2025.

Members of our team volunteered at numerous events promoting female participation in STEM: Girl Powered, STEMINIST Girls Camp, and FIRST SC's Menstrual Products Initiative to guarantee access to free menstrual products at events.

Creating a comfortable and safe learning environment for all is a priority for our team. As part of this commitment, all members, including mentors, are mandated to complete FIRST ED&I and Safety training, highlighting the importance of inclusivity and safety.

SURGING AHEAD

Category 5 is looking to the future and actively planning for how we can continue ramping up our impact. To ensure success, we are expanding our educational resources by developing additional FLL curriculum to complement our class packs. This is crucial to sustain and enhance our educational initiatives.

In 2023, we partnered with Nexton Elementary to host our Tropical STEM Festival for 150+ classpack kids to showcase what they have learned. While the event was canceled for weather in 2024, we have connected with multiple other classpack schools like Joseph Pye and Knightsville elementary schools to partake in STEM nights for students using classpacks to showcase and demonstrate learned skills, featuring additional stem kits and sponsors. In 2025, we hope to rehost a Tropical STEM Festival with one of our classpack schools and continue collaboration throughout the school year.

Our latest initiative, the Marvin Project, aligns with our mission to support educators throughout SC by advocating for the implementation of a robotics education bill similar to those in Michigan and Indiana. These bills allocate millions in state funding to support competitive robotics programs and provide stipends for educators who support competitive STEM teams. We collaborate with local legislative delegates like Mayor Russ Touchberry and District 100 Rep. Celeste Davis to actively advocate for the adoption of this bill.

We are the winds of change, making landfall in our backyard and beyond! We are Category 5! We are FIRST!

