

FIRST Impact Award - Team 5089

2025 - Team 5089
Team Number
5089
Team Nickname
Robo-Nerds
Team Location
Los Angeles, CA - 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.
5089 has shown great success in fostering academic and professional achievements from participants over the past three years. We have a 100% graduation and college rate, as demonstrated by our STEM alumni. A yearly survey revealed that 25% of them return to volunteer at our events. This reflects our team's ability to instill a long-lasting commitment to STEM and community engagement. We equip our diverse participants with the skills and confidence needed to pursue futures in STEM.
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.
Highland Park is a community that is driven and resourceful. Despite being a Title 1 school with limited access to STEM exposure, we use STEAM Fairs to showcase our incredible creativity and problem-solving skills. This demonstrates that youth are capable of achieving impressive accomplishments. Our success is a result of community partnerships. By supporting small and family-owned businesses we nurture a community driven environment for all to thrive, this allows us to expand as a driven team.
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.
We hosted the first FTC competition in our community. Since then, we've hosted 5 FTC competitions, ran 4, and inspired 500+ students and coaches. We've formed a special partnership with our school district and became the venue for all East district FTC events. We introduced hosting Kickoff, Build Day, and Scrimmages (all led by our members) to the district to prepare teams for the season. First time FTC coaches also attend trainings led by our mentor, to ensure all teams remain sustainable.
Describe your team's goals and the progress you have made towards them to fulfill <i>FIRST</i>'s Vision.
A project we currently have underway is the Nerd Lab: Collaborative Space. We presented our initiative to 8 school district board leaders, including the Chief Academic Officer, to propose renovation for an unused Auto Shop on our campus to create a central community robotics hub. This would address the challenge of local teams traveling 30+ minutes for access to FRC or FTC fields and allow us to impact even more students by providing a local, inclusive space for robotics and STEM education.

What impact has your team seen from your efforts described in the above question? How does your team measure impact?
The Nerd Lab is a culmination of all the outreach we do. The connections we've made by hosting FTC events allowed us to assemble important district leaders, some whom teachers at our school haven't even met themselves. Letters of support we collected for the proposal affirms the hundreds of students and coaches we've reached, and the benefits in creating a community robotics hub. Events we host grow in size each year, showing that our impact is traveling and meaningful to current participants.
Please provide specific examples of how your team and team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years. How do you share these best practices with other teams?
The Robo-Nerds are proud to say that we continue to spread "Nerdness" within our community through our many outreach activities. We serve as role models in our community, putting our best foot forward through various events. We inspire over 50 FTC teams to continue their journey through FIRST. We host Kick-Off at the beginning of every season, continuing the event with new teams every year. And we spread our message to the thousands in our community through STEAM fests and other public events.
Describe your team's initiatives to Assist, Mentor, and/or Start other <i>FIRST</i> teams with emphasis on activities within the past 3 years.
We volunteered at 2429 and 7515's FLL competitions and 589's Engineering Expo and YMCA summer camp, helping teams lighten their load. We've shared our knowledge and experience with 23 FTC teams, which fosters a collaborative and successful community that teaches self-reliance and sufficiency. We also advocated for district funds to help Huntington Park HS's FTC team successfully transition to FRC. These initiatives show our dedication to promoting STEM and empowering the FIRST community.
What other initiatives have you created, grown, sustained, or participated in (<i>FIRST</i> 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?
In our community, we stand as a cornerstone for others. Now, more than ever before, we spread our knowledge through collaborations with multiple teams in workshops. We teach everything from programming basics to building a Swerve module. With continuous collaboration with the X-Bots, and recently introducing our FTC team, we attend GoBabyGo. Hosted by the Boys and Girls Club, it teaches the necessity of engineering while building remote-controlled toy cars for toddlers with disabilities.
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.
In the past three years, our team has formed meaningful partnerships with sponsors, the district, and local leaders. Coach Cruz and Jaspreet Sandha from LAUSD created a "Lead Team" to plan robotics events and propose a district-wide robotics hub at our school. We've also worked with Councilwoman Eunisses Hernandez to grow our team and strengthen community connections. Thanks to our sponsors and the district, we're launching a "Nerd Lab" to mentor other teams and promote STEM in our community.
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.
Within our team, we've started an all-girls FTC team and ELA team to promote underrepresented groups in STEM. Our team's diversity transcends barriers in STEM and we introduce these opportunities to our community by participating in community Christmas Parades and elementary school fairs. We've also secured \$100,000+ from our school district to support 86 FIRST teams in underserved communities, ensuring equitable access to resources and opportunities for all students to participate in robotics.

Explain how you ensure your team and the initiatives you have created will be sustainable.	
To sustain our team, we created the FLL-FTC-FRC sustainability plan. Putting the plan in action, we created teams that are accessible to students as early as middle school. Through these teams, students climb the "ranks," learning more about the aspects of a FIRST Robotics team. They end their high-school journey with the Robo-Nerds, which propels them to be STEM leaders in the future. We also attend fairs, like the STEAM fair, and advertise to our school to inspire others to pursue FIRST.	
Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.	
We understand that students may feel intimidated and avoid communicating with others. To remedy this, we created opportunities for members to find their voice and step out of their comfort zone through lunch meetings that act as a space to build confidence, encourage collaboration, strengthen member bonds, and, more importantly, ask for help. The supportive environment allows individuals to grow and feel more engaged in the team.	
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.	
The vibrant and diverse characters that make up our team find ways to spread the same liveliness to everyone we encounter. The FTC competitions we host are memorable to the audience and teams alike. We make the experience fun by creating Kahoots! for breaks in between matches and our Spirit department always keeps the crowd engaged. For our own FRC competitions, we try to spread energy by having teams sign our Pit wall, allowing us to make connections and sometimes long-lasting friendships.	
Judge Feedback	
	Is there something more that we can do to improve our presentation? An area the team has an opportunity to improve. Something that really impressed the judges.
Essay	
Nerdness. It’s more than just our team’s motto. It’s the foundation of our team's identity and what we stand for. Our mission to redefine the word “nerd” has evolved to empower students who embrace their passion for learning while equipping them with the engineering principles and skills needed to enhance and diversify various career fields. Through robot building and numerous outreach activities, we’re sharing how this dedication and collaboration has made a meaningful impact in our community. Team 5089, the Robo-Nerds, transforms the perspectives of every person we come across and consistently proves that making STEM more inclusive and accessible can change the world one nerd at a time. Our team is made up of 21 members: 11 boys and 10 girls. Our mentors, Mr. Cruz and Ms. Coy, are the vehicles of our success. We mentor FLL team 25623, Los Mini Nerds. While on the team, middle schoolers learn English through our school's Dual Language Academy. English as a second language introduces barriers that the students must overcome while taking on the challenges of the game. We also mentor FTC teams 20520, NerdsR'Us, and 20519, Nerdbotics. NerdsR'Us is a team for students to familiarize themselves with the FIRST environment and strengthen their engineering skills. Nerdbotics, while also a place for personal growth, serves as a team for underrepresented groups such as girls and English Learners. We have witnessed how members of the Nerdbotics team have developed interpersonal skills and the confidence to participate in a field traditionally dominated by white males. Mentoring these FTC teams has shown us firsthand the importance of diversity and inspired the growth of	

marginalized groups in STEM through our participation in various FIRST programs with students from all backgrounds.

This year, to create a more equitable STEM future, we invited our FTC teams to participate in GoBabyGo. GoBabyGo is an event in which we modify ride-on toy cars for children with motor and cognitive disabilities. We also guide and teach members of the Boys and Girls Club how to construct toy cars alongside us. Over the years, we have not only modified the cars with them but have drawn knowledge from FRC to implement a new wiring system using lever connectors instead of wing-nut connectors. This new approach made the building process more efficient and secure. Through these experiences, we introduce students to engineering principles such as problem-solving, collaboration, and team building. At the end of the events, it is gratifying to see how these children gain the ability to move independently and, in the process, teach us the importance of volunteering and contributing to other programs that impact everyone involved.

In 2019, the Los Angeles Unified School District (LAUSD), in partnership with the i.am.angel Foundation introduced an initiative to bring FIRST to the LAUSD community on a larger scale. To maximize funding and access to resources, the decision was made that the best approach was to start a First Tech Challenge League. Thanks to The Expanded Learning Opportunities Program (ELO-P) grant, the district's Division of Instruction could access funds to support new teams. FRC Team 5089, The Robo-Nerds, was contacted by the Division of Instruction to provide guidance and support to the new FTC league. In 2022, we hosted the very first FTC Qualification Tournament in the LAUSD League, making it the first competition hosted in the Highland Park community. The head of LAUSD's STEM department, Jaspreet Sandha, attended this event, kickstarting our school district's involvement with FIRST robotics. Our team graciously adopted the role at the forefront of change in LAUSD. Despite the setbacks, our first event was a huge success! We persisted and brought a memorable experience— remembering that FTC and FRC share the same core values. We strive to heighten the impact of these games on young nerds and became a model for all future FTC events.

We're proud to be a prominent figure in LAUSD's FIRST community, one that's reliable and willing to host FTC events. With a fun and competitive spirit, more than 100 students attend each event, emphasizing the importance of community engagement. Although we couldn't hold competitions in 2023 due to construction, we volunteered and ran 4 competitions at other schools. We provided systems advisors, emcees, referees, queuers, and more. This year, our district's trust allowed us to host 7 events on our campus. The majority of teams in the East LA region are rookie teams, so we hosted Kick-Off, Build Day, and scrimmages to accelerate teams' progress during the build season. At these events, our FRC members taught workshops on how to navigate Husky Lens cameras, code, and find outreach opportunities. Now, our campus is the home for all FTC events in East LA. Our contributions bring life to STEM involvement and create an enriching environment for all.

Our impact extends beyond student involvement. We hosted specialized training sessions for teachers and coaches in LAUSD to develop the necessary skills needed to mentor an FTC team effectively. Our dedicated coach, Mr. Cruz, hosted these sessions, imparting lessons on engineering fundamentals, team structure, and effective problem-solving techniques. Their hands-on workshops not only demystified the world of robotics for new coaches, but also ignited a passion for innovation and collaboration. Our school district recognized the student growth and STEM culture FIRST can foster and our team has been a key member of the planning committee responsible for supporting and growing the district's FTC league.

In addition to our training efforts, LAUSD generously donated REV Robotics FTC Starter Kit for each team which played a crucial role in our outreach. These kitbots provided a practical starting point for new teams, allowing them to build a solid foundation and develop crucial skills. Expanding on the benefits of FTC kitbots, our team attended local middle school STEAM fairs and encouraged schools to start an FTC team. Given that many teams were new to FIRST, we created a resource page listing different websites and materials that would enhance their program. This resource page was highly useful to many teams and is constantly being updated based on feedback. In the same way we supported FTC teams, we also supported FRC teams. With our advocacy, all FIRST teams in LAUSD were

allowed to request up to \$50,000 to buy equipment and materials. A total of 78 FTC teams and 8 FRC teams successfully received this funding. These donations significantly increased opportunities and enabled Title One schools with limited resources, like ours, to launch competitive and enriching robotics programs.

We understand that funding is integral to the success of FRC teams. However, we also believe innovation stems from the exchange of knowledge. Taking advantage of our relationships with "district alliance" friends, our team hosted FRC Kick-off where teams watch the game reveal, break down the manual, and brainstorm robot designs together. One of the teams that attended our Kick-off was Huntington Park HS, a team that competed in FTC which we brought into FRC after seeing their desire to expand their program. Our workshop has been open to them for support, helping make the transition to FRC less stressful. This strengthened the support system between neighboring teams and allowed us to share best practices throughout the build season. We also hosted 3 workshops, specifically Swerve workshops, for teams to collaborate, perfect their design, and progress.

Over the years, our robotics team has diligently worked to create a strong STEM community. After organizing, promoting, and hosting a variety of events, our team is ready to take on a new challenge. Now, we are taking the next step in developing The Nerd Lab: Collaborative Space. In proposing to redesign an unused Auto Shop on our campus to create this space, we aim to provide students with invaluable mentorship and opportunities for years to come. The Nerd Lab will serve as a resource to other FIRST robotics teams, offering a space where students can collaborate, refine their technical skills, and participate in competitive events. By providing teams with this conducive working environment, we will significantly reduce the amount of obstacles they need to overcome. The Nerd Lab will give students access to FIRST game fields that are close to home, workshops that teach fundamental engineering and administrative skills, exposure to a larger STEM community, and potential future learning opportunities.

Ultimately, our vision for The Nerd Lab has already gained traction, garnering support from 8 LAUSD board leaders, STEM-focused students, and Robo-Nerds Alumni. The Nerd Lab is a demonstration of the collective effort from both past and present participants—LAUSD and Robo-Nerds alike—to create a place that will contribute to the ongoing success of multiple STEM communities.

Team 5089, the Robo-Nerds, is the bridge that connects FIRST with our community. That means empowering others and diversifying the future. We take the initiative by including students from all backgrounds as early as middle school. Through networking and funding, we create an equal playing field for all. We volunteer at and hold events of all kinds, from attending GoBabyGo to hosting workshops and pioneering FTC competitions in East LA. Bringing teams together, we hope to use our Nerd Lab as a collaborative space to spread knowledge. Our impact stretches far and wide and is accessible to all. Nerdness is more than just a motto, it's our team's identity. We share our identity with every individual we meet, people of all ages and backgrounds, going beyond what it means to be a nerd today and shaping the nerds of tomorrow. ;

