

Great engineers build the world and great leaders shape it. Here at Texas Torque, we mold our students into both. We develop within our members both the technical skills to enact their goals and the commitment to see them through. Our students are not cast from genius alone. Rather, it is their dedication, passion, and morality that sculpt them into both great engineers and great leaders. The standards we build, much like our students, will have a lasting impact for generations to come.

We build sustainability. In 2004 the Northside Roboteers entered FRC and laid the foundation upon which Team 1477: Texas Torque was later built. With this rebranding in 2010, we developed a new identity defined by a more professional and sustainable image for the future. Our team maintains an open membership policy, allowing students of all ages from all schools to participate and to add to the scope of our program. This approach has helped grow our team from an amateur group of 20 to a well developed organization of 50 in the last five years alone. In line with this trend, we have seen female participation jump from 26% to 34% just this past year. Texas Torque members frequently return to the FIRST community after graduation not only to assist our team and to volunteer at local competitions, but also to mentor teams such as 125, 3320, and 3997. Through our emphasis on constructing a sustainable identity forged from the ideas of gracious professionalism, our students have directly benefited from the growth of the team.

We build programs. Texas Torque is currently working towards reconstructing our former Oak Ridge High School FRC team 3713, as well as introducing a new FRC team at Caney Creek High School. We have generated interest within the students in these areas by demonstrating at their schools. These students have since developed VEX teams, which we are now working to convert to FRC teams using the existing robotics infrastructure. One of our more expansive efforts is our recent push to establish FIRST in Norway. In 2013, one of our alumni presented on this topic at Tinius Olsen, a vocational college in Norway, and garnered national media attention for his efforts. In 2015 this alumnus permanently returned to Norway to continue his education and is now a member of the Kongsberg FIRST Committee. Today he is working on the integration of FRC into the Norwegian school system and he operates as a mentor for local Scandinavian FLL teams. Just like this dedicated alumnus, many Texas Torque students strive to give back and enrich their communities. Over the past year, we have increased our mentorship of FLL teams from 3 to 13 and have brought the total number of teams from 13 to 22. Texas Torque has recently hosted a 25 team FLL qualifying tournament, as well as our 2015 offseason competition "Spring FLLing" to provide rookie FLL teams a FIRST taste of robotics.

We have also hosted our annual summer robotics camp “What’s NXT for Robotics?” in order to inspire young students and to give them experience in robotics. By growing and improving FIRST programs, we hope to spread STEM opportunities to as many students as possible.

We build collaboration. One of our key objectives is to assist any team, regardless of location, cost, or alliance. We accomplish this by asking others to “Turn to Torque,” which has allowed us to provide programming and electrical support to more than 30 teams. Texas Torque has supplied scouts to 359 at the Dallas Regional and the World Championship, and has organized care packages for Chinese teams 5307 and 5308 at the Lone Star Regional. This past year, we have helped 57, 3735, and 4587 set up their roboRIOs and have assisted 3735 in Chairman’s. In addition, we have heightened FRC participation by lending out our rookie bot at offseason competitions over the past three years. In 2014, we joined Texas Mentors with other veteran teams in order to aid Texas teams in need of assistance. Our team also mentored teams 3335 and 4589 during the 2014 build season and absorbed the members of teams 1513 and 3713 upon their collapse in 2012. One of our more digital efforts has been the creation of Torque Tutorials: online presentations and video tutorials that cover topics ranging from rendering in Blender to versa gearbox assembly. In the spirit of collaboration, Texas Torque invited 624 to join us in hosting The Remix, our annual offseason competition that serves as both an FRC event and a community showcase. Teams hailing from Illinois to Mexico journeyed to participate in the thrill of competition, as well as three roboRIO workshops, the discussion of FIRST integration into Texas University Interscholastic League (UIL), and a Chairman’s award seminar. Our efforts in promoting collaboration in the FIRST family have resulted in greater unity between rookie and veteran teams.

We build awareness. Texas Torque endeavors to show everyone the usefulness and relevance of STEM. This campaign brought us to our township government, whom we worked with in order to establish The Woodlands Robotics Day on September 24, 2014. We have also been the subject of State Legislative Bills (House 13R3581 and Senate 44) in our efforts towards the creation of a statewide Texas Robotics Day. In addition to spreading FIRST awareness through government institutions, Texas Torque has also created a presence on the national media scene. Our team was granted the honor of opening the 2013 Macy’s Day Parade, allowing us to promote FIRST to over 25 million people. In a similar fashion, we have connected with thousands through our appearances on the national Fox & Friends morning show, Houston based FOX 26 news, and in the *Houston Chronicle*. Beyond building recognition on the TV screen, we Make it Loud at local demonstrations. One such event is Comicpalooza,

an international Comic-Con where we were able to generate enthusiasm among thousands of attendees through our live showing of our 2014 robot alongside seven other teams. We also demonstrate, volunteer, and participate in our local Sci://Tech Exposition, allowing us to mold young minds through exposure to the excitement of robotics. As a more innovative approach, our team has broadened the appeal of STEM through our integration of FIRST with sports. By expanding into a new venue, Minute Maid Park, through our partnership with the Houston Astros, we reached 26,000 people at our annual event "FIRST Pitch". In a similar fashion, we held a joint demonstration with NBA player James "The Beard" Harden of the Houston Rockets. By Making it Loud to millions across the country, we have helped to inspire passion for STEM within a new generation of young scientists and engineers.

We build communities. Texas Torque believes the foundation of any community is laid through the education of its inhabitants. Working with the Superintendent of the Conroe Independent School District (CISD), our team has proposed a District Robotics Center that we are currently working to implement throughout our school system. We have also influenced the creation of a District Robotics Coach within CISD, a position currently held by our lead mentor Scott Rippetoe. This appointment has directly resulted in the establishment and sustainability of robotics as a whole within our community. In the past year alone, our high school Electronics and Robotics class has seen a 76% growth in student participation, which was helped in part by our refining of the curriculum and donation of supplies. As of 2013, Texas Torque has gained identification as a sport in our school through administrative recognition, school yearbook appearances, and pep rally showcases. Additionally, our efforts to serve the Texas robotics community took our lead mentor, Scott Rippetoe, to the state capital in order to improve on the possible incorporation of FIRST into the UIL. Beyond the educational basework, we also build towards the future of our community through sponsor relations. We connect students to opportunities through internships and scholarships at sponsoring companies. In return for their support, Texas Torque has appeared at Halliburton's HALAcademy, Anadarko's Children's Day, and Rockwell Automation's fair. We also held a Sponsor Open House, where we provided tours of our lab to six major sponsors to personally thank them for their contributions. In addition to crafting mutually beneficial relationships with our sponsors, we act as architects in our community: designing and shaping its culture for the better. Through weekly volunteering, demonstrating, and organizing a blanket and school supplies drive, we have forged a partnership with our local women's shelter that aims to strengthen our relationship with our local community. Likewise, we donated our time to help the Angel Reach Foster Care organization

with a home renovation, tutoring, and technology support. Such humanitarian efforts have allowed FIRST and STEM to traverse their normal bounds and reach out to new audiences.

We build the future. Texas Torque makes engineering accessible by transforming how STEM is perceived by those around us. We reveal how the core of engineering lies not in distant creations of steel and polycarbonate, but instead exists as a tangible means to help others and to improve lives. We instill this truth in our students, arming them with both the unwavering skill and confidence needed to change the world, and themselves, for the better. This is our mission. Close impact, far reach. By shaping the students of today, Texas Torque builds the future of tomorrow.