

It's a popular refrain among FRC Team 1477 Texas Torque students that "There is no off-season!" This shared determination and passion for what we do is what keeps the spirit of our team alive. Everything that we do - from robot-building to community-building - we do because we love it, and it is our highest goal to be able to share the excitement and joy we get from our experiences with others.

Since Texas Torque first started, membership has been open to anyone, enabling us to have a wider recruiting and member base. Our lab is named Texas Torque World Headquarters for a very specific reason: members come from all over the county and the world. We're made up of students attending high schools in multiple school districts and home schooled students in the area, as well as a foreign exchange student. We aim to create a friendly environment where students of all experience levels are encouraged to learn and teach, eventually growing into leaders in all fields.

Our FIRST experience is hands-on, made that way by mentors who are always willing to teach and help, by sponsors who donate to help spread STEM education, and by the students of Texas Torque who largely responsible for the leadership of the team. Veteran students lead each of our sub-teams and, as a group, are experts concerning the robot. These student leaders actively train new team members and have a major role in team decision-making. The team relies on experienced members throughout the engineering design process, so we work to train new leaders every year.

We have also developed close relationships with some of our sponsor companies. Laird Plastics donates various materials in exchange for team expertise with milling and prototyping. Innovation First International, a large supporter of the FIRST program, has also begun to sponsor our team this year in support of their new employee, our lead design mentor, James Tonthat. Our sponsors frequently visit us at Texas Torque World Headquarters and join us at competitions. For the past two years, we have maintained a partnership with the Montgomery County 4-H organization to help them implement their initiative of expanding the role of robotics in education.

From offering time to in-kind donations, our parents have been an integral part of our team's success. They bring us dinner in the lab each night that we work late. They restock our fuel by bringing in lots of snacks. They not only helped us buy a team trailer, but have also helped us tow it to demos and competitions. They volunteered at the off-season event that we hosted, helping out with everything from concessions sales to field reset. They supervise us in the lab so that we can continue to work even when our mentors can't be there. They support the team monetarily and have brought in new sponsors for us each year. But perhaps most importantly, they have supported us through everything we have done and have shaped who we are.

At the end of the 2012 season, we started working with the Lone Star Region to offer the first ever FRC off-season event in the Greater Houston Area: the Houston Robot Remix. Texas Torque members played major roles in planning and running the event including field and pit set-up, concessions, shirt sales, donations, judging, refereeing, queueing, field reset, workshops, and tear down. Throughout the event, we provided ambassadors to introduce VIPs to the community of FIRST. It was a busy weekend, but the benefits were well worth the effort. The event was free to all, allowing any team - rookie or veteran - to gain valuable competition experience. It also strengthened the sense of community among local teams. Free admission encouraged the public to come and discover what FIRST is all about. We also reached out to a nearby pre-rookie team and

offered to let them compete with our 2012 practice robot in order to give them practical exposure to the structure of an FRC event from the field instead of the sidelines. We recruited a number of new students early in the fall and hosting the Houston Robot Remix gave them an opportunity to feel the excitement of being part of FIRST and Texas Torque early in the season. To help the Montgomery County Women's Center, we collected money and other donations. We're definitely looking forward to hosting the Robot Remix again next fall and we plan to work to make it an even better competition than the first one was.

Our team is a composition of a number of cohesive sub-teams that are strategically interconnected, including Build, Business, Media, Outreach, Safety, and Scouting. Texas Torque has grown tremendously by identifying problems and correcting them using student management. In the past year, we have successfully added three new sub-teams to streamline our creative process. We've integrated our CAD team with our build teams, coordinated our practice field assembly with a Field Management team, and formalized our system for helping other teams at competition by creating a Pit Crew. In previous seasons, the timely procurement of parts and tools has been a problem. This year, members are able to tell our business sub-team leader when we need to acquire materials. She then updates the purchasing spreadsheet to let our mentor know what needs to be ordered, speeding up the build process and saving us money.

One of our primary goals for this year is the reinforcement of our team's sustainability through data recording and maintenance. By using our team's wiki and file storage systems, such as Google Drive, we have created an ever-expanding knowledge database. Most team information including "how-to"s, scouting data, and robot designs are uploaded for common access and to help preserve the current team knowledge for future team members. Our project manager software allows us to keep members and mentors informed of the team's progress and the status of current projects. When students complete tasks, they can update the project manager and then quickly find the next job that requires attention. Additionally, our programming and CAD teams have started using versioning softwares as a safeguard to help prevent data loss. By establishing these critical pieces of team infrastructure, we are cementing a foundation in place for the continuation of the team.

A core part of our mission is to increase STEM involvement in our community. Through a summer camp we created called "What's NXT for Robotics?," we introduce children to robotics at an early age. As a thank-you to our sponsors, we offer enrollment for their children at a reduced rate. We recently applied for a grant to allow us to accommodate three times as many campers this coming summer. We also influence students by teaching classes at the local YMCA Technology Camp over the summer. Seeing students so thrilled about robotics and interested in what we're doing excites us for the future.

Alumni frequently return to the lab to see our progress, catch up with team members and mentors, and stay involved with Texas Torque in any way possible. These are the people who return to mentor us, helping the progression of our minds and our team. Although we have only one mentor with us on a daily basis, we have two more college students who make incredible sacrifices and display selflessness and dedication to the team and its members by travelling 300 miles each week to attend weekend meetings.

While there are times that we get caught up in the frenzy of competition, the real reasons we're a part of FIRST and Texas Torque have little to do with the design, construction, and performance of a robot. We spend our time working because of what we'll be able to take away from the season and bring to our futures. We don't look back on the year and talk about the code that we wrote or the amazing gearbox we designed. Instead, we remember the friends made, the experiences shared, the knowledge gained. The end product - the robot - that's what brings the pieces all together.