Chairman's Award - Team 1477

Print Close

2018 - Team 1477

Team Number

1477

Team Name, Corporate/University Sponsors

Halliburton/Anadarko/HP/Baker Hughes/Conroe ISD/Texas Workforce Commission/FIRST in Texas/NEMA Enclosures/DS SolidWorks/Laird Plastics/Sherry and Alan Coats/GE /Keith & Lauren Schilling/Merrill-Lynch/ELR/Crow Corp/Purpleheart Armory/BQS/Aspen Aerogels/Woodlands Robotics&College Park H S

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2017/2018 year and the preceding two to five years

Dedicated and capable, Texas Torque's members embody the ideals of FIRST. 100% of alumni attend college and major in STEAM. FIRST opens doors for our students to attend schools like MIT, Harvard, CalTech, CMU, US Naval Academy, and UT. Their success continues beyond high school as they intern at SpaceX, FIRST HQ, Facebook, and two NASA centers (Johnson and Langley). Eight former students mentor other FRC teams, and our alumni volunteer at regionals and championship events alongside parents.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2017/2018 year and the preceding two to five years

We worked with our local government to allocate $5.2M from a district education bond to build 4 robotics labs in our area, the largest of which is a $2.5M district robotics center located at our home campus. With these labs, our school district has added 2 engineering classes, which our lead mentor has greatly shaped, in addition to the robotics curriculum. We hosted an open house for the new lab and used the lab to spread STEM to families and hurricane evacuees through robotics workshops.

Team's innovative or creative method to spread the *FIRST* message

We've demonstrated with the Houston Astros in FIRST Pitch, James Harden from the Houston Rockets and the Houston Texans in the NRG Football Challenge. At request of a mentor, we made a robotic mobile cutting target to improve sword fighting skills for sword competitions; the robot, "Sir Robin," was successful at a Florida longsword convention. Nontraditional media has featured our team in local TV stations, newspapers, Youtube channels, FOX & Friends and the 2013 Macy's Thanksgiving Day parade.

Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate

In the past 5 years we have had 13 National Merit Finalists, 10 Eagle Scouts, 5 Intel ISEF Finalists and in 2017, our team's first Dean's List Award. We also strive to be community role models by reaching out to our government. As one of the founding teams of the STEM Advocacy Conference of Texas, we visited the state capitol in 2016 to discuss STEM education with Texas legislators. After winning the 2013 World Championship, we were recognized by the Texas Senate and Governor Rick Perry.

Describe the team's initiatives to help start or form other FRC teams

With the help of an alumnus, we introduced FRC to Norway. Using video conferences, emails and shipped parts, we helped the pre-rookie team build a copy of our 2014 robot. This robot was presented to the Norwegian Minister of Technology at Norway's national tech conference. Locally, we mentored and aided an FRC team in Tomball. Benefits from the CISD education bond include a new robotics workshop opening at Grand Oaks HS this fall and a pre-rookie team forming at our new lab at College Park HS.

Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)

Through increased publicity and outreach, we have seen the expansion and growth of FIRST in our community. Our team has started 35 FLL teams, with 70+ total teams formed in our school district in the past 5 years. We also host annual off-season FLL events and camps. Our local area offers programs at every level of FIRST, with 2 Jr. FLL teams, dozens of FLL teams, and a new local FTC team, which a team member mentors. We have even expanded FLL beyond our borders, with a new FLL camp in Mexico.

Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program

Texas Torque has 14 former FLL members on our team. With our new lab, we are able to host practice matches for local FLL teams, as well as draw in new FRC members. We host FLL camps and judge and referee in-season FLL Qualifiers. Within FRC, we have a history of providing pre-rookie teams with robots and drive coaches in the offseason. We helped teams 4371 store their robot and supplied teams 5839 and 5654 with batteries for Houston Champs. Our Torque Tutorials aid FRC teams across the globe.

Describe how your team works with other *FIRST* teams to serve as mentors to younger or less experienced *FIRST* teams (includes Jr.FLL, FLL, FTC, & FRC teams)

Mentoring 43 teams in the past five years, Texas Torque has continued to foster FLL in our area. Due to our demonstrations at elementary schools, teacher training camps, and district-wide informational videos, we have inspired some schools to open multiple FLL teams. This year, we mentored a rookie FTC team and helped them win their first competition. With the creation of this team, our area now offers FIRST programs at every level, from Jr. FLL to FRC.

Describe your Corporate/University Sponsors

Halliburton / Anadarko / NASA / Baker Hughes / NEMA Enclosures / Crow Corp / Laird Plastics / DS SolidWorks / Conroe Independent School District / Texas Workforce Commission / ETS Zone / Purpleheart Armory / Cactus / EISG / Weaver Consulting Group / BQS / Southwest Airlines / Aspen Aerogels / GE / 1to1Printing / FIRST in Texas / HP & College Park High School

Describe the strength of your partnership with your sponsors with special emphasis on the 2017/2018 year and the preceding two to five years

Texas Torque improves sponsor relations through a new sponsorship subteam. We visit our corporate sponsors and thank them in person by giving them plaques and telling them how their sponsorship has helped us succeed. We also demonstrate robots at corporate events. Aside from monetary donations, sponsors help the team by offering team members scholarships, internships and job opportunities. After attending our new lab's open house, sponsors helped us move in by donating machinery and a fridge.

Describe how your team would explain what *FIRST* is to someone who has never heard of it

FIRST is a robotics program/competition dedicated to inspiring students of all ages to understand and embrace the principles of STEM. By emphasizing the importance of collaboration, it pairs motivated students with professionals to show the importance of STEM in the modern world. By equipping the next generation with knowledge and experience, FIRST provides a place for passionate individuals who want to improve their skills and challenge themselves.

Briefly describe other matters of interest to the *FIRST* judges, if any

Texas Torque gives back to the community. We kept Houston Strong through Hurricane Harvey by providing evacuees a Lego workshop in our lab. We support a local women's shelter with profits from our offseason event and volunteer work. At the FIRST Championship, we worked together to win the FedEx Challenge. One of our members started an FFA robotics team. In 2016, his team competed in Stock Show & Rodeo's first-ever robotics event. He won the FFA awards Star Greenhand and Star for Science.

Team Captain/Student Representative that has double-checked this submission.

Jessica Steward

Essay

TEAM GOAL
When people think community, they rarely think of a robotics lab. While an environment dedicated to mechanics and electronics may at first seem intimidating, Texas Torque aims to foster a positive and educational experience for everyone who enters our lab. We support all interested minds, provide financial aid for those who need it, tutor struggling peers and offer a family for anyone to be part of. We make it our goal to spread these same opportunities to impact the next generation, from engaging children through FLL camps to inspiring local business leaders. Every curious mind deserves a chance at success and learning for the future. Whether across the country or in our local community, Texas Torque strives to educate and empower all individuals through FIRST.

INTERNATIONAL OUTREACH
One of our alumni, an exchange student, was inspired by his time on Texas Torque and decided to bring FIRST to his home country Norway. With our team alumnus, we helped a group of students in Norway build a copy of our 2014 robot by holding video conferences, providing email support and supplying parts for the team. Our alumnus continued to work to inspire Norway by presenting to the Norwegian Minister of Technology and Norwegian CEOs, becoming an instrumental part of the formation of FIRST Scandinavia and developing the Kongsburg FLL committee.

Last summer, Texas Torque's 2017 Dean's List Finalist and her sister traveled to their hometown in Mexico to host an FLL robotics camp, which was accessible to 4th-6th grade boys and girls. They wanted to educate the girls in their town by showing them that they can choose nontraditional careers in STEM. To aid them, Texas Torque supplied the team members with LEGO Mindstorms kits, FLL fields and team stickers. The local news filmed and interviewed our members, who shared the enthusiasm of the participants as the camp grew in popularity. By the end of the program, several children expressed that they felt empowered to pursue STEM careers, rather than coal mining, the typical career in their area.

NATIONAL INFLUENCE
In every interview and televised performance, Texas Torque promotes FIRST principles. On the national level, our team aspires to impact larger audiences through diverse forms of media, reaching 32.8M total people nationwide. Texas Torque's media appearances range from YouTube to national television. We were featured on Fox & Friends in 2013, representing our team and FIRST to 1.7M viewers. Texas Torque's championship robot "Sonic" cut the ribbon to open the 2013 Macy's Thanksgiving Day Parade, which was viewed nationally and internationally by 25.2M people. We participated in Roboleague, a documentary on the success of high school robotics teams that aired to AT&T U-Verse's 4.3M subscribers. "Sonic" also made an appearance on the ZombieGoBoom YouTube channel, with 145,000 views. NRG covered our team over the course of the season and sent a compiled video to its 137,800 employees. Texas Torque reaches out and involves ourselves with local news, through interviews and appearances with FOX 26 News and the Houston Chronicle, The Villager and The Courier newspapers.

GOVERNMENT IMPACT
After winning the 2013 FIRST World Championship, Texas Torque gained further recognition from the Texas Senate and Governor Rick Perry. Steve Toth, our 2013 county representative, also personally visited the team at our lab. Later in 2014, our township government recognized us by creating a Woodlands Robotics Day. Our congressman Kevin Brady was the opening speaker at our 2016 offseason event, The Remix. Texas Torque is also a founding team of the STEM Advocacy Conference of Texas, an organization whose members work to spread STEM education across Texas by meeting with state legislators. This past year, Leadership Montgomery County toured our lab, met with students and learned about our team's success both in competition and in our community.

COMMUNITY INVOLVEMENT
Through innovative outreach, we incorporate robotics demonstrations into local sports events. We began a relationship with the Houston Astros, and in 2013 and 2014 we demonstrated our robot during an Astros game in our FIRST Pitch event. Alongside Houston Rockets player James Harden, we demonstrated our basketball shooting robot Velociriptar. In 2016, we won the NRG Football Challenge at NRG Stadium and met with players from the Houston Texans. We were then invited to demonstrate to fans at Super Bowl LIVE. In these sports demonstrations, we have impacted more than 162,000 people over the past 5 years.

We have sought to further spread STEM to larger audiences through educational environments such as San Jacinto Community College, the Houston Museum of Natural Science, SpaceCom, TEDx The Woodlands and local preschools. Our robots reached 1700 participants through SpaceCom and 4000 students through the San Jacinto Community College event. Additionally, over the past 4 years, we have reached 20,000 participants in our local SCI://Tech Exposition.

Texas Torque remains actively involved in local events, from parades to school activities. For the past 5 years, we have demonstrated our robots in our township's 4th of July parade. Other local robotics demonstrations include Sounds by the Shore, a community fundraising event for local people affected by terminal illness. By attending freshman recruitment nights and orientations in our school district, we have inspired and engaged students entering high school. Furthermore, we increased exposure to robotics and STEM for people attending events such as Mini Maker Faire and Comicpalooza.

Essay - page 2

1477 does more than demonstrations. We also impact our community by giving to local shelters, donating to charities and helping those in need. In 2016, we contributed to the Products for Peyton drive as well as the Peyton Heart Project, which benefit a teacher at our school who recently experienced a personal loss. We have supported a local women's shelter since 2012, volunteering at their store and donating profits to them from our offseason event, The Remix. Our team also runs a bedding and blanket drive during The Remix for Angel Reach, a local organization that helps older foster children. Through The Remix and FLL Qualifiers, we run an annual LEGO drive, donating all the kits to a local children's hospital.

Through increased publicity and outreach, we have seen the expansion of FIRST in our area. When children become involved with FLL at an early age, their passion continues through the various levels of FIRST. In a clear example of this, 14 of our current FRC team members are former FLL participants. Our team has started 35 FLL teams, with 70+ total teams formed in our school district in the past 5 years. We host annual off-season FLL events and camps to provide opportunities for teams and also volunteer at in-season FLL qualifiers. Our local area offers every level of FIRST robotics, with two Jr. FLL teams, dozens of FLL teams and two new FTC teams, one of which is currently mentored by a Texas Torque member. We also mentored and aided two local rookie FRC teams in nearby Tomball and Magnolia West. In 2017, we hosted a regional FRC event, with 33 teams attending. With our new lab, we are able to host practice matches for local FLL teams, as well as draw in new FRC team members.

As a result of our work with our school district's board and superintendent, $5.2M from an education bond was allocated to create 4 robotics labs in our district, the largest of which is a $2.5M center located at our home campus. The creation of our lab led to the addition of 2 engineering classes and 2 robotics classes. Our lead mentor, the district robotics coach, has greatly influenced the development of the robotics curriculum used by the classes.

THE NEW LAB
We use the lab to spread STEM to families through robotics tours and workshops. Team alumni, school officials, community leaders, major sponsor representatives, parents and future team members attended the open house to recognize the impact that FIRST has made on our community. After attending our new lab's open house, sponsors helped us move in by donating machinery and a refrigerator. One of our members chose Texas Torque to be the recipient of his Eagle Scout project, which involved constructing 8 tables to provide us with more workspace.

In response to the immense support provided by our community, we used the new lab to reach out to local children. We helped a Girl Scout team earn their robotics badge with a tour of our lab, and we presented at a Boy Scout robotics merit badge camp. As a way to keep Houston Strong and help children affected by Hurricane Harvey, we hosted a workshop for evacuees in our new lab, teaching children how to build and program LEGO robots. Through this robotics workshop, we helped them take their minds off the catastrophes caused by Hurricane Harvey.

Our lab is not only a workspace, it is the manifestation of our community's support of Texas Torque and our mission to empower others through STEM education. Beyond FIRST, we include all aspects of robotics in our lab such as pre-rookie, VEX, and BEST teams. The new lab is not just a lab, it's a way to impact individuals and communities.

EDUCATING TO EMPOWER
It may seem difficult for one robotics team to empower the innovators and leaders of tomorrow. In response, we let our actions speak for themselves. Our team has grown and spread tremendously since 2004, this growth has not stopped us from taking in all interested students and giving them a chance to experience robotics. We have reached across the nation and beyond to spread our team's message, encouraging students in our district to reach their full potential through STEM education. By creating opportunities for discovery and growth, we secure the foundation of a better and brighter future.

We are Texas Torque. We educate to empower. Students today, leaders tomorrow.