

Chairman's Award - Team 3481

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2018 - Team 3481

Team Number

3481

Team Name, Corporate/University Sponsors

NewTek/Northside ISD/Boeing /FIRST-in-Texas/Lone Star Powder Coating/Crowdstrike/SolidWorks/Bronc Botz SPOTS/SACRA&Brandeis Hs

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

Bronc Botz has led nearly 100% of their alumni to follow a STEM career, and the team has a 100% college admission rate. We have had students accepted to MIT, UC Boulder, UT Austin, Duke, Stanford, and have had many students go on to work in large, STEM-based companies like Toyota, General Dynamics, Google, and CPS. This season, Bronc Botz team members have participated in the Dean's List competition, and last year we had 5 semi-finalists and 2 finalist competitors in both the FTC and FRC levels.

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

Bronc Botz impacts their community by doing volunteer work, in both STEM and non-STEM fields. They demo their robot at events put on by their school district in order for students to gain awareness about STEM. Their recognizable bright orange shirts have been seen at local food banks helping stack and sort food, as well as running a blanket drive and creating care packages for the homeless. They've volunteered at Habitat for Humanity, using their fabrication skills to help with the cause.

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

Bronc Botz spreads the message of FIRST by passing on their unique robotics knowledge to the next generation, and compelling others to follow suit. During the robotics off-season, they host workshops for their own and other teams. They demo their robots at school events and they participated in the global ISTE conference, where they ran a booth featuring FTC and FRC robots. Additionally, they presented with the FIRST marketing team at ISTE to over 150,000 people from all over the globe.

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

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

In 2016, Bronc Botz announced the initiative Project Alamo: Robot Rising. Their mission is to increase the competitiveness of FRC teams within the Alamo region. They are currently monitoring eight teams, including Wagner, Women's Leadership Academy, and Harlandale Early STEM college. In addition to providing guidance and experience, the Bronc Botz also provide parts such as gearboxes and motors, and provide access to tools and machinery which other teams may not be able to purchase.

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

Bronc Botz is a foundational team for Northside ISD. Being an experienced team, they have become extremely influential. Every year since the event was started, Bronc Botz has attended the Expo for Engaged Learning, formerly known as the NISD Tech Expo, where they demonstrate to school officials the importance of robotics programs to students. They have also worked closely with superintendent Dr. Brian T. Woods, and the program they created has led to the creation of over 100 FLL teams in NISD.

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

A large portion of progressing through the FIRST program can involve the movement from competing in FLL to competing in FTC. We have helped with this in multiple ways. We helped team 9829 Makbots progress from FLL to FTC, where they advanced to world championships their rookie year. We've mentored many FLL and FTC teams to success and hope to inspire teams all over Texas by showing gracious professionalism through helping other teams.

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)

As they started FLL and FTC teams throughout the district, the Bronc Botz also provided mentorship between their high school FTC teams and new rookie teams who needed a kick-start. Their open-shop policy is for all teams who need help with any aspect preparation process. Their open-shop policy has helped many teams, including world-class teams like 5980 Elemonators and 9829 Makbots, both of which took their advice better than they took it themselves and advanced beyond their level of play.

Describe your Corporate/University Sponsors

The team's corporate sponsors include Boeing, NewTek, Solidworks, Texas Workforce Commission, Entrust, KCI, 3M, Mavagi, Lonestar Powder Coating & FIRST in Texas. Their sponsors come from various places including demos, events, alumni connections, and grants. In conjunction with their corporate sponsors, their school district, NISD, gives each of the 3 FTC teams and the FRC team funds every season, as well as access to transportation vehicles.

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

Our connections with our sponsors are strong, as many of them have been sponsoring us for many years. Solidworks has been a sponsor of Bronc Botz since the very beginning, our rookie year in 2011. For the last 5 years, we have given annual demos to our biggest sponsor, NewTek.

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

Over the years, we have started over 100 FLL and FTC teams in our school district and directly mentored 8 FLL teams, 11 FTC teams, and 13 FRC teams from all over Texas.

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

Bronc Botz explains FIRST as a competitive and fun robotics program, where teams work together to build robots, then travel and compete with other teams, building strong bonds with people and teams everywhere and learning life lessons every day.

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

Dylan Watson

Essay

Like many technology ventures, the Bronc Botz were founded in a classroom, & spent the first few years working out of a garage. FIRST has provided our team with some incredible "power-ups" throughout the years, including amazing opportunities, exciting competitions, lifelong passions, & a sense of purpose that drives us to share these power-ups with our families, our friends, & our community. What began as an opportunity to build a robot has turned into an opportunity to build a better world.

The Bronc Botz entered the world of FIRST with a single FTC team in 2009 (4008), & have added 2 additional FTC teams (4602 & 6976) over the years. In 2011, we made the very large step up into the world of FRC (3481). The team was full of excitement & optimism, but had no idea how to approach the season. A few weeks into that first FRC build season, our lead mentor made a desperate phone call to a mentor for Robowranglers (148), asking for advice & help. He was told that if we brought our robot to their shop, they would help us. I don't think they expected our team would drive 5 hours for help, but for 3 weekends, that's exactly what we did. 148 provided far more than just help with our robot during those weeks, they gave us the power-up of Gracious Professionalism. By showing our team what gracious professionalism was all about, they served as our initial inspiration to become the kind of team that helps others succeed. As the Bronc Botz have grown, we have developed a reputation as the team to call when someone needs help in the Alamo Region. Our attitude toward Gracious Professionalism starts at the very top, coming from our Head Coach & Lead Mentor, Gabriel Guerrero (or, as most of us know him, Mr. Gabe). Mr. Gabe leads by example, with a steadfast belief that by helping others, we help ourselves. He spends more time than even we know helping FIRST succeed here in our community, running 2 FTC leagues & helping with other leagues, in addition to all his time mentoring us. His spirit of volunteerism & service to others inspires us to see the world in a different way, to look past the selfish desires that so often consume us, & to see the hidden power-ups that are hidden in plain sight, only available to those with the virtue of Gracious Professionalism. He has also taught us the joy of watching those that we have helped succeed, & shared that joy with us. In the past couple of years, teams that we mentored from the start of their existence have earned spots in both the FTC & FRC World Championships. We mentored FTC team 5890, the E-lemonators, starting their rookie year, & helped them go on to become a contender for the World FTC Inspire Award. We also mentored the MakBots, who started off as an FLL team & transitioned to FTC, becoming FTC team 9829. They qualified for the FTC World Championships in their rookie season.

The Bronc Botz have an "Open Shop Policy" at our facility (now grown to both sides of a portable building at our school). We are available to any team needing assistance, any time we are there. At times, teams are not able to come to us, we will go to them. We have actively mentored more than a dozen rookie & fledgling FRC teams using a program that we call the "Minimum Competitive strategy," which includes building a solid drive train, writing simple & reliable code for the robot, & strategic thinking to succeed in tournament play. We also teach teams to think beyond the current year, to develop solid team dynamics that will ensure their team is sustainable, and to know when & how to ask for help when needed. We show them that you can succeed with what you have on hand, as our robots have been built using only a band saw, a drill press & a large helping of ingenuity. In the past 2-3 years, we have even provided parts and supplies to a couple of strapped teams in the area.

Virtually everyone in the Alamo Region & surrounding FIRST community has felt the impact of the Bronc Botz. Our team members have actively mentored several FLL teams, & our team captain is building 15 FLL tables to donate as his Eagle Scout project. At the FTC level, in addition to mentoring the teams mentioned above, we have hosted the last three area FTC Kickoff Events for the area, and presented an afternoon of workshops delivered by Bronc Botz students, mentors, & FIRST representatives. We have developed more than 35 different workshop topics, & continue to present them whenever we can. This summer, we held our first weeklong FTC workshop, hosting members of several area teams plus a group of Duke TIP students. In 1 week of 8 hours sessions, Bronc Botz students taught attendees the basics of robot programming & design, and attendees built & programmed a basic FTC robot. The program was impactful enough Duke's TIP program has asked us to present it again this summer. We have also started to develop a series of videos based on our workshop topics for our YouTube channel. The time & work we invested to develop these workshops was a power-up for our team, forcing us to learn the material well enough to teach it to others, & along the way building a library of information we can share with future FIRST participants.

We have word to expand FIRST in our community. We lobbied the school board of Northside Independent School District (NISD), the 5th largest district in Texas, to increase funding for FIRST programs, & backed up our lobbying with our support & mentoring of the existing FLL teams in the district. At the time, there were less than 15 FLL teams in NISD. Our lobbying efforts resulted in the board agreeing to fund FLL programs for every elementary school in the district, & there are now more than 110 FLL teams in NISD. We are now working with the district to have FTC teams in every middle school.

At the statewide level, Texas has struggled to meet the challenge when it comes to funding public school education, & STEM education is woefully underfunded. In many areas in Texas, there simply are not opportunities to experience programs like FIRST, due to lack of resources, mentors, & more. We believe that STEM education is vital to our future, & so we joined with several other teams (including 2468 Appreciate, who initiated the movement) to found the STEM Advocacy Conference of Texas (SACOT), which advocates for STEM education expansion, funding for STEM programs, & works to increase general awareness of STEM programs like FIRST. Bronc Botz members have lobbied members of the Texas House & Senate, attended conferences at the Texas State Capital, & met with lawmakers & policy experts to promote the benefits of supporting FIRST & STEM education in the state.

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Our outreach has expanded beyond Texas, & even beyond the borders of the United States. The Bronc Botz were honored to be invited to present with employees of FIRST headquarters at the International Society for Technology in Education conference held in San Antonio in 2017. During the 3 days of the conference, Bronc Botz members met with people from all over the world & spread the messages of FIRST, & made contacts with mentors of FIRST teams all over the world. Since that conference, the team has provided help in the form of emails, calls, & skype sessions to several of those teams. One of the more rewarding experiences we have had came when we welcomed a German foreign exchange student onto our team. After he returned to Germany, we have supported his efforts to build a FIRST program in his community. We funded the FLL team he started, & have provided support & mentoring via skype & email. He is planning to start an FTC team next season, & we have committed to funding & supporting that effort.

Outreach includes the spirit of volunteerism, & that spirit is alive & well within the Bronc Botz. We have hosted FTC scrimmages for 7 years, & invite FRC teams to come practice with us if they do not have a field. The Bronc Botz were pivotal in starting FTC League play in Central & South Texas. We worked with coaches & leaders in the Alamo region to start 4 of the 7 leagues in 2015, & have helped new leagues form as the number of FTC teams in the region has continued to grow. Mr. Gabe & other Bronc Botz mentors have run 2 leagues for the last 3 years (on top of everything they do for our team), & the Bronc Botz have run the majority of competitions in the North San Antonio & Hill Country FTC Leagues, hosted several each year, & hosted multiple Last Chance Qualifier events. Along with running the league events the Bronc Botz have also helped grow a league support organization that includes referees, judges & other key volunteers. Bronc Botz volunteer outside of robotics as well, regularly volunteering at the San Antonio Food Bank, the San Antonio Animal Shelter, & many, many other places.

We know it is up to us to make the world a better place, & one way we are doing that is through a program we developed called Robot Girl. The Robot Girl mission is to increase female interest & participation in STEM activities, focusing on robotics programs, providing opportunities for students to hear from women in STEM careers, & raising money for scholarships for females pursuing STEM degrees. In 2017, we awarded our first Robot Girl scholarship to a senior member of the Bronc Botz. She is attending The University of Texas in the Engineering program.

FIRST has provided so many amazing power-ups to the Bronc Botz. We know that to truly unlock the full power of what we have been given, we must pass the power-ups along to as many people as we can. We do enjoy the competition, but nothing compares to the experience of introducing someone to a lifelong passion after introducing them to FIRST robotics & STEM. The Bronc Botz are incredibly proud to be part of the FIRST family, & look forward to continue our joint work to make the world a better, smarter place.