Chairman's Award - Team 537

Team Number

537

Team Name, Corporate/University Sponsors

GE Volunteers of GE Healthcare / Rockwell Automation / Red Arrow Labs & Hamilton High

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2016/2017 year and the preceding two to five years

Charger Robotics impacts and inspires its members in a passionate and powerful way. Approximately 99% of our alumni go into post-secondary education and 88% pursue a career in science or technology. Eighteen of our graduates have mentored FRC teams, and four have been on the Wisconsin Regional Planning Committee. In addition, many mentors, alumni, and parents fill various roles at competitions, such as field reset, VIP tours, FTAA, Lead Robot Inspector, and Inspector Manager.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2016/2017 year and the preceding two to five years

Our team impacts our community through programs such as Adopt a Highway, Bleed for Bots, Relay for Life, and SOS food drive. Our team has raised over $8,300 for cancer research, and each year at our blood drive, Bleed for Bots, we collected about 65 pints of blood, helping approximately 240 patients in 2015. We collect and recycle cans through our "Can-Do" program, which helps the environment and provides us funds. We also volunteer at our local Antique Power Show.

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

Team 537 spreads the ideals of FIRST through over 20 different demos, including 11 daily Summerfest demos. We use Facebook, Twitter, Instagram, YouTube, and our website to spread FIRST. Also, we spread awareness to over 2.3 million viewers through ATC, a web-based program that provides live, up-to-date information on any team at any competition. Our team sells "Supergeek" shirts to family, friends, and faculty to spread the "robo" love and create awareness in the school.

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

We provide teams in need with samples of our documents such as prior Chairman's submissions, business plans, and our mentor handbook. Our "Red Rovers" assist many teams at FRC competitions by loaning tools, giving supplies, fixing robots, and building bumpers. Team 537 members also volunteer at the Wisconsin Regional by working in the machine shop and helping tear down the competition field. We also provide the practice field for teams to use.

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

Team 537 and its mentors have had a hand in the formation of 13 FRC teams. Alumni of Team 537 have helped start Team 2506 and 5096. Students hosted an interest meeting at New Berlin West, resulting in the formation of Team 5148. All of these teams are given additional help by providing them with published resources, such as document samples. Many of these teams also participate in our Mini-Regional and Wisconsin Raffle.

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

Team 537 started and mentors four FLL teams at our middle school, influencing over 70 kids annually. Without our mentorship, the FLL program would not be able to thrive, due to a lack of school support. Twice a week, we send 15 members to assist, guide, and encourage the FLL teams and students. We also have welcomed questions from starting teams, such as Teams 5096 and 5148.

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

We have helped teams by providing resources such as our Business Plan, Chairman's samples, and mentor handbooks. Teams 5096 and 4786 came to our meetings and learned how to run more effectively. We donated $537 and parts to Team 2194, and sent $537 to Team 5855 to help them get to Championships. After attending our Mini-Regional and the

Wisconsin Regional, Rep. Neylon authored a bill giving up to $5,000 to FIRST Teams. Governor Scott Walker signed the bill at the 2016 Wisconsin Regional.

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)

Annually, 15 team members mentor four FLL teams, assisting 70 kids in building, programming, and researching the year's project. We have also Skyped Teams 63 and 4818 to discuss our business plan and game strategies. Twenty-two teams attended our Mini-Regional, working together through problems we come across at competition. We also work with other teams at our Summerfest demo, inspiring younger teams to become involved in the community.

Describe your Corporate/University Sponsors

We have developed a diverse sponsorship platform to reach a variety of companies. Our platinum sponsors such as; Red Arrow Labs and Rockwell Automation, donate $5000+. Sussex Hamilton High School, a platinum sponsor, gives us helpful facilities. Gold sponsors donate $2500-4999. Silver sponsors donate $1000-2499. Our bronze sponsors donate $500-999 and our copper sponsors donate $250-499. Any in-kind donations from groups are given an estimated monetary value that decides a sponsorship level.

Describe the strength of your partnership with your sponsors with special emphasis on the 2016/2017 year and the preceding two to five years

Our team hosts nine mentors from our sponsors. We attend multiple sponsor events, like the Rockwell Automation Fair and the GE Women in Engineering clinic. We also attended the Reich Tool and Design 50th year anniversary. We worked with Rockwell to create a FIRST internship program where FIRST alumni are actively recruited due to their participation in FIRST programs. At regionals, we also give VIP tours to our sponsors, introducing them to many aspects of FIRST.

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

While we build robots, we build character! FIRST is an organization that provides an opportunity for students to further their knowledge of science and technology in a friendly competitive atmosphere. Although our primary focus is to build robots, more importantly we build a community within a strong learning environment. We exemplify this through our use of Gracious Professionalism and cooperation not just within our team, but with other teams as well.

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

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

James Lang

Essay

Spreading the Message of FIRST

Our team has sustained various demonstrations. In 2007, we established an annual event at Summerfest, the world's largest music festival. Over the 11 day run, Team 537 runs daily demos at the Children's Zone. We also hold a four-hour mock competition with other FRC teams at the Sports Zone to promote FIRST. We held a demo at our local library during their annual Ice Cream Social. Additionally, we displayed our robot at the Antique Power Show as well as the Milwaukee Maker Faire, where we present ideas of FIRST to children and adult spectators in unique environments. Since 2013, our team has participated in a Humane Animal Welfare Society community service event. During this demo, we utilize our Ultimate Ascent robot by launching Frisbees for dogs to catch. Our team has helped to promote FRC at the Lakeshore FLL Tournament by providing our course and by demonstrating our robot, alongside other FRC teams. Over two days, an estimated 600 students viewed the event and are now looking forward to joining FRC. Since 2002, Charger Robotics has hosted and ran a Mini-Regional at Hamilton High School the weekend before ship. In 2016, we hosted 23 teams and over 1,500 attendees. For those who couldn't attend, we offered a live-stream of the event, reaching 1,135 people.

Government Outreach

In 2015, a team member contacted two Wisconsin state politicians, Sen. Farrow and Rep. Neylon to attend our Mini-Regional. Rep. Neylon was new to the world of FIRST and had watched our team's YouTube videos beforehand to learn more about the program. They both loved the experience so much that they accepted our invitation to attend and speak at the 2015 Wisconsin Regional. In 2016, Rep. Neylon authored a bill that allows eligible high school Robotics teams to receive grants of up to $5,000 from 2016 to 2018. This bill was passed and signed into law by Governor Scott Walker at the 2016 Wisconsin Regional. Both Farrow and Neylon will be attending our Mini-Regional again this year. We continue to extend invitations to other legislators as well.

Inspiring Students to Join FIRST

Team 537 has participated and created different opportunities to inspire students of all ages to join us on the journey of FIRST. We encourage new students to join our team by holding a demo at our school's eighth-grade orientation with an explanation of the ideals of FIRST and Team 537. In addition, we participate in our school's Activity Fair, which draws the entire incoming 9th grade. From 2012 to 2014, Team 537 hosted a demo at the Betty Brinn Children's Museum, giving kids a view into science and technology and information on FLL Teams in the area. Outside of our district, we have also made individual efforts to raise awareness for FIRST. For example, we promoted FIRST in 2013 by holding an interest meeting and demo at New Berlin West HS, resulting in the creation of FRC Team 5148. Members of our team have also taken robots to Boy and Girl Scout camps, bringing STEM & FIRST to over 600 Scouts.

Interactions with Other Teams

We believe in helping teams by providing published resources, such as Business Plan and Chairman's samples for their use. At competitions, we provide teams access to our scouting system. During the 2014 and 2015 build seasons, our team skyped Teams 63 and 4818 to discuss our business plan. When Team 2194 was struggling financially in 2014, our team assisted them by donating parts and $537. In 2016, we made this same contribution to rookie Team 5855, The Blue Collar Bruisers to help them get to Championships. In 2012, Team 4786 shadowed our meetings and Team 5096 did the same in 2014. In 2015, fifteen students mentored our four FLL teams, involving 70 kids in the process of building, programming, and researching this year's project. In 2016-2017 one of our teams advanced to State. In 2014, we began collecting Box Tops for Education to help build our FLL program, and we plan to host an FLL Regional. In 2013, we created a "Supergeek" fan shirt that we sell to team members, faculty, family, and friends to show our "robo" love and raise money to help fund a future FLL tournament. We send our "Red Rovers" to roam the pits and help teams by providing materials, assisting with bumpers, and maintaining and repairing their robots. For example, at the 2016 Wisconsin Regional, we assisted 4 Turkish teams and rookie team 6223 with various pit necessities, and helped them get their robot eligible to compete. Because of our Red Rovers, our team was awarded the Gracious Professionalism award at the 2016 Rock City Regional. Team 537 also provides our practice course at the Wisconsin Regional. We also help set up and take down competition and practice fields. Since 2013, our team has helped run the metal shop, at the Wisconsin Regional. Our team machined parts to fulfill 783 work orders since 2013. At our Mini-Regional event, FRC teams have the opportunity to test their robot in a competition setting. FIRST-certified inspectors hold mock inspections in our pits and our students are available to machine needed parts for other teams. At this event our team hosts one of the largest fundraising opportunities in our state, the Wisconsin FIRST Raffle. To date, this raffle has raised over $336,000 for Wisconsin teams.

Interaction with the School

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Team 537 has created a long-lasting partnership with Hamilton High School to help promote STEM education. In 2014, our school implemented STEM Academy to provide engineering classes to students, replacing PLTW programs. Since 2002, Charger Robotics hosts a four week summer school program called Engineering Inspiration to teach students critical thinking and problem-solving skills. These classes generate an interest among students in science and technology, compelling students to take engineering classes in high school and generally 10 to 15 students to join Team 537. We also attend the GE Women in Engineering event where students are able to interact with our robot while learning about Gracious Professionalism, teamwork, and robotics. Throughout our school, Charger Robotics expresses excitement in FIRST by adorning two display cases in our main hallway.

Impact on Students and School

Team 537 has a great impact on our school and the students who come through our program. We have had three Regional Dean's List Finalists, two within the past four years. Our team has a symbiotic relationship with our students; approximately 99% of our alumni pursue post-secondary education, 88% of whom go into a career in science or technology. 18 alumni have mentored FRC teams, countless more volunteer at regionals, and four have worked on the Wisconsin Regional Planning Committee. At FRC competitions, team members, mentors, and alumni volunteer in

various positions, including field reset, VIP tours, FTAA, and Lead Robot Inspector. In addition, Hamilton High School provides our team with varsity letters, JV letters and chevrons, validating Team 537 as a co-curricular activity.

Staying Connected with the Community

Team 537 uses social media to inform the public about FIRST and our team; people can learn about our accomplishments, check when competitions are, and get information on team events through Facebook, Twitter, YouTube, Instagram, and Team537.org. In 2012, a team member created "At the Control" (ATC), a web-based program that provides live, up-to-date information on any team at any competition, such as scores, team rankings, upcoming matches, and a live video feed of the event. Since its inception, the site has grown to 2.5 million viewers from 118 different countries since its inception. This year, we have completely redesigned ATC to create a modern and more inviting image. Since 2014, our Video team has created a series called "Robo Recap," a weekly build season web series that tracks our team through the build process and into competition. To help younger students and adults new to FRC and FIRST understand the game challenge, our animation team uses Blender and Python coding to create an interactive game to play. This year we are looking to add in a STEM teaching tool into the game. We've been featured in local newspapers as well as on the radio and on TV programs, informing people of upcoming events and reporting on our competitions. In 2012, 2013, and 2015, Fox 6 News covered our Mini-Regional and interviewed our team, airing throughout Southeastern Wisconsin on their morning talk show Real Milwaukee. During 2014, our team was featured in a CNN article about developing future leaders through robotics. The article has been viewed by 2,761 people and has broadened people's insight about the benefits and idealism of FIRST. We give back to the community through events such as our annual blood drive, Bleed for Bots, which yields about 65 pints of blood per year. This year, 49 donors participated, helping 150 patients. We also take part in Relay for Life, raising more than $8,300 for cancer research. To emphasize our commitment to the community and environment, we adopted a highway in 2007, which we clean up three times a year. In 2014, our team started a monthly food drive in which students are asked to bring different donated items each week, collecting over 2,500 pounds of food in 2016.

Partnering with Sponsors

We partner with our sponsors in multiple ways. Team 537 has been selected twice to represent Rockwell Automation and FIRST at the Rockwell Automation Fair, held in Chicago every four years. Furthermore, we represented Reich Tool and Design at their 50th Anniversary dinner, where Wisconsin Governor Scott Walker drove our robot and learned about FIRST from our team members. Charger Robotics also has built strong partnerships with local restaurants for monthly food fundraisers. Through our partnerships, we fund-raise for our team and express the ideals of FIRST.