

FRC Team 6328 - Mechanical Advantage Chairman's Award Executive Summary 2020



Briefly describe the impact of the FIRST program on team participants, with special emphasis on the current season and the preceding two to five years.

In the FRC6328 family, 38 FRC and 40 FLL students from 6 districts work, learn, and play together. Here, timid FLL students learn to speak to a roomful of adults; FRC members learn CAD/CAM, programming, machining, media, and teamwork; special needs students are able team members; and high school age leaders command 27 technical, business, and outreach subteams. The impact is clear: all 10 of our FRC graduates have moved into STEM majors, many with FIRST scholarships, all with bright futures.

Describe the impact of the FIRST program on your community, with special emphasis on the current season and the preceding two to five years.

FRC6328's yearly outreach has grown exponentially. Outreach man hours grew from 854 hours in 2018 to 2027 in 2019, totalling 148 events since 2016, with 60 of those events occurring in 2019. One demo we planned in 2019 was the WaterFire Moon Landing event, where we brought together 13 FIRST Teams for a crowd of over 100,000! Furthermore, our unique workspace has allowed us to become a STEM hub in town, hosting events like the FLL Jr. Expo, which brought FIRST's mission to over 200 community members.

Describe the team's methods for spreading the FIRST message in ways that are effective, scalable, sustainable, and creative.

We spread the message of FIRST both locally and worldwide through our 9-tier outreach program, including FIRST Global, Girl Up, and FTC outreach and several others. Our programs target those with limited access to STEM including women, students with special needs, and underserved students. One partnership we have is with the Jackson Mann Community Center, an after-school program for Allston-based students. We set up STEM workshops and are working to get their own FIRST teams established.

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

Gracious Professionalism always comes first. Our team members, students, and adults live GP as volunteers at our 5 FLL events and State Championship, 4 FRC events, 2168's global hunger food drive, and more! FRC6328 is one of 6 teams founding the Open Alliance in 2020, publishing an open build blog and inspiring other teams to do the same. We also participate in the Compass Alliance, providing resources to teams worldwide, and have 3 students who are LGBTQ+ ambassadors for the FRC community.

Team's initiatives to help start or form other FIRST Robotics Competition teams.

We have an extensive FRC outreach program, including rookie team outreach and mentoring and assistance of existing teams. Thus far we have assisted 21 FRC Teams. Our 18 How-To guides help with focused topics, such as establishing a 501(c)3 and conducting a sponsor campaign. In 2020, we created care packages for all 8 rookie teams in NE, and visited their workspaces. We have also donated tools and parts to FRC7869 for the 2020 season, including a 3D printer and 2 laptops.

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

We run and directly coach 5 FLL teams in Littleton, plus 3 FLL and 4 FLL Jr teams in Bolton. FRC6328 members volunteered 1777 FLL hours in 2019 alone, up from 993 in 2018. We host 5 annual FLL events: an FLL Qualifier, FLL Practice Interviews Day, FLL scrimmage, FLL Jr Info Session, and FLL Jr Coach Training. We have also held 2 FLL-based summer camps internationally: 1 in Hyderabad, India in 2017, and 1 in Hong Kong in 2019. Additionally, we work closely with FTC12897, hosting joint demos.

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

FRC6328's greatest strength is our FLL-to-FRC Transition program. Grade 8 FLL members participate in technical training and offseason competitions in the fall before the FRC season. This program has brought 23 FLL alumni to the team since 2017. We have extended this program even further to invite FLL & FLL Jr members to build meetings and competitions, where they learn key skills such as using basic tools and scouting. We wrote a resource guide so other FRC teams can set up similar programs.

Describe how your team works with other FIRST teams to serve as mentors to younger or less experienced FIRST teams.

We had 38 FRC members mentoring FLL & FLL Jr students in 2019, forming strong mentor-mentee bonds. We also developed joint FRC-FLL outreach events, such as Boston Greenfest and RoboExpo, where our FLL members learn the importance of community outreach. As a founding member of the Open Alliance, we have been working with 6 other FRC teams, providing content worldwide. We have also been featured on "FIRST Updates Now" 3 times, discussing Open Alliance, quiet rooms and rookie team start-up.

Describe your Corporate/University sponsors.

Our major sponsors for the 2020 season include Patriot Beverages, ETM Manufacturing, Gore Foundation, Flashforge, BAE Systems, ZOLL Medical, Raym-Co, The Mighty Oak Fund, and Workers Credit Union. The team takes pride in attracting sponsors from a variety of industries by effectively demonstrating that FIRST gives students the opportunity to learn skills useful in any sector. We visited 6 sponsors in 2019 to learn about their businesses, and to show our sponsors the impact of their generosity!

Describe the strength of your partnership with your sponsors with special emphasis on the current season and the preceding two to five years.

Our team's top sponsor, Patriot Beverages, donates a 4200 ft² workspace to our team, which serves as our team HQ, and the location of multiple FIRST events year-round. We also hold an annual Pasta Dinner in the fall and a Sponsor Open House in the winter, where we recognize our sponsors and highlight their contributions. For the 2020 season, we ran a sponsor campaign where team members personally reached out to potential new sponsors, bringing in 18 new companies for 2020.

For FRC teams older than 5 years, briefly describe your team's broader impact from its inception.

Although FRC6328 has only existed for 4 seasons, we have had an impact similar to older teams. Before FRC6328, Littleton had 1 FLL team. Now we have 1 FRC, 5 FLL, and 2 FLL Jr. teams. Beyond Littleton, we have global influence, such as our new Girl Up Club. Girl Up members raised \$1000 to build a classroom for refugee girls in Uganda, and are planning a Respect Day for women in STEM. These events and experiences bring us together, creating a tight knit family with a global impact.

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

FIRST is a family with widespread interests - and a particular fondness for robots. We each have different skills, but we're all in it together, and work to support each other. We want our students to be well educated, capable, lifelong learners, and good people. We compete hard, but fairly; we help others in our community because it's the right thing to do. It's in our nature to make mistakes, but we learn from them. FIRST is the foundation for our robot family.

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

Mental health is a priority for FRC6328. We are proud to be a member of the Compass Alliance, a large global resource hub, where we work to establish quiet rooms at events, including both World Championships in 2019. We want to increase mental health awareness in FIRST and make FRC a better place for everyone. We wrote 3 resource guides surrounding mental health, and keep a quiet room set up in our workspace. Our team is at our best when our members are at their best!