

Chairman's Award - Team 2783

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2018 - Team 2783

Team Number

2783

Team Name, Corporate/University Sponsors

UPS/FORD MOTOR COMPANY/Cherry House/Kentucky Engineering Foundation/Comply 365/80 20 Inc./3D Technologies - Solidworks/Gheens/Siemens/AT&T/University of Louisville - J.B Speed School of Engineering/Global Granite/UAW Local 862/DS Solidworks&Family/Community

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

FIRST gives our team members a platform to become competent, confident, engineers and leaders. The life skills learned in build, programming, teamwork and public speaking, equip them for future success. In 10 yrs. 99% alumni went on to a 4 yr. institute. Several are still involved with FIRST. In 2016, each member received a Citation of Achievement from the KY House of Rep for outstanding contributions in STEM and community service. EOT is a community team that comes together to inspire.

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

EOT is the leader in FLL/FRC education in our community. We have helped start 27 FLL teams in the last 7 yrs. Teach FLL to 3 school districts. Our coach and team support is the key to retaining coaches and increasing teams. 15 new FLL teams emerged this season, 1 from Indiana. To support them, EOT hosted 62 teams at our regional with room for 80. We teach and demo in 4 counties at children's centers, schools, libraries, State Fair, Maker's Fair along with private group clinics at our shop.

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

We contacted over 1,700 schools in KY informing of them FIRST programs and how we can help. We continue to stay connected. This resulted in EOT assisting and mentoring rookie FTC 12588. We created a new website, brochures, flyers, info packets to hand out at our many outreach opportunities. Routinely post FIRST info to neighborhood websites, reaching over 6,000 homes. We offer to help start team or connect them to existing ones. We invite other teams to demos with us creating a bigger impact.

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

Our team members represent 10 schools and homeschools in 3 counties. They display team pride and the principles of FIRST in all they do. EOT hosts 150 FLL campers throughout the summer. At our regional, these students will seek out their camp mentor to show off their robots to them. EOT supports local FTC and FRC teams by inviting them to seminars, shop visits, and demos. Several members spent hours helping FRC teams at competitions last year wiring, coding, building bumpers and even a cart.

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

The more visible we are, the more we can inspire others. We talk to everyone at our demos and get them excited. EOT invites potential coaches to come to our shop and spend time with us. We share sponsor and fundraising opportunities. EOT offers shop time and tool/safety training. We meet with school administrators, supplying information regarding FRC teams. What we do best is keep forming FLL/FTC teams so they progress to FRC level. Assisted Rookie FRC 6858, helped form and mentor FRC 5492.

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

EOT has helped start 27 FLL teams, 3 FTC teams and 1 FRC team in the last 7 years. We offer FLL camps, Coach clinics, year-round support, coach hotline, and an FLL instructional packet for new coaches. We communicate with school officials, youth groups, scouts & 4H. At our demos, we put the robots in the hands of the students and potential coaches to inspire them. We donate EV3 kits, offer camp scholarships, and pay FLL fees. EOT has donated over \$10,000 to the FLL program in our community.

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

At our regional, we showcase local FTC and FRC teams to get the FLL teams excited about the next step. It also provides an opportunity for coaches and potential mentors to ask questions about the next level. We offer shop tours, training, & mentor seminars. EOT also offers advanced programming camps for FLL students going to middle school. We like to hold demonstrations at local middle schools right before school ends to inspire them to join an FRC team.

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)

We mentored 25 FLL teams this season, traveling to each team during the season when needed. We invite all teams to a mid-season clinic with 12 FLL tables and mock judging rooms. Last year, a student sponsored & coached a team at a low-income school. For FTC/FRC teams, our team offers: Online CAD instructional videos, Systems classes, safety training, shop tours, power tool instruction, & Robot demos. We have hosted a Solidworks class for FTC 2537, FRC 5492. EOT mentored FTC 3527 and FTC 12588.

Describe your Corporate/University Sponsors

We are thankful to Cherry House Furniture for providing our shop space and utilities for 9 years. Other sponsors are: Kentucky Engineering Foundation, provides our 501-c3, 10 yrs.; FORD, Financial, 8 yrs.; University of Louisville, Mentor, 8yrs; UPS, Financial; 80/20 Inc., materials Global Granite, practice space Give Local Louisville, Financial Comply 365, software Gheens, grant AT&T, grant UAW Local 862, financial

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

By continuing to practice the *FIRST* principles, we have earned the respect and admiration of our sponsors. They are proud to be affiliated with EOT. They continue to support us every year. They fund, supply and teach us. Thanks to our sponsors, we work in a 5,000 ft.²-equipped shop, our utilities paid. We in turn are proud to display their logos, showing their support of *FIRST*, STEM & EOT. We eagerly present at sponsor events. We are thankful for their belief and trust in us.

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

Exciting, fun, and challenging are a few words our team would use. Combine that with building a robot and international competitions and we would have their attention. *FIRST* is an opportunity to challenge individual potentials while working toward a team goal. Core values of Gracious Professionalism and Coopertition are instilled. Life skills and life lessons are learned. *FIRST* is getting a chance to inspire others and build self-confidence at the same time. *FIRST* is making lifelong friends.

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

We are regarded by one of our largest sponsors, Ford, as The Kentucky team, the one to emulate. This year we hosted 62 teams at our FLL regional so that no team would be left out. We assisted FTC 13034/11127 with opportunities towards their awards. Hosted all-girls high schools for Girls in STEM day at our shop. We lobbied to get approval to host KY State FTC Championship to support local FTC teams. Still working on securing a *FIRST* Partner to help bring the tournament back.

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

Ida Isenhardt

Essay

"Just as ripples spread out when a single pebble is dropped into water, the actions of individuals can have far-reaching effects." Dalai Lama.

Team 2783, Engineers of Tomorrow, (EOT), was founded in 2008 in LaGrange, KY. EOT is a community team comprised of students from 10 schools and homeschools. We may live in a small pond, but EOT is creating big ripples. We are a catalyst for STEM in our community through the FIRST program. It only takes one person to make a difference and together, our team is making a huge impact. Change cannot occur without action. EOT has improved all of its programs this year. We taught more FLL camps, expanded our FLL regional and held more CAD and Systems classes. Community schools and others in FIRST look to us for guidance and leadership. We are no longer throwing one rock at a time, but handfuls. Our ripples are reaching across states and oceans. Through FIRST, we are inspiring our community to take action today to change tomorrow.

Small pebbles

Each of our members is a rock in our foundation. At EOT, we equip our students with the skills to become competent, confident leaders. With 40 members, everyone works to maintain a safe and motivating environment. Our students teach what they learn and not just to other members, but friends and family as well. By incorporating professional applications such as robot design protocols, production scheduling and purchasing, students are more prepared for the future. We formed EMS 2783, an on-call repair squad to assist teams at competitions. Other improvements include extensive CAD and systems seminars, and implementing vision. All students are safety and tool trained. So far this season, our team has collectively logged over 7,800 hours doing robotics activities including working at the shop, leading activities at our FLL camps, community service or presenting our robot at various demonstration sites and events. Team members were awarded a Citation of Achievement from the Kentucky House of Representatives for their contributions in STEM education and community service.

We are a community team that becomes a family. This year, not ripples but waves rocked our family with the news that 2 of our student members were diagnosed with cancer just months apart. We use every technology we can to keep them connected to us, their team family. Their courage inspires us. To honor them, we donated all our Lego kits to the Children's hospital creating ripples in a new direction.

Our alumni are also still making an impact, where they have stayed involved with FIRST through mentoring FRC, FTC, FLL teams, and teaching at scout camps. Of our 46 graduates 45 have entered college, 43 seeking degrees in STEM related fields. They have shared in over 3 million scholarship dollars including the FIRST scholarship program.

Skipping rocks

We work hard to earn the respect of the FIRST community around us. They look to us for guidance and support. We inspired other FRC teams with our generosity such as donating robot parts and opening our shop to rookie teams, sharing our practice field with FRC 5492, offering CAD and System seminars. EOT assisted new rookie team FRC 6858 with startup and assisted with starting and mentored FRC 5492 their first year. We always invite other FRC teams to join our demos, the more robots, the bigger the impact. Together with 5492, we captivated a crowd of 300 at the State Fair this year. EOT has also worked alongside FTC 13034 and 11127 providing them opportunities such as mentoring a new FLL team, demos and volunteer jobs. This is a great partnership. We help them get credit towards FTC awards, and they help us spread the value of FIRST. This year, EOT assisted in forming and mentoring Rookie FTC 12588 in a school where we had started their FLL program. Our largest outreach effort created a school database that included all 1,700 schools in the state of Kentucky. We contacted administrators with information about who we are, FIRST programs, sponsorship opportunities, and links to websites. We continue to offer to assist these schools in establishing teams and have made ourselves available for mentoring and advising.

We have long-term relationships with the Boy Scouts and Girl Scouts. Our students and alumni have continued to teach robotics classes at a Boy Scout summer camp and workshops for 6 years. EOT has assisted in promoting the new Scout STEM program. EOT continues to spark STEM interest in young women. We hosted a Girls in STEM Day at our shop for an all-girl high school. EOT is now 25% female and growing.

Throwing bigger rocks

Due to the growing number of campers, we created a new FLL summer camp curriculum to teach large groups. One camp grew from 78 to 118 campers. This year, we taught over 150 students. For the past 6 years, we have mentored the Oldham County Elementary School district with FLL. A second school district heard of our program, and hired us to teach there.

There were 15 new FLL teams started in this year. We mentored 6 rookie teams in 3 schools that previously had no robotic teams. One team was started in a sister school across state lines. Our team members have spent over 900 hours this year alone working with FLL. EOT helped start 27 FLL teams in 6yrs. We feel it is our coach and team support that makes easier on the coaches, keeps them coming back and starting more teams. We have coach's manuals to guide them through the season, offer coach's seminars, a hotline number/email to answer questions, and team members that will do onsite visits. The FLL State director who is also an FRC 3814 team mentor reached out to us to share our camp curriculum. Our ripples have now reached clear across Kentucky. When it comes to FIRST education and promotion, EOT is the leader in our community.

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We realize one of the main reasons people are apprehensive about starting FIRST teams is because of the financial commitment associated with each type of team. We have come up with innovative ways in which we can assist the financial needs of potential teams as well as individual students. EOT has provided camp scholarships and loaned EV3 kits for the season. We also donate portions of camp funds back to the teams to purchase kits. We have donated over \$10,000 in FLL kits and registration fees for new teams in the Oldham County Elementary Schools.

Handfuls of rocks

Because of EOT's diligence and excitement for promoting STEM, this year was incredible for FIRST growth in our area. EOT shows others what FIRST can do for them. Our community outreach was intentional and deliberate. We did things bigger and better this year. It takes big energy to make a big splash. Venues included Mini Maker's Fair, libraries, schools, community centers, children's festivals and multiple nights at the KY State Fair. We promote FLL, FTC, and FRC everywhere we go. EOT invited FRC 5492 and FRC 3844 to join us at the Maker's Faire. People are excited when they see EOT on the schedule. We acquired 3 new mentors who were inspired by our passion for STEM.

Our largest outreach project is hosting the Derby City FLL Regional Qualifier every year. It has been at full capacity of 48 teams for the past few years. However, we were not about to tell all the new teams they could not compete. After all, it was because of our hard work they came to be. Abandoning them was not an option. We acquired enough space and worked out the details to have 2 tournaments on the same day. EOT hosted 62 teams this year! With these new changes, there is room to host 80 teams. Our goal is to be at capacity for next year. This event has over 2000 attendees. Over the years, we have recruited over 300 community volunteers. EOT motivates and recruits others to work with us in our mission to promote FIRST. EOT has also hosted a Community Faire. We invited local animal shelters, wildlife rescues, and 4H along with several STEM groups such as FRC, FTC, Jr. FLL, and U of L Rocketry. This summer, working with FIRST, we lobbied to get approval to host the KY State FTC Championship to support local FTC teams. We are still working on securing a FIRST Partner to help bring the tournament back.

Rock solid

Our successes both on and off the field have given us the opportunity to share FIRST with others. We were deemed by Ford Motor Company as the "Kentucky team to emulate". We are honored to have earned respect and commitment from our sponsors. Their continued support every year is a tribute to the integrity and hard work of our team and our commitment to FIRST. They provide our shop space, materials and funding. We are thankful for their belief and trust in us and giving us our foundation.

Ripples in the ocean... from here to Puerto Rico

While our main focus is spreading the message of FIRST, we have also impacted our communities for the better. We support local food banks, animal shelters and children's hospitals. EOT works to support WaterStep, a non-profit organization here in Louisville. We ask FLL teams to collect old shoes to help fund water purification systems for developing countries. One FLL team made it a school-wide project collecting almost a thousand shoes. Those students learned how their efforts made an impact to help provide life-sustaining water around the world. WaterStep asked for our help to build units to send to Puerto Rico after the hurricanes. EOT jumped at the chance and assembled 20 units in one day. We also send donated Legos, clothing and shoes to as far away as Mexico, Nicaragua and beyond using school mission trips to children's orphanages.

Just one person with one pebble can make many ripples. When we all work together, those ripples can go on forever. EOT will continue to impact our community, our world, and be a difference maker. We are innovative, we are motivated and we are continuing to help others build their dreams and achieve their goals. Through FIRST, we will build a future for the students of today and tomorrow.