

## Chairman's Award - Team 1325

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2018 - Team 1325

### Team Number

1325

### Team Name, Corporate/University Sponsors

General Motors of Canada/IMAX/Sable Metal Manufacturing/Agora Manufacturing/Hatch/Yamana Gold Inc./McRae Integration/TD Bank/Budget Rent-a-Car/Waterloop/Coremark/Sheridan College/SkyWatch/Minuteman Press/Gordon Graydon IBT&Gordon Graydon Memorial Secondary School

### 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

The FIRST program has impacted our team members by providing them with a strong community & shaping them into leaders of the future. The Junior Executive System has empowered the females on our team to compete in an off season event as an all girls team for the first time this year, where they finished as finalists. After this 100% of the females on our team have taken on technical roles that seemed to be intimidating at first. 90% of alumni chose to pursue a degree in STEM in the last 5 years.

### 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 hold local robotics camps, based on our comprehensive curriculum containing 50 STEAM learning activities, categorized by age group and skill level. Over the past 3 years we partnered with 5 local community organizations: Peel Multicultural Council, Learning Disabilities Association of Peel, Port Credit Sea Scouts, ISNA Elementary School & the Boys & Girls Clubs of Peel to host our workshops to over 1,000 youth that do not have had the opportunity to take part in STEAM programming otherwise.

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

We harness our diverse backgrounds by participating in festivals like Port Credit Canada Day Parade, Streetsville Bread and Honey, Maker, Riverside Funfair, Garba, and Ostav to engage the general public in FIRST. We were on Discovery Planet's Now This, which was broadcasted to thousands of viewers online. We were interviewed on ASAP Science's social media, Rogers TV, and Zee TV to extend our outreach. We hosted 2 food drives to donate canned food items in collaboration with our school's WE Club.

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

Due to the initiatives our members have started globally, there has been a chain reaction of empowerment increased the number of students taking the lead on hosting international workshops. Just this year our workshops in India have increased by 200% to reach 8,000 students. Our involvement with INGO's has doubled with our new partnership with Right to Play. Through this we are delivering FIRST programs to 300 schools in Ontario by the end of 2018 and move into countries in which they operate.

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

Our members have taken the initiative to help continue the development of rookie FRC Teams such as FRC Team 4015 at St. Joseph's Secondary School by becoming full time mentors. They have devoted over 200 hours so far. We helped FRC Team 5921 at TL Kennedy School with initial team setup and sponsorship management. We also started a Help Desk feature on our website to allow other FRC teams to access our knowledge, tools and facilities such as our Practice Field, which has been used by 12 teams.

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

In 2013, we started 6 Jr. FLL teams at Cooksville Creek Public School. Due to our strong partnership with the Port Credit Sea Scouts we have created curriculum based on FIRST to implement in elementary schools. We are scheduled to present at a parent council meeting at the school of the sea scout youth to establish teams. By partnering with Boys and Girls Club, we introduced them to FIRST through 45 robotics workshops, from which they would like to start 10 FLL teams for underprivileged youth.

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

We assist students from Allan A Martin, Port Credit Sea Scouts. St. Timothy's, Tomken Road, Kenollie and Fairview Public Schools to help them transition from FLL into FRC through our mentoring program. We mentor 6 FRC Teams and 10 FLL teams through a yearly rotational system. We held two conferences at the FIRST World Championship to help teams maintain sustainable growth with over 200 attendees. We continued this initiative through the #Ask 1325 and online help desk to reach global FRC 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)**

We have joined FIRST Alliances by invitation from FRC 1902, which is a website created to connect FIRST teams all around the world to create a database of resources. For a third time we participated in Quick Build and in FRC 771's SWATPosium to assist FRC teams. We held 3 design workshops at FRC 2056's conference with 94 participants and for FRC Team 4914. We've hosted our FIRST Entrepreneurial Experience with Mars Discovery District, with over 40 attendees from various rookie FRC teams in 2016.

**Describe your Corporate/University Sponsors**

Monetary -Avis Budget Group -Carpenters & Allied Workers Local 27 -General Motors Canada -Gordon Graydon Memorial Secondary School -Hatch Ltd. -IMAX -TD Canada Trust -Yamana Gold Inc. -SkyWatch Inc -McRae Integration -MinuteMan Press In Kind -Agora Manufacturing -Sable Metal Fabrication -Sheridan College -Waterloop

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

We maintain a close relationship with our sponsors by hosting robot demonstrations at IMAX, Carpenter's Union & Hatch. We held a fully sponsored robotics workshop at Yamana Gold's head office for the children of their employees last year. This year, Yamana helped us create our annual robotics grant that ensures one community organization can afford the resources to run STEAM programs for their youth. Our sponsors give back to our team by offering summer internships to our students and alumni.

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

For Inspiration and Recognition of Science and Technology (FIRST) is an organization that has a place for everyone. FIRST aims to foster a passion for Science, Technology, Engineering, Arts and Math (STEAM) within its participants. This community of passionate individuals promotes gracious professionalism, teamwork and works to build a global appreciation for STEAM. FIRST instills creativity and innovation within youth to help them gain hands on experiences to build the leaders of tomorrow.

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

Our members won the Young Adult Mentor Award 4 times for their dedication to FLL teams. One of our students won the Volunteer of the Year award for her commitment to Tomken's FLL tournament. We contributed 9,180 hours of community service for FIRST and STEAM advocacy. Our lead mentor was awarded the Woodie Flowers award in 2016. Our business lead won the Dean's List Award, for which she conducted speeches at the FIRST Charity Golf Tournament, Synnex Board Meeting, & Mississauga City Council.

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

Tanreet Dhaliwal

## Essay

As we approach our 13th robotics' season we continue to ignite a spark that not only powers our team but brings forth a new generation of leaders. If you asked any of the students on our team to describe what FIRST meant to them 5 years ago they would view it as just another school club. Today, they perceive FRC Team 1325 as a gateway to realizing their dreams, unlock their potential, & work together to inspire the next generation of STEAM enthusiasts.

To begin, our 5-year-old Junior Executive System allows us to transfer knowledge to new members through a cycle of sustainable learning, that has created 30 leaders, such as Liz Michez. Although Liz initially hesitated when choosing between numerous specialized programs for high school, her decision was clear when she saw our robotics showcase at our school. Ever since, Liz has had the opportunity to take on diverse roles, starting out as a mechanical member, where she excelled to become a junior executive, electrical lead and now drive team member. Liz's journey is just one of many stories that display how 1325 creates an empowering culture that encourages students to pave their own path to develop their leadership skills.

With a commitment to making a powerful impact locally & globally, we have touched the lives of 302,091 people in the past 5 years. Through our newly branded Bots on the Run Foundation, we have organized five streams of programs that inspire youth through hands-on STEAM education. Each of the streams are tailored to a unique group of students, which ensures our outreach extends to a diverse audience.

The first division of the foundation is our local camps, based on our comprehensive curriculum containing 50 STEAM learning activities, categorized by age group, skill level, & budget. Over the past 3 years, we partnered with 5 local community organizations: Peel Multicultural Council, Learning Disabilities Association of Peel, Port Credit Sea Scouts (PCSS), ISNA Elementary School & the Boys & Girls Clubs of Peel (BGCP) to execute our camps to over 1,000 youth.

Last summer, we connected with BGCP to organize 45 robotics workshops for 300 youth at 10 locations in 3 cities. The majority of the youth were from underprivileged families, who could not afford to pay the yearly \$5 registration fee for BGCP. Due to our strong relationship with our school, we used 15 VEX Robotics kits from our computer engineering classes to run our camps free of charge. This initiative entailed the collaboration of 20 team volunteers, who spent 543 hours in planning, hosting, & traveling to each workshop. Due to the positive reception of these camps, we are confirmed to host another series of robotics workshops this summer. As BGCP have seen first hand, the growth of all participants, now passionate about robotics, they would like to officially start an FLL team at each of their locations as a long-term goal with our continued partnership.

The second series of camps were conducted from November to December 2017 with the PCSS. We first began partnering with PCSS in 2015, by holding numerous one-day workshops. Since then our relationship has grown to encompass a long-term strategy that brings robotics education to the sea scouts, symbolized by an honorary robotics badge that was added to their youth programs this year.

We persevered through the challenges we have faced in the past with obtaining proper resources for workshops. Hence, we reached out to our sponsor, Yamana Gold to fund a new grant that will provide one community organization the resources necessary to run robotics programs, annually. This year, we awarded it to the Sea Scouts, by purchasing 3 Mindstorm kits & are planning to provide it to BGCP next season. We held 12 three-hour workshops for 30 students every Saturday at our school. Our curriculum instilled a passion for robotics within the participants, that two of the parents even bought their children Mindstorms Kits for Christmas, as that was the only gift they asked for. After PCSS youth expressed interest in starting FLL at their school, we set up a presentation at the April parent council meeting to advocate for funding.

Our work with PCSS transcends into the second division of our foundation which focuses on changing the culture of our education system to become more inclusive of STEAM-based learning in their day to day curriculum. We connected with one of the Sea Scout parents who is a teacher at St. Timothy Elementary School, as she became extremely enthusiastic about STEAM-based learning after witnessing our camp. We saw this as the perfect opportunity to facilitate a more tech-based curriculum in the school with her support. We organized an assembly to present to over 600 of the kids from grades 1 to 8 & 20 teachers at the school about FIRST. After our presentation, 5 of the teachers were interested in including more technology in their classroom activities. After meeting with these teachers, & evaluating the current resources at the school, we created 50 lesson plans that integrate technology in the Ontario elementary subject curriculum. Ever since the teachers have been adapting our lesson plans in their daily classroom activities. We hope to continue to expand this pilot project at other schools in our district & have already taken steps to do so by meeting with the office of the Minister of Education.

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Branching our outreach to reach diverse groups of people is very important to us. One of the new initiatives we have started recently is working with an INGO, Right To Play (RTP) to supplement their programming & reach a broader base of students that do not have access to STEAM programs. We have partnered with them to teach all RTP program staff our robotics curriculum so they can deliver FIRST programs to 300 schools in Ontario by the end of 2018. The schools that are local to our team have also requested specific coding & build workshops at their schools which we will begin to deliver at the end of this competition season. Our future goals with the help of RTP are to bring our programs to their network of students in countries they already operate in such as Ethiopia, Jordan, & Rwanda.

The third branch of our foundation is comprised of our global outreach initiatives to make STEAM as accessible as possible on an international scale. Last year, we partnered up with a non-profit organization called Ekal Vidyalaya to bring robotics education to rural & developing villages within India. We have directly worked with 5 schools to help facilitate robotics education for students that don't have the opportunity to experience a program like FIRST. For the past two years, our members have traveled to host 6 in person workshops for the schools to introduce them to FIRST by hosting STEAM workshops to impact over 7,000 students & educators. Since the majority of the schools we visited can't afford robotics-based education, we have developed a curriculum that teaches students basic scientific & engineering principles by creating projects out of everyday items that are affordable. Through our Pencils of Promise initiative, we donated 1,000 kits containing: 10,000 pencils, 1000 erasers, & 1000 sharpeners to the most impoverished school we visited. Our long-term goal is to be able to sponsor & sustain robotics based educational programs at these schools. Our international outreach has allowed students to realize their full potential by experiencing a reality that they would never have dreamt possible.

The fourth component of our foundation targets philanthropy & charity work. We spread the message of FIRST through unique initiatives & create a shift in culture where arts is directly integrated into robotics. We wrote a children's coloring book in which four young girls use their knowledge of STEAM to solve problems in their community. We donated 100 copies of these books to local libraries & are making it globally accessible on our website to inspire youth to adopt innovative & critical thinking mindsets from an early age. Our team held an arts & crafts drive to donate over 100 kits of a "Build a Robot" craft to Sick Kids Hospital in 2016. This year, we created a board-game that teaches students about programming through educational flashcards. We also donated 100 copies of our game to Sick Kids Hospital. The team strives to make a positive impact on the community by co-hosting two food-drives we held in partnership with our school's WE Club.

Finally, the fifth component of our foundation focuses on FIRST mentorship. We have established mentorship programs for 10 FLL & 6 FRC teams in our community. We set up a rotational system with 12 students who visit each of the FLL schools at least twice a week for 3 hours over the duration of a month. While manufacturing parts, we mentored FRC Team 4914 & 6866 on part drawings to expedite the process for our sponsor. In 2017 we hosted our second conference at the FIRST World Championship to share our knowledge & sustainability plan that has assisted over 200 attendees from other FRC teams. 1325 has been invited by FIRST Canada to the annual Quick Build for the third consecutive year, our members participated in 2 online webinars, & hosted an awards workshop at STEMley. We conducted 2 design workshops with 94 participants at FRC Team 2056's conference & hosted an awards workshops at SWATPosium.

Overall, 1325 has built an extensive foundation comprised of many sustainable and impactful community initiatives. We have used FIRST as a catalyst to open a gateway for a diverse audience within inaccessible communities to create new dreams that will transform their lives, the way FIRST transformed ours. However, we know that our story is just beginning as we are dedicated to empowering youth around the world for years to come. As all dreams start with a vision, 1325 has realized the power of our vision, which has created the potential for thousands of people in our local & global networks to realize their dreams.