

Chairman's Award - Team 2056

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2016 - Team 2056

Team Number

2056

Team Name, Corporate/University Sponsors

CNC Woodcraft / Gridpath Solutions / Juice Matters / Innovation First International / HWDSB & Orchard Park Secondary School

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2015/2016 year and the preceding two to five years

Every single member of our team has gone on to pursue post secondary education, with over 90% going into STEM programs. Our students actively work to promote STEM in our school through school events and working with other clubs. Our students and alumni have mentored five other FRC teams (3683, 3710, 3756, 4039, and 5912) and have been awarded with two Dean's List Finalist Awards and two Volunteer of the Year awards.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2015/2016 year and the preceding two to five years

Over the past 5 years, we have supported local food banks through collecting over 4 tonnes of canned goods. We have also worked with the Canadian Diabetes association to collect over 1 tonne of used clothing. We run an ongoing electronics and metal recycling drive, providing an environmentally safe place for our community to recycle used electronic devices and scrap metal. Our visibility in the community has allowed us to reach out to local schools to help start new FLL and FRC teams in the area

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

This past year we had the opportunity to send team members, along with brand new laptops and LEGO Robotics Kits to the school Nest of Love in the Dominican Republic. The impact was profound, with students from the Dominican Republic and Ontario working together with a common goal and teaching one another FIRST principles. We also have an online video and social media initiative called 2056 Ways to Win that allows us to share our tips for success with teams around the world.

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

We give back to the FIRST community by volunteering at both FRC and FLL competitions, by taking on leadership roles on the Waterloo Regional Planning Committee, and serving in important roles at FIRST events such as Lead Robot Inspector and Volunteer Coordinator. One alumnus hosted a FIRST Robotics Canada webinar on strategy and scouting, while another has hosted a popular seminar at the FIRST Championship on how to use video to create an online presence.

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

In 2012, we started the Steel City Robotics Federation, or SCRF. Through SCRF, we work with local schools to start and work with local FIRST teams. We currently have five other FRC teams in the SCRF family that we started - 3683, 3710, 3756, 4039, and 5912 - as well as many FLL teams. Through SCRF, we have also helped to establish a brand new, communal practise field for all Hamilton area teams to use.

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

Using our LEGO Robotics challenges, we have been able to mentor the younger generations. Our local school board approached us and asked that we develop a LEGO curriculum for their grade 8 Gifted program, which has been in place for two years now. We conduct LEGO Robotics Workshop days at local community centers, McMaster University's Venture Summer Camps, five local elementary schools, and local libraries. We have developed our numerous LEGO initiatives into four FLL teams.

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

Our team has an ongoing social media campaign called "2056 Ways to Win." We have been using this for over a year to provide support and guidance to the entire FIRST community in an effort to answer the question we are most often

asked: Why is our team so successful? This support ranges from quick tips sent from our team's Twitter account, to full-fledged videos in which our students explain key principles that we believe contribute to our success both on and off the field.

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)

The Steel City Robotics Federation is a partnership we created between FIRST teams in Hamilton to grow the FIRST program in our city. We have collaborated with SCRF teams to spread FIRST together, jointly conducting events such as FLL practice competitions. We have also worked together to establish a new practice field for all Hamilton-area teams to use. Mentor visits and shop tours are other ways in which we work together with other SCRF teams to mentor younger FRC and FLL teams.

Describe your Corporate/University Sponsors

Our sponsors are very unique compared to many FIRST team sponsors in that many are local establishments and are highly present in our team activities. Our sponsors enthusiastically provide our students guided tours of their facilities and explanations about the work they do. Two of our sponsors even provided us with a work space and materials during the Ontario Teacher's Union's work-to-rule campaign in 2013, allowing us to successfully compete in the 2013 FRC season.

Describe the strength of your partnership with your sponsors with special emphasis on the 2015/2016 year and the preceding two to five years

We take every opportunity to properly thank our sponsors. Our annual celebration dinner is one such way we say thank you, where we share our success stories with all of our sponsors to help them understand how far we were able to go thanks to their support. Our team also gives back to our sponsors by volunteering at their events, such as the Winona Peach Festival and the Ancaster Fair, to help them raise funds so that they are able to continue supporting organizations like ours.

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

FIRST is a program that provides students a place to get hand on learning in Science, Technology, Engineering and Mathematics. FIRST gets students involved in problem solving, and building tasks to help them with their future. For all programs from age 5 right up to the end of high school and beyond, FIRST Robotics gives students a chance to channel their momentum by working with professionals in different career fields to become STEM success stories.

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

The momentum of our team travelled to Ottawa this past year, as the Prime Minister recognized Stan Hunter, founding mentor and teacher of our team with the Prime Minister's Award for Teaching Excellence. As well, Rick Mercer, a Canadian comedian, journalist and author, recently came to visit our team. He and his crew spent a day talking to our students, and will be doing a piece on the team on his show on the CBC, The Rick Mercer Report.

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

Lauren Field

Essay

A lot can change in 10 years. Our team, Team 2056 Orchard Park Robotics, participated in our first year of FIRST competitions 10 years ago. We immediately knew that we would be beginning a journey that would eventually change the lives of countless students and transform our community. 10 years earlier, we could only dream of having LEGO outreach programs in every local elementary school, VEX Robotics kits for schools across the Hamilton area, collaborative relationships between our students and sponsors, and the Steel City Robotics Federation providing the model for effective collaboration between teams of like-minded students and mentors. Through 10 years of dedication to fostering excitement for science and technology education, we have gained experience and knowledge which we share in an accessible way with other schools and the FIRST community. Over the last 10 years, we have maintained our dedication to improving our community, our sponsors, our school, and other FIRST teams.

Throughout our team's 10 years in the FIRST, we have worked tirelessly to spread our passion for FIRST and STEM, catalyzing to the expansion of our FIRST community both locally and globally. The continued success of our LEGO outreach programs is a major point of pride for our team. Our team members lead younger students through LEGO robotics workshops at local libraries, community centers, and elementary schools, as well as McMaster University's Venture Summer Camps, and the St. Catharines YMCA. In addition, we run an annual Grade 8 LEGO Day, during which we invite students from every local elementary school to participate in a day of STEM workshops. Our members always look forward to this day as it offers them a chance to assume leadership roles and mentor local students. Four of the schools that we invite to these days (R. L. Hyslop Elementary, Mountainview Elementary, Eastdale Elementary,

and Memorial Elementary) have even started their own FLL teams, whom we continue to support through mentoring and sponsorship. The success of our LEGO workshops has been so readily apparent that our school board requested

that our team develop an engineering-based curriculum to implement in the Grade 8 Gifted Program, which is now in its second year running and has earned widespread praise from parents, students, and teachers.

Our team's impact was even felt in Parliament Hill, as last year, former Prime Minister Harper recognized Stan Hunter, founding mentor of our team, with the Prime Minister's Award for Teaching Excellence. The award was given based on the testimonials of the countless students, educators, professionals, and parents that have been impacted by our team's efforts, as well as the results of our students pursuing STEM education in College and University, many of whom are now working to create the next generation of innovative technology for companies such as Google and Tesla Motors. "Professionally Speaking," a magazine read by over 200,000 Ontario teachers, has also highlighted the unique FIRST-based teaching that our team makes possible.

In the last two years, our team has greatly expanded our reach beyond our local community. Beginning in February of 2015, we initiated a partnership with the school Nest of Love in Sousa, Dominican Republic. We sent five new laptops and four new LEGO Robotics kits, along with both rookie and veteran students from our team to work with the students of Nest of Love for five days. The passion that these students exhibited for STEM was an inspiring, invaluable experience for our team members. Our aim to provide this intimate level of support to all FIRST teams around the world was one of the main reasons we started 2056 Ways to Win, a social media initiative through which we share our team's unique experience and invaluable insights that we have learned in our decade of experience with FIRST. This allows us to provide guidance and resources through a medium that is both accessible and interactive, helping teams "win" both on and off the field. This project has included social media posts and videos which we have even closed-captioned for deaf members of the FIRST community. Finally, we are striving to Make FIRST Loud by working with outspoken, influential personalities that are renowned for providing a voice to important causes, albeit a ranting voice. Rick Mercer, the acclaimed political satirist and television personality, recently spent the day with our team, interviewing our students and learning about FIRST and our team's success promoting science and engineering education in Canada. He and his film crew recorded extensive footage which will be used in a piece that he will be doing about FIRST, our team, and STEM education, to be broadcast to a national audience.

Our school, Orchard Park Secondary School, is a tremendous support system. Murals are painted around the school, in many of which our robots from previous years are focal points. We headline events in our school, including a pep rally that was thrown for us in 2015. Other extra-curricular clubs have also helped us to spread STEM throughout the school; DECA, a business club, promoted STEM and FIRST as the topic of their regional competition submissions. Our school's CODE organization provided a donation to our school board that was used to purchase VEX robotics kits for schools from across the city. Because of our clear expertise with the application of robotics in classroom settings our team members were the ones chosen to facilitate the distribution of these kits and to act as a training resource to the schools who received them. We make sure to give back to our school, and one of our favourite events to participate in is the Inside Ride to End Cancer. We have participated in this event, a charity stationary-bike riding fundraiser, for the past four years, raising over \$12,000 of the \$30,000 raised by our school to improve the lives of cancer patients.

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In addition to our school, our team also strives to give back to our community. This past year, we were honoured to receive the Community Recognition Award from the Stoney Creek Chamber of Commerce in recognition of our team's impact over the last decade, encouraging volunteerism, giving back to the community, and of course cultivating a passion for science and technology in young people. We work to better our community through volunteering initiatives, such as our annual Holiday Food Drive that we run with the local firefighter hall. This event is a favourite amongst our students. As well, we have worked with the Canadian Diabetes Association for the past four years to collect over 2000 lbs of gently-used clothing for donation. We also started a new electronics and metal recycling initiative last year, providing an environmentally safe place for our community to recycle used electronic devices and scrap metal. Our visibility in our community is an important way that we spread awareness of our team, and of FIRST.

The relationship that our team has cultivated with our sponsors is a unique one that we continue to strengthen year after year. We work very closely with them, and many of them act as mentors to our students as well. They have provided us with guided tours of their facilities which gives our members an opportunity to see real-world applications of STEM in action. During our school board's Work to Rule campaign, two of our sponsors, Gridpath Solutions and Arvin Air, generously stepped in to help and provided us with a work space and materials, allowing us to successfully compete in the 2013 FRC season. We take every opportunity to properly thank our sponsors for their generosity and involvement. Our annual celebration dinner is one such way we say thank you, where we share our success stories with them to help them understand how far we are able to go, thanks to their support. Our team also gives back to our sponsors by volunteering at their events, such as the Winona Peach Festival and the Ancaster Fair, to help them raise funds so that they are able to continue supporting organizations like ours.

Hamilton, Ontario, also known as the Steel City, has always been our home, and we have built a STEM community within it that is strong enough to do justice to its name. In 2012, we started the Steel City Robotics Federation, also known as SCRF. Our intention was to bring the Hamilton robotics community together in order to allow for closer collaboration, as well as increase the accessibility of FIRST to schools around Hamilton. Our SCRF community currently includes teams 4039, 4618, 5406, and 5912. We mentor and sponsor four FLL teams, and help to support

those that other members of SCRF have started. Through SCRF, we share resources, work together through build and competition season, and strengthen our collaborative relationships through weekly mentor meetings. Last year, we worked together to help establish a brand new, communal practice field for any and all Hamilton area teams to use. SCRF has been a catalyst for STEM in Hamilton by allowing for simple and effective collaboration between all of its member teams, many of whom have gone on to achieve visible success in their on-field results and their impact on students and the community.

A lot has changed over the past 10 years, and we are proud to have played a part in the transformations of our students, our school, our community, and now the global FIRST community. However, what has not changed since our first year is our dedication to excellence and our passion for instilling a love of science and engineering in as many people as possible. We know these 10 years are just the beginning.

Here's to another decade of FIRST.