

## **FIRST Impact Award - Team 4476**

<b>2024 - Team 4476</b>
<b>Team Number</b>
<b>4476</b>
<b>Team Nickname</b>
W.A.F.F.L.E.S.
<b>Team Location</b>
Kingston, ON - Canada
<b>Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in <i>FIRST</i> programs as mentors/sponsors.</b>
<p>WAFFLES Robotics has inspired 96% of its alumni to pursue STEM in post secondary and 80% to continue with FIRST as volunteers. On top of that, seven of our graduates have returned as mentors and our team members have volunteered a collective 1300+ hours at FIRST events in the last 3 years. Sponsors like Google and Fabcut have offered members employment due to their WAFFLES experience as the team strives to use the industry standard software and hardware to give students an impactful experience.</p>
<b>Describe your community along with how your team addresses its unique opportunities and circumstances.</b>
<p>Kingston is a small city, but our reach is global through our hybrid meeting model that allows for a larger mentor pool and creates opportunities for remote students. As an independent community team with no school affiliation, we represent 13 schools across our 28 students! We maximize opportunities from local institutions by creating mutually beneficial relations. For example, we work with Queen's University to host the local FLL tournament, secure sponsorships, and expand our mentor pool.</p>
<b>Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?</b>
<p>We demoed to 14000+ people aged 1-105 in 2023 inspiring innovation through our community. We have ran STEM camps since 2014 and our social media reaches 1000+ people per month. Our YouTube channel has 1.1 million+ views from 140 countries giving us the 2nd highest subscriber count and 3rd most views of all FRC teams. We organize the Second Robotics Competition, an international XRC Simulator event for those without robots, resulting in 20,000 matches played across 8 countries.</p>
<b>Please provide specific examples of how your team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years.</b>
<p>WAFFLES are role models in every community. We have a culture of volunteerism driving us to contribute over 1300 volunteer hours at FIRST events around the world in the past 3 years. Our topping</p>

crew at events assists teams with robot repairs. We have had student representation on the FIRST Canada Youth Council, where we share our vision for the future of FIRST and we publish resources like a DIY FIRST Core Values Cube on our website.

**Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.**

Since 2021, we have started, ran, and mentored 21 teams across all 5 FIRST programs, starting 5 new teams this year in our region. Through our Second Robotics initiative, we are able to assist countless teams globally who use the simulator for strategy and drive practice. We are always giving the guidance and support needed to join the FIRST family, whether it is mentoring a team in Hawaii, assisting one in Turkey, or helping a parent launch the first FLL teams in their remote community.

**Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?**

We share the excitement of FIRST through interactive community demos such as the annual skills carousel open to local youth to provide a hands-on introduction to STEM. Our FLL 'Your Voice Matters' program reached 60 kids from coast to coast inspiring 30% of them to join an FLL team, and the curriculum has been adopted by FIRST Robotics Canada for its virtual programmes. We create students leadership opportunities such as lead roles, FLL student mentorship, and FLL-based summer camp counseling.

**Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years**

We work with healthcare nonprofits, including Canadian Blood Services, Kingston Community Health Centers, and Make-A-Wish through WAFFLES 4 Wellness and partnered with REZ Reads to donate books to Indigenous communities. We create mutually beneficial relationships, such as Kingston Community Health Centres who provide build-space, and we support them by collecting goods to donate, or our sponsors who benefit from students who learn industry-standard software through the team.

**Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.**

Kingston is a small city of 114,000, with 10% visible minorities, in contrast to 40% on our team. We are a Menstrual Equity of FIRST supporter and an LGBTQ+ of FIRST ambassador. We remove financial barriers by having no fee for joining the team and offering bursaries for Summer Camps. We work with students to accommodate dietary and religious needs and created a hybrid meeting model so anyone can join. We also ran workshops for at-risk youth and used sign language for the drive team at events.

**Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future**

We ensure WAFFLES projects are sustainable by accounting for the ability to grow each project. Projects like our summer camps serve as a consistent annual stream of recruitment and revenue, raising over \$6000 this year. We have consistent students as we run teams for 4 FIRST programs, with over 55% of students from younger programs returning! By caring for our mental health to reduce burnout or introducing hybrid meetings, we create an environment allowing us to run for the foreseeable future.

**Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years**

We recruit sponsors through community demos, and each student commits to fundraising \$1000 through obtaining new sponsors annually to keep our team fee \$0. We keep our sponsors in the loop with a monthly newsletter and invite them to major events we host. We creatively engage our sponsors throughout the year, a prime example of this is us inviting them to provide feedback on our Impact presentation for fresh insight and offering free STEM seminars and camps for their children.

**Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.**

As a community team we lack a student base to draw from, but by improving virtual and in-person recruitment, we reached 14000 people through demos and social media initiatives like #askawaffle. One of our successful initiatives is "Bring-a-friend", where students get 50% off their fundraising goal for recruiting a new member. Starting 4 FLL teams this year and increasing summer camp participation lead to new students funneling to the WAFFLES.

**Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.**

We inspire students by connecting them with role models and providing networking opportunities, and engage with the community by conducting demos to showcase FIRST. Inclusivity is a core value, as we reach a diverse range of 14000 individuals, from ages 1 to 105. We have one-on-one mentoring to foster growth. Keeping things fun is important to us, so we often have team social hangouts. We prioritize training through interactive weekly tutorials and projects, inspiring the next generation.

**Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique or particularly noteworthy.**

Our team excels in integrity and community service. This year we posted WAFFLES Wiki, a website with diverse information on all things FIRST. This is an innovation for both our organization and an online resource for other teams. Whether at FRC events or in house, we strive for coopertition and volunteering. We play by the rules and report our mistakes in games, even if it costs us. We partner with Canadian Blood Services to promote blood and stem cell donation, even saving a life last year.

**Judge Feedback**

Who/When	Feedback
Apr 06, 2024 10:00:48 AM EST	<p><b>What were our 3 strongest, and 3 weakest points?</b></p> <p><b>An area the team has an opportunity to improve.</b></p> <p><b>Something that really impressed the judges.</b></p>
<p><b>Essay</b></p>	

SETTING THE STAGE What does WAFFLES Community Robotics and an orchestra have in common? Both impact communities profoundly, reach a diverse audience, and rely on a harmonious team. Across

11 seasons, we have innovated in more than just robots; we nurture a profound passion for science, technology, engineering, arts, and mathematics (STEAM) in a diverse global community that supports students in FIRST and beyond. WHO WE ARE We are WAFFLES Team 4476, and we are Wild About Family and Friends Learning Engineering and Science! In the pursuit of promoting STEM our growth has been unstoppable. From a FIRST LEGO League (FLL) Team founded by a group of homeschooled students in 2006, we expanded to include FIRST Robotics Competition (FRC) in 2013 as an independent community team, obtaining official not-for-profit status in 2015. Today, we welcome students from as young as age 4 in FLL Discover, all the way to age 18 in FIRST Robotics Competition. Of our 25 students, who are from 13 different schools, over 65% of them have experience in FLL or FTC! These team members harmonize with 17 mentors to compose our diverse and inclusive community team. Inclusivity is central to our team culture, we are a proud “LGBTQ+ of FIRST” Partner Team and m.e. FIRST ambassador, and 40% of our students represent a visible minority. So future students will keep being able to access exciting opportunities with FIRST, we charge a \$0 entrance fee, instead opting to run recruitment incentives. Our “bring-a-friend” program halves a student’s fundraising quota when they recruit a new voice for our team symphony. We are always seeking ways to expand our reach and impact, and to make robotics available, sustainable, and affordable for everyone. PUTTING VOLUNTEERING FIRST Since 2021, we have volunteered over 1300 hours at over 30 FIRST events. To make FIRST more accessible for local teams, we organize events: FLL Regional Qualifiers, FLL Explore Festivals, and FRC kickoffs. Spreading coopertition at FRC events, our team members form a “topping crew” to aid other FRC teams with pit repairs. To pass on the torch of STEM skills and FIRST values, this year we ran and mentored 4 FLL teams. Over the past 3 years, we have started and mentored 21 other FIRST teams along with assisting countless others. We are dedicated to supporting FIRST’s global community, from mentoring a rookie FRC team from Hawaii to virtually judging events in Greece and refereeing in Oregon. To make FLL more accessible to the francophone community, this year we are collaborating with FIRST Canada to publish resources in French! OUR ONLINE HITS With the 2nd largest YouTube channel in FRC, we provide STEM resources to a global audience. FLL teams use our 39 tutorials to program, our interviews, discussions, and recordings shine light on the FIRST community, such as behind-the-scenes glimpses through our YouTube Shorts. We engage our followers through initiatives like our podcast called “How many wheels (Does your robot have?)”, which attracted over 5000 viewers on live broadcasts and replays. We have gathered over 5000 subscribers and a whopping 1.1 million views from over 139 countries. By making STEM knowledge just a tap away, our YouTube channel spreads the FIRST message to an online community unlimited by borders. Beyond YouTube, we share our passion for STEM education to over 6,000 social media followers across 10 other platforms. One of our major initiatives is the Second Robotics Competition (SRC), a virtual robotics tournament we founded and co-organize. SRC brings the experience of FRC to those who cannot access physical robots; it uses the xRC Simulator, a free-to-play robotics simulator for FRC. SRC has players from over 8 countries, and we have helped teams from Europe and Asia set up their own servers, bringing FRC together when COVID kept us apart. Since SRC’s founding 3 years ago, 34 exciting virtual events and 20000+ official matches have run. Using SRC, we develop strategy skills and introduce FIRST to new students. SRC is a platform supporting the growth of FRC teams worldwide. OUR LOCAL REACH To grow STEM for everyone, we have conducted 23 demos in the past three years, with 16 this year alone. We annually reach over 10,000 people in the community across diverse venues, from national events like Science Rendezvous, local parades such as Princess Street Promenade, and local schools and daycares. We engage individuals aged 1 to 105 with interactive robotics activities from across FIRST programs. One of our newest demos includes a booth of FLL workshops and our FRC robot at an Ontario Hockey League game, reaching over 2000 people. We partner with a local Long Term Facility Home, where our demo and weekly 6 bricks activities brought “a ray of joy for” 45+ seniors. Our annual skills

carousel offers a chance to explore various aspects of robotics through hands-on learning. We recently found out that local psychologists have been recommending that students should join our team, specifically for extracurricular enrichment!

### FIRST LEGO LEAGUE

One of our standout achievements is the annual FLL Challenge Tournament and Explore Festival we organize. This has a profound impact by making FLL more accessible to teams east of Toronto. It instills leadership and organizational skills in our FRC team members who volunteer in every facet of running the event, including the planning committee. Through the event, we garner support for other initiatives by developing our partnerships with Queen's University, which hosts the venue, and with the City of Kingston. We advocated for the City of Kingston to declare our 2023 FLL tournament day, as FIRST Day in our municipality. The FLL teams were inspired when the deputy mayor made this proclamation at our opening ceremony, highlighting the significance of involvement in STEM through FLL.

### SUMMER CAMP

Our summer camp program has bounced back since the shutdown of COVID. Reopening last summer, we not only welcomed 35 excited kids, we ran a record-breaking 6 weeks of inspiration and fun, the longest ever in the 10 years we've run camps! We increased our individual impact with a 3:1 child-to-counselor ratio this year. By supporting each child, we inspire many young minds, with a parent telling us "Loved the small cohort size. My son can get overwhelmed at the big camps - smaller size was great for him!". Summer camps support sustainability by inspiring many children to join FIRST teams and providing us with annual revenue, including over \$6,000 from 2023's summer camps. We already have 56 registrants for this summer! Our priority is accessibility; we support inclusivity among our campers by offering bursaries to reduce barriers for children.

### OUR PARTNERSHIPS

We have established a tradition of cultivating mutually beneficial partnerships with sponsors. Our student fundraising quota model encourages students to actively recruit new sponsors, gaining valuable networking experience in the process. Students explore diverse industries through the visits we arrange to sponsor workplaces. Student-sponsor communication, paired with the use of industry standard software on the team, leads to internships such as with Google and FabCut. We form unique and meaningful connections with our sponsors. Sponsor employees visit team meetings in our workplace to witness the significance of their support first-hand.

### WAFFLES 4 WELLNESS

We are proud of our WAFFLES 4 Wellness (W4W) initiative, one of our largest and most meaningful projects. We started W4W to help our leading partner—the Kingston Community Health Centres (KCHC) Street Health Clinic—care for the underserved by donating items. We have conducted 8 drives for socks, winter clothes, and personal hygiene items and donated money to soup kitchens. With the help of KCHC, our summer camps reach marginalized groups, such as low-income families and at-risk children. Our bursaries for these camps introduced STEM to 60 kids in fun and engaging ways they would not have otherwise experienced. Our initiative has grown beyond our city and reached the world! We support the UN World Food Programme by organizing an annual Trivia Challenge, which has participants from over 40 FRC teams worldwide, to raise funds for a noble cause. We joined True North Aid in their goal to make every Indigenous person in Canada literate, contributing to the 2022 REZ READS book drive.

### STEM CELLS FOR LIFE

Some of our most resounding impact is in our collaboration with Canadian Blood Services on the Stem Cells For Life project. A friend of the team was diagnosed with Leukemia in 2014. We named our robot after her to raise awareness of her need for a bone marrow match. Ever since, we have named our FRC robots after someone waiting for a stem cell transplant; this year, our robot is named Leo, after a toddler who suffers from X-linked hyper IGM Syndrome and needs a stem cell transplant. We have played a part in stem cell matches ourselves! Several team members are registered on the match list, inspired by the mission's necessity. Last year, one of our mentors got the honor to donate bone marrow, ultimately resulting in our efforts saving a life. It really puts things into perspective for us, because while each robot match is important, a stem cell match is the most important match of all.

### PLAYING IN HARMONY

Through inclusive initiatives, teamwork, and dedication to FIRST's mission, we have not only fostered a passion for STEM, but also created a global impact. From

volunteering at FIRST events to our online outreach, local demonstrations, and pioneering FLL-based summer camps, we are committed to accessible and inspiring robotics. Our partnerships, such as with Canadian Blood Services, showcase our meaningful connections and positive contributions to everyone we reach. Reflecting on 11 seasons of FRC, we take pride in the community we built, the lives touched, and the lasting impact achieved. ;

