

FIRST Impact Award - Team 4400

2023 - Team 4400
Team Number
4400
Team Nickname
Cerbotics - Peñoles
Team Location
TORREON, COA - Mexico
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.
We foresee FIRST as part of our life's cycle. By being pioneers of the K-12 program in Mexico, our students can ignite their passion at an early age and get engaged with science and technology. FLL and FTC help kids start paving the path to be part of the 4400 family, and further on, inspire and teach new generations. With a 100% graduate rate, 75% active STEAM major alumni, and members that act as mentors, volunteers or sponsors, we ensure that our students continue to be part of this cycle.
Describe your community along with how your team addresses its unique opportunities and circumstances.
There's a lot of challenges that we try to surpass year after year. In our community there are problems with an early cancer diagnosis, a lack of supplies to treat it in hospitals and people not being able to afford chemotherapies. This led us to develop an online campaign called Autoexplore, focusing on breast cancer awareness, reaching 2K+ people. As well as collaborating with Tapaton to finance children's treatments by collecting bottle caps, all together we have donated 297K of them.
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?
We think that a place with equal conditions is a space where teams can develop at their full potential. In 2020, FIRST Mexico asked us to act as WPI's library translators and we immediately took action. Since then, Cerbotics has made accessible a standard software document provided to write code for FRC robots. This collaboration helps over 130 teams in LatinAmerica and Spanish speaking countries, giving them information that wasn't at their reach, and can contribute to a better development.
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.
Showing that Mexico is capable of overcoming obstacles is one good way to inspire others. For 4 years now, we've been our country's robotics selection for FIRST Global, traveling to Dubai and Geneva. Executing with gracious professionalism and coopertition, we aided 70+ teams either remotely or in their

pits, leading us to win gold medals that celebrate international unity and overall excellence. We reflected in our work and results that Cerbotics most certainly goes further than just robots

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

Part of our mission is to provide others with the tools needed to succeed on a clear path. With initiatives like FIRST Seed, a project created to open and register new teams in our country, and 66 showcased workshops, 4400 has been able to start 25 teams, mentor 11 and assist 270+ from around the world. Investing over \$1,000,000 MXN in opening and sustaining teams who weren't able to make it on their own.

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?

Inspiring people goes beyond any barrier. To make it sustainable Cerbotics has created an action sphere focused on spreading STEM in our city. With 21 showoffs, robotics courses and by delivering low-cost toys, we are not only impacting 14,615 people but also adding up to make it funnier and more approachable. In this mindset, we introduced hearing impaired students to FIRST via a 6-year collaboration with ILAL, sending a strong message to our community: STEM is for everyone.

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're in a competition that's constantly growing. When the pandemic hit, we became one with FIRST Mexico, entrepreneurship and the government to take forward the entire FTC and FRC season via remote events. Continuing with the collaboration, as of 2023, we have hosted and ran 14 FIRST events locally and nationally, growing our bond stronger, welcoming 103 teams and involving our community as spectators or volunteers for the events, expanding the FIRST message and STEAM outside the competition.

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

It's our duty to enhance everyone by making a safe place for them to grow. With activities like Menstrual Equity (1868), STEM Girls, Genias and Feb 11th activities, 4400 helped, pushed forward and looked after 10k people and 60 teams to feel safe and included in STEM. With this frame of mind, we're one of the first Mexican teams that started as a LGBTQ+ FIRST ally as well as introducing a gender violence awareness protocol. All of this with one goal in mind: consolidating a gracious community.

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

Main part of our vision is to develop initiatives that can surpass their initial goals. Thus, 4400 has developed manuals for every area and project we do, giving the team tools to be self-sustainable through the years, and teaching our members to be leaders who take proactive decisions. Furthermore, our admin team received courses from Politecnico Di Milano "Project Management: Beyond planning and control", improving the working system and seeking constancy as a necessary objective for success.

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

Support doesn't come until you fully understand the impact you have by being one brick in the wall; this is why we include them in every step of the way, creating not just a sponsor, but a long lasting strategic alliance. In order to achieve this, we share our passion for FIRST and what it stands for, inviting them to join in our scope of activities, either as volunteers and judges on our events or as a learning part of robotics courses, creating a bond with them along with what we do.

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

Marketing is the image of the team, but every good process has difficulties. Cerbotics believes and is aware of the capacities of our teammates, but better support and tools would make a noticeable change in the quality of our social media. Behind cameras, our sponsors have become a cornerstone of this change, either financing Adobe licenses or providing courses given by alumni of the team; we not only have the capability to learn about marketing, but to spread STEM in the best way.

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

We build more than robots. We form students that embody coopertition and gracious professionalism as a basic manner. Cerbotics placed its brick in a future for Mexican robotics, since the beginning and throughout the hardest times. We've broken spheres by bringing together alliances that get the best from all of us. 4400 shapes changemakers, all from different contexts and with differing goals; but sharing a pivotal mission, never stop by building a robot, unless you've built futures first.

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.

Establishing relationships with our community and government is fundamental for the growth of both parties. While we were in Geneva, the Minister Chargé d'Affaires of the Embassy of Mexico in Switzerland, Fernando Espinosa, paid us a visit and congratulated us for our work. After our participation in FIRST Global we received a recognition from the foreign secretary, being also acknowledged by our governor, where he showed his support and discussed future plans for community involvement in STEAM.

Essay

This file is property of Cerbotics 4400, and its contents may only be disclosed to those whose official duties require access to it. The upcoming file will include key information in the C.L.A.W.S investigation and the operation's 5 main axes. Contents may not be disclosed to the party(s).

AXIS 1: PLANETARY RESOURCE MANNERS The key for a developing community isn't the place, but people who live within. Since last year, Team 4400 has tried to support our community in a better way; not only identifying the problems that affect it, but creating spaces through which everyone can be part of the solution. For this, we created 3 sub-axes of community service:

-Environmental: Two of the biggest issues that Torreón has to face are the desertification and littering of our natural areas. 2019 came with one clear goal, creating the first youth powered trash collection in our river's dry bed. Finally, in October of 2019, 400 teenagers got together with the mission of cleaning our city, collecting 4 tons of waste. But we didn't settle, there was yet another problem to tackle, thus, we united forces with our government's Environmental Protection Agency to make a reforestation campaign in one of the most conquered parks in our city, bringing back to life a landmark in our community.

-Donations: The greatest good is the one we get from helping one another. Year by year Cerbotics tries to give back the support we've always gotten by our home town; either by donating computer labs for less resourceful schools, or gathering food, toys and blankets for 3 rural communities near Torreón. Despite these annual campaigns, there are moments when we have to work together. Disasters are a wakeup call for union, being a collection center for when our country needs us the most, giving 2.5 tons of supplies for flooding, fires and earthquake victims (2017 Mexico City, 2018 Torreón, 2021 Arteaga, 2022 Muzquiz)

-Health: This has been a long run, but we are absolutely sure of its importance, this is why in addition to having our cancer awareness focused programs "Tapatón" and "Autoexplórate", 4400 gives an extra mile. 2020 gave us an important lesson, we work better if we get together. Sampling 3D printed masks to support some clinics was just a hint of what was to come. Day by day new companies, teams and our state government got involved to make the biggest free PPE network in our state; in just 3 weeks, we went from 1 to 30 printers working to donate 3300 pieces of medical equipment in 25 hospitals in 5 different cities, saving over 120,000 MXN on medical supplies.

AXIS 2: INTERGALACTIC COMMUNICATIONS CENTER Taking the lead as to make your planet a better place is crucial, but yet as important is to expand your horizon and make your voice and ideas hearable in every corner of the galaxy; which is why we have implemented "Get louder", our media plan that allows us to share knowledge and experience scaling from a local to an international way.

Making it 61 times to well known magazines, newspapers and national TV was just the push we needed for diffusing a disruptive message for everyone within the cosmos. Let us take a look at Bien Robotics Team, our own online radio program in which we discuss pivotal topics to the audience, reaching more than 3K devices on streaming. Wanting to make face-to-face interactions, our presentations on sectarian crowded places let people know who we are and what we do. For example, our school Open Houses, where children have their first interaction with robotics and a unique experience with FIRST; or an interview at our local soccer stadium, a massive space in our city, which lets us reach 14K+ people. With

these footprints in different sectors and specific approaches, we draw +2M closer to what robotics is really about.

But looking farther into space, team 4400 desired to get closer to those who are far from us. Cerbotics has collaborated with other teams to make our voices an echo all across the universe. With our annual magazine "OMG Robots", given in regional events, Championships and digitally, we've had over 40 teams from different countries in 7 editions who tell us their experience within FIRST and share how they have continued with their journey. These partnerships haven't only created strong bonds, but opened us doors for new opportunities. Like last season, when FIRST HQ invited us to participate along with them in a webinar hosted by Johnson & Johnson, or with our appearance on FIRST official media because of our collaboration with Disney and LucasFilm.

AXIS 3: AGENT RECRUITMENT As the actual STEM generation we have one huge responsibility, to imagine and build those who will take our lead later on, but this breaks down to more than just teaching. This is where our responsibility parts ways.

Accessibility is the first for us to tackle, there can't be a generation of changemakers without them all having a shot to discover their passions. In order to do this, Cerbotics has a project that was born since pandemic, there were not usual presentations or straight contact with kids, but we wouldn't let our impact stop there, thus, Team 4400 made fun and didactic toys under 2.5 dollars, giving them all the tools to develop in the STEM field.

Through the years, engaging and interesting kids has always been worked with. We have to protect the earth from the universe, which is why Cerbotics introduces kids to a path that will change the tomorrow. With projects like Grand Novelty Expo, the robotics festival, STEM Connect and our summer camps we not only show a robot, we show our efforts, work and love for science and technology. With the intention to share the FIRST mission, our team taught 561 kids that they are capable of touching that red button in order to launch their creativity.

AXIS 4: BEYOND THE GALAXY Despite the work that has been done, there are still more people who are dedicated to STEM across the galaxy; who, with the right tools, will show their full potential. With this idea in mind, Cerbotics organized 8 different projects that work on a multilevel scale.

Starting within our team and school, where all our members receive EDI trainings, while commemorating women's day with activities that involve girls from our school. The next step is to change FIRST, so we organize roundtables with women from different teams, a violence awareness campaign and a distribution of feminine hygiene supplies in all the regionals we participate in. The remaining thing to do is to involve our community, by running a podcast to inspire girls, where successful women talk about their career in STEM and the difficulties they have had to overcome.

Unfortunately, having a desire is not directly related to the opportunities we get. In 2016 Cerbotics gave the first conference at ILAL (the Institute in La Laguna for hearing and language). It wasn't just a robot showcase, but a new way for them to grow in a different direction. There was an interest that was expressed in illusion, hard work and passion, so we knew this needed to be done. This is when our 6 year collaboration started and 2 year old FTC team was consolidated.

AXIS 5: ORION'S BELT As the center of the galaxy is found on Orion's Belt, the core of our organization

relies on FIRST. 4400 operates with the axis' mission to accomplish what has been settled down: sculpting future generations and potential leaders.

We plant our focus on local projects, to later search towards national and global interactions. Our way to achieve this are initiatives like FIRST Seed, a project designed to write manuals that help us start teams from FLL, FTC and FRC, reaching 25 in total. But starting teams would mean nothing without them having a space to show off what they've learned, thus, through the past 3 seasons we've invested 3k+ volunteer hours in running, hosting and supporting 15 FIRST official events where they can participate without the need of spending money on traveling to outer competitions.

Teamwork is one of our priorities which is why Cerbotics has collaborated with teams and organizations from all over the world in carrying out activities. From home we communicate and help out with doubts through a server that is open 24/7 (The Compass Alliance, 3132), have given online robotics course to kids (STEM Connect, 2468), translated the complete FRC programming library (WPI) and made an effort to make science and technology accessible to kids with motor disabilities (Robot Wings, 5614). In regionals we serve as ambassadors for female hygiene supplies (Menstrual Equity, 1868) and exchange ideas and tips for the Impact Award (Ch-Ex, 2486).

To apply a proactive concept, our team had been searching to assist others and Warm-Up became the perfect tool to do so. It consists of a series of technical and non technical conferences that act as a FIRST 101 manual for any team, going from mental health care to scholarships and how to successfully scout in a competition, adding this to our provided published resources, we have given over 66 workshops and had 3 editions of this massive webinar, aiding people from 100+ teams in 13 different countries. This way, Team 4400 has assisted 270+ and mentored 11 teams so far.

THE BEST, OF THE BEST, OF THE BEST Review of the available data for C.L.A.W.S, confirms a favorable benefit but not a final one, because the operation is nowhere near its end. This will continue with activities, projects and initiatives on behalf of Cerbotics for 4400+ years to lead others to science and technology and help them find what they are passionate about in order to assure the community's development. Will inform the agency if the data changes with significant information.

*All terms used to describe our team's efforts strictly match FIRST definitions for 2023 Impact award submission. :) ;

