

Chairman's Award - Team 4400

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2020 - Team 4400

Team Number

4400

Team Name, Corporate/University Sponsors

PEÑOLES&COLEGIO CERVANTES DE TORREON

Briefly describe the impact of the *FIRST* program on team participants within the last five years.

We have developed an educational program hand by hand with FIRST, beginning with FLL Jr Discovery and going through all other categories. 33 of our 49 team members have been part of another FIRST program in teams founded by us. Our efforts and dedication were the key path to take them into a series of abilities and skills that now they find essential. Thus, 78% of our alumni are now into STEM related careers, taking this new way of inspiring others to all our past, present and future stages.

Describe the impact of the *FIRST* program on your community within the last five years.

By 2020, Cerbotics has reached up to 2M people within our local, national and international community. Taking care of each single opportunity to spread STEM message, we began approaching our school community and now we have become part of an alliance of government, public and private enterprises. Through more than 20 activities and around 100 media appearances, we have not only changed our environment or embedded FIRST into our community, but changed their perspective of what "impossible" means.

Describe the team's methods for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative.

Team 4400 has manuals of all areas. Our documentation symbolizes the experience we have acquired through time, and taking these to rookies allows us to preserve the team's spirit as well as representing a global knowledge that all our team members can follow. Also, we have developed a series of manuals to open all FIRST categories' teams, being referent for much more groups of STEM-interested people to effectively replicate our creative and innovative methods within and out our community.

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

Through most of our activities we have found a way to encourage other teams to pursue our same objective. The Robotics Festival, the cleaning campaign along with Limpiemos México and the Peñoles-Cervantes TryOut are some examples of this. On the other hand, running events such as STEM girls and 7 Chairman's Exchange conferences has let us inspire other teams sharing our experiences. Being part of The Compass Alliance has allowed us to be a hub for other teams looking for aid during tough times.

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

As one of our priorities, in a 5 years span Cerbotics has started 2 teams by helping them with their registration process, but also we keep in contact and mentor them since their rookie year. At the beginning of 2019 we started a program to open new FIRST teams, called FIRST Seed in which we created an alliance with teams 6652, 4010 and 3478. With this program we have developed 3 different strategies with government and private enterprises that help us do this in our respective region.

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

In the last 4 years Cerbotics has started 18 FIRST teams (9 FTC, 5 FLL, and 4 Jr FLL). To achieve this we provide financial help, investing \$350,000 MXN, making our efforts plausible not only in FRC, but in the whole FIRST spectrum. In addition to this, since last season we have been working in a pilot program with Lego Education, opening 4 Jr FLL Discovery teams by organizing 2 festivals. Adding all up, we have directly impacted 190 children within our home teams.

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

Since 2015 Team 4400 has assisted more than 70 teams. For the last 3 years has been invited to run the Chairman's Exchange (ChEx) in 8 different regionals, and has been part of The Compass Alliance. Our team has frequently given workshops during the last 5 seasons to local teams. Every year, each area of the team has the responsibility to get in contact and assist at least 1 foreign team making video calls and providing published resources during conferences, even going to their city.

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)

In a 5 year span Cerbotics has mentored 13 teams, being 7 of them from FRC and 6 from the other FIRST categories (2 FTC, 2 FLL, 2 FLL Jr). We have provided mentors, continuous workshops and resources to teams near our location. On the other hand, we have helped foreign teams with video calls, visiting their cities and providing them with materials. Moreover, we developed a strategy where each team's area is required to mentor at least one team, turning our local efforts into global results.

Describe your Corporate/University Sponsors

One thing that thoroughly describes our sponsors is their aim to express and diffuse STEM in several ways, with "Peñoles" and "Colegio Cervantes de Torreon" in the head of the list. As our goals grow in scope, so does our commitment with our sponsors. Up to the 2019 season, and after a continuous search for changemaking enterprises, 25 regional, national and international companies support us, 14 more than what we had 5 years ago, representing a 160% increase on the team's income.

Describe the strength of your partnership with your sponsors within the last five years.

We have developed 4 alliances with sponsors, forging a bilateral union. For 3 years now we work along our city hall to promote activities in the fields of STEM diffusion and social awareness. We have also set FIRST as a culture in our home school, giving the opportunity to 101 kids from K-12th grade to be part of 11 different teams. Added to this, we have the courses and activities we offered to 48 worker's children of one of our benefactors, Madero, exploring a proximus activity with SIMSA.

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

FIRST means the efforts and work of all of us, boys and girls amazed by the power we own in the fields of STEM. FIRST means more than robots, it means even more than what we define as doable. By taking the abilities and skills of thousands of young change-makers, we work on the solutions for today's challenges. We define it as the lifecycle where both, our interest and wish of inspiring others, lead us to discover more ways to embody the values that certainly allow us to change our communities.

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

In 2019 we had the opportunity to represent Mexico in FIRST Global Challenge, in Dubai, winning the "Dr. Mae Jemison" golden medal to International Unity for the continuous work we had to put 30 countries into action in common projects. We reached 2M people thanks to our media appearances, and organized the biggest clean-up campaign in our state, in collaboration with the biggest ecological foundation in Mexico, collecting 4 tons of trash with 400 volunteers in our local river.

For FRC teams older than 5 years, briefly describe your team's broader impact from its inception.

We keep looking for new strategies to take STEM to more social circumstances by creating spaces whereby we share all "good stuff". We taught 40 children from low-resource settings about robotics, creating a local competition where they could demonstrate what they acquired. In 5 years we've spread in a 20km radius, adding efforts that helped us to build bonds among our partnerships, being the first team in Mexico to have opened all FIRST categories teams in our school, even pilot categories.

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

Jorge Venegas

Essay

There is no better motive to what we do than what we are hoping to become. Through the years humans have fought to reach their goals and be a model for others to follow, to set a legacy. Even us, after 9 seasons, we haven't stopped pursuing it, and our history and achievements are the ultimate proof of what our hope stands for. We are Team Cerbotics 4400, founded in 2011, in Torreón, Coahuila, México.

FIRST encourages us to replicate our work in others, fomenting values of the most fields possible. Having this in mind, we are becoming ambassadors of FIRST and STEM not only in our region but within our country. In the last 5 years, team 4400 has started 20 teams from all FIRST categories. We have achieved this with 2 different strategies. The first one, providing financial aid and investing more than 350,000 MXN; then, creating our own sustainable team opening project: FIRST Seed, in which allied with 3 of the top teams in our country (6652, 3478 and 4010) we have helped rookie teams along their registration process and provided them with the documentation needed during their first year.

Cerbotics has effusively mentored 13 teams, setting goals and projects in common and promoting a close-iterated contact. For some of them our team members helped the whole season, providing technical resources and serving in 6 of those as Jr mentors. We assisted 70 teams from all countries with video calls, workshops, and material donations, among others. Additionally, team 4400 has provided published resources by releasing their whole documentation package for free on our website. In this, strategic partners are crucial, such as The Compass Alliance, a global platform where we open our workshops and provide teams with everything they need. Since 2018 we have partnered team 2486 in running the Chairman's Exchange in 8 regional events, where teams join us in a discussion forum to improve their presentations.

But our impact went even further. In 2019 we fully expanded our borders by representing Mexico in the FIRST Global Challenge, where the full team was formed by our team members. With our work, our main sponsor, Colegio Cervantes de Torreón, decided to invest 220,000 MXN. During the competition we had the opportunity to compete with more than 190 countries, promoting and fomenting FIRST values within our global community. Moreover, in union with LEGO Foundation and Robotix we started 4 Jr Discovery teams and hosted 2 festivals. With this, our educational plan hand by hand with FIRST becomes a reality, going from Jr Discovery to FRC, ensuring this way a sustainable future for our teams.

Team 4400 is committed to develop FIRST to new domains. Beginning with our state, we are taking the efforts of both private and public entities in one mission: Make our environment a FIRSTed space. Doing this means getting into action by bringing teams together, like in our week zero event, the Peñoles-Cervantes Try Out, which we have hosted since our rookie year. Here, teams test their robots in our game field that is still used during the season; in its last edition we gathered 19 teams along with 1,500 spectators. In these multiple efforts, our team thinks in new ways to expand: We will host the very first official off-season event in Mexico; in the same path we are looking for new events to take place, such as the FTC Regional Event we will host too.

In the last 3 years Cerbotics has been part of several FIRST related events. We have ran the very first robotics festival in northern Mexico, where entrepreneurs in the fields of STEM, universities and various teams (14 in its last edition) get together to present their ideas and projects to our locals, being a powerful impact igniter by taking our abilities and putting them in their hands; throughout it we've reached up to 7000 people. Our team has also assisted other events such as the regional Kick Off, where we had the opportunity to run a discussion panel about the Game Challenge, and to the Coopertition Fest, event in which we were able to exchange our knowledge and experiences with other teams.

Today we are involved in a whole STEM voyage, being ambassadors in places where its inception represents a bigger challenge. After contacting our mayor, we worked reaching for those with unstoppable minds and impetuous desire visiting 10 neighborhoods of our city, 1 at a week. From those, a total of 35 interested children were part of our robotics' courses in the city's library. In 10 weeks we changed their young perspectives with mechanics, electronics and programming, embedding them with the experience only STEM can offer.

Team 4400 is conscious of the global situation and how necessary it is to empower girls in STEM. Thanks to the experience we acquired last year running a FIRST Ladies event along with team 1710 and being already pioneers in Mexico in women awareness campaigns, we developed our own project, STEM Girls, with the only purpose of promoting STEM within the female community.

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Since our beginnings we acknowledged that future generations are essential for the well development of a team. Cerbotics likes to consider its younger students like the "solutions in process" getting ready to one day become those who take the lead in our activities. Most of the primary impact develops from our children-intended activities. First, Grand Novelty Expo, our one-day STEM showoff where more than 670 young minds have found themselves surrounded by experiments, tech projects and most importantly, a first approach to what we pursue as a team. Next to GNE we have RoboCamp, 2 weeks of specialized workshops like 3D design or applied physics where boys and girls had gotten immersed in how practical science can be, in their words: "the best way to spend our minds". For 4 years, Cerbotics has partnered with the main organization for hearing impaired teens in our region (ILAL), offering them courses in mechanics, safety and business skills subjects. With this, our team members ascertain what we learn from FIRST: "To foment values for the most people possible". Now, we're taking a step further by offering them the opportunity to compete in Robo League, our robotics contest where teams compete by building with FLL material. In 2 years, 5 teams were formed by ILAL's students, 2 of them were awarded in the first places. In addition to this, we have reached out to our sponsors by running FIRST courses and show-offs in their facilities. We held courses from Jr. Discovery to FRC to 48 children in one of them (Madero Equipos de Ordeño), as well as dynamic activities intended to focus the worker's children into one of our future programs, such as 1 Dia Siendo Ingeniero.

Pursuing a STEM-ed society involves not only opening places for people to come and learn, but to go and take our work out of our borders: Team Cerbotics 4400 has participated in forums and expos like the Innovate symposium, organized by one of the top newspapers in our city; we also participated in public events organized by our government, like the State Week of Science and Technology where we worked to present our job in different public spaces. Also, during the last season we joined our school in presentations like the Open House, where we showed our 4 categories to children and their parents. All prior add up to more than 4,000 people impacted by STEM presentations. Media appearances are valuable for us since they represent the interest we generate in our environment. We maintain active social media that work in two ways: as a platform where others can see what we're doing and as a hub for teams to express and ask us questions related to all areas of the competition. We reached 1.5M people in TV, radio and newspaper appearances in local, national and international scale.

A robotics team rises from their community and it is committed with it. We materialized this with the several environmental and social campaigns we organize each year, such as the massive cleaning campaign organized in collaboration with Limpiemos Mexico, cleaning 98443 m2 of our local river dry bed. Having the assistance of 400 volunteers, where we find 19 youth groups between FIRST teams and local associations. We collected 4 tons of the waste in the river. Over the last 5 years team 4400 has been involved in initiatives to improve our environment, where, for example, we assisted in the repair works of 3 local schools, equipping them, helping 1800 children to keep on their studies. Cerbotics has opened collection centers equivalent to 2 tons of aid for the devastating earthquake that shocked south Mexico and for the floods that affected the neighborhoods around our school. We created Autoexplorate, a self-examination campaign to raise awareness about breast cancer with a video and a motivational letter; within the last 4 years we've impacted 5900 people. In addition, for 5 years we've been supporting Destapa una Esperanza with "Tapatón", collecting 782,150 bottle caps and funding chemotherapies for children. Since 2016, every holiday we visit rural and marginalized communities in our city's surroundings to give away love and support with first-need supplies and toys for almost 150 families in 5 communities.

We are here to make legacy, to set a mark and break it. Our efforts and determination are the only limits we have as a team, and no matter how many miles we have to move, or how many non-sleep nights we may face, we are ready to make that legacy a proof of hope for our future generations. There are lots of things to say about a team, but the real meaning of being in FIRST takes us to more than a robot, further than an award. Today we are building history, impacting young minds to one day be the change makers that will spring as a new society, a society where values and STEM will be the path to progress, and now, just in this far spot, we are beginning that rise.

*All terms used to describe our team's efforts strictly match FIRST definitions for 2020 Chairman's award submission.