

Chairman's Award - Team 4400

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2019 - 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 with special emphasis on the 2018/2019 year and the preceding two to five years

As we were building the robot, we were building ourselves. We have learned to work hard and overcome the expectations of our potential. 100% of the Cerbotics' alumni went to college and over 82% of Cerbotics' alumni said that FIRST has heavily influenced their career choice. Through that commitment to STEM, 26 mentors, which are former Cerbotics' team members, have mentored over 16 teams. That approach to FIRST has given our graduates a more humane way of developing STEM in their careers.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2018/2019 year and the preceding two to five years

In alliance with our city hall, Team 4400 organized the first Robotics Festival in our region, in which more than 3000 people had the opportunity to see projects and robots of 12 FRC teams. Also, every year we host the Peñoles-Cervantes TryOut, a regional simulation, where up to 4000 people have been part of it. These events have the purpose of introducing FIRST to these people, but this is not all, we want people to get involved with FIRST, and that's why we started 6 FIRST teams in our region.

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

For 5 years, our activity "Grand Novelty Expo" has approached hundreds of children in our community, interesting them in science and technology by doing games and experiments that are attractive for them, we make things that are apparently boring for kids something really dynamic and easy catchable for them. Our summer camp has included activities related to Physics, Chemistry and computer design. We have brought LEGO pieces to our presentations and activities, taking STEM way out of our school.

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

Being an inspiration is more than we think. Every year, at Laguna Regional we provide a workshop for every team that needs it. Also, with the foreign ones we keep in touch before and during the regional with the idea of making them feel at home. In other regionals, we have hosted 5 times the Chairman's Exchange, that is an advisory activity for all the teams that want to win the Chairman's Award. In every regional we go to, our safety team gives expositions about safety to all the rookie teams.

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

Since its beginnings, Team 4400 wanted to expand FIRST message by starting teams. In the last 5 years, we have formed 2 FRC teams by helping them with the official registration process. Also, as a result of our alliance with team 6652, we developed a protocol with all the information to start and run a team. In its first stage, we invited many schools of each team's respective cities. On its second stage, we will look for possible alliances with other teams, to make this project even bigger.

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

As Cerbotics, our goal is to ensure an educational growth, hand in hand with FIRST. In the last 2 seasons, we started 6 FIRST teams (2 FLL Jr, 2 FLL and 2 FTC), investing up to \$15,000 USD. This year we are opening 20 teams for FLL Jr. Discovery as part of a pilot project. With the help of the protocol in which we are working in collaboration with team 6652, we intend to open as many teams as possible, with special emphasis on FTC with the goal to be able to host an FTC regional in our city.

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

In a 5 year span, Team 4400 has assisted over 50 teams from all the world, whom we have aided via materials and courses. We have also helped foreign teams traveling over 2766 km to provide help and done video calls with teams we cannot reach physically. For 2 years now, we have been invited to host the Chairman's Exchange (ChEx), counting a total of 5 ChEx. In addition, we are part of The Compass Alliance, an association of teams from all around the world, that gives help to any team in need.

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)

Cerbotics has served as a mentor for 11 teams, we have helped 3 FRC teams (5312, 6199 and 7217) and 5 from all other FIRST categories (2 Jr. FLL, 2 FLL and 1 FTC) providing mentors during a complete season. For other 2 FRC teams (7577 and 7037), we provided material, technical and non technical training. During the build season we helped team 7793 from Zimbabwe through video calls and texting to give them information about the kickoff, regionals and context in general.

Describe your Corporate/University Sponsors

The birthplace and lifelong strategic partner of Team 4400 has been Colegio Cervantes de Torreón, a school interested in STEM and in the humane sense of their students. Peñoles not only is one of the world's biggest metallurgical corporations, but it's famous as well for being a socially responsible enterprise. We have also agreed an alliance with the local government, which is very passionate about bettering the citizens' life with interest in STEM. They all embody FIRST values in our region.

Describe the strength of your partnership with your sponsors with special emphasis on the 2018/2019 year and the preceding two to five years

Our sponsors make us feel accompanied the whole time, and we have proven to be a grateful and responsible team. In the last five years, Colegio Cervantes de Torreón has given us 62,500 USD to finance Cerbotics and to start new FIRST teams. Additionally, Peñoles has provided us with mentors, workshops and 61,000 USD that we use for regional payments and transportation. The municipality of our city granted us 5,000 USD through a contract to impart STEM related courses for the subsequent 3 years.

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

FIRST is a contest that brings out the best of a lot of people, worried about their future and how they inspire others by promoting essential values, it represents the power of science and technology, embodied on thousands of boys and girls that work together in favor of their community. They don't only make robots, they pursue a better world, transforming their responsibility and excellence into a passion, an amazing tool for personal growth, a window for inclusion and a mark on their lives.

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

In a 5 years span, Team 4400 has had 130 appearances in local and national newspapers, TV and radio stations, and our public presentations have reached 19,000 people. Also, this season with the help of our school community, we made a donation of books and material to 2 different public schools that benefited more than 1500 kids. Team 4400 received the Distinguished Citizenship Award of Science & Technology in our city, closing years of hard work designed to approach STEM to our community.

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

Ana Rea

Essay

Time is maybe one of the most difficult concepts any human has ever thought about, a whole mystery by itself. It lets us know one of the most important things, not only for a team, but for a person as well: where we were and where we are, the mistakes we've had, and how we've overcome them. We are Team Cerbotics 4400, founded in 2011, from Torreon, Coahuila, Mexico.

Since its beginnings, Team 4400 realized that the most essential thing is to share and teach what we know, help any team who asks for support, no matter if they'd be on the other side of the field on our next match. In the last 5 years, we have assisted over 50 teams from all around the world. Starting with our 14 neighbor teams, we have been providing them with material and workshops; also, we have traveled over 2766 km within our country with the only purpose of assisting 10 more teams with courses, materials and presentations. Even though we know distance is one of the roughest barriers, we have successfully overpassed it by making video calls reaching teams from 11 different countries. In the same way, starting this year, we have collaborated with The Compass Alliance, as a help hub for every FRC team in our region. In addition to this, we have hosted and organize the Peñoles-Cervantes TryOut, a Regional Competition simulation, where about 14 teams from 7 different states have the opportunity to exchange their knowledge and practice with their robot for their first time in the season. This event is always covered by our local newspapers, TV and radio stations, having an attendance close to 4000 people.

Mentoring is a very important process in every rookie team, since it is one of the most important contacts in their beginnings, it is also the process that determines their future. Every year, our passion of helping others increases exponentially, we try to help as many teams as we can, but in this process we end up learning as much as we teach. Team 4400 has been mentoring 11 teams in the last 5 years, providing either intensive workshops or materials to all of them, and with former team-members that fulfill as mentors in 3 different FRC teams (7217, 6199, & 5312), in addition to other 5 teams, reaching every FIRST category. At the same time, we learn that working together is not an option, but a necessity that breaks boundaries, which led us, since the last year, to mentor 3 teams from other states, and even one from Zimbabwe (7577, 7037 and 7793).

Nevertheless, what a better way to spread and incorporate Gracious Professionalism and Coopertition within a team than starting one. Along the years, Team 4400 has had the opportunity to start 8 teams, helping 2 of them with the official registration process, and also, with the help of the Colegio Cervantes de Torreon, we had the opportunity to form other 6 teams (2 FTC, 2 FLL and 2 FLL Jr.), investing \$15,000 USD. This season, our capacity got extended, in alliance with LEGO Foundation and ROBOTIX, we will be hosting 2 Jr. FLL Discovery Festivals, in which 20 teams formed by us, will participate as part of this pilot program. All of this with the only purpose of making our educational growth by the hand of FIRST, a reality.

This year, Team 4400, in alliance with 6652, created what will be our joint plan for starting more FIRST teams within our regions and country, being one of the biggest programs for forming teams ever created in FIRST Mexico. This project consists of a 2 stages plan; In its first stage we developed a strategy to reach as many schools as possible in each team's respective city, offering them the protocol and the necessary resources to run their FIRST teams. On its second stage, we will look for alliances with other Mexican teams, so they may replicate our process, logistics, and look for schools in their own areas. The protocol is expected to get more and more children involved in FIRST with the goal of making them the next generation of changemakers.

STEM is the perfect tool to discover awesome people; unfortunately, sometimes those who are awesome don't get the chance to put their ideas into action, and that's where we get into the equation. Our STEM related activities show this effort allowing them to be part of the change. For 5 years, Team 4400 has organized our annual activity "Grand Novelty Expo", in which hundreds of kids had their first approach to STEM, opening new doors in their lives, added to this, our 3 week summer camp has helped them to get interested in what we do. These two activities have had an attendance of over 520 children.

A few years ago, while Team 4400 was looking for these awesome people we met ILAL's (Laguna's Hearing and Language Institute) students. ILAL is one of the three institutions in all Mexico where hearing-impaired teenagers have the opportunity to study in sign language. Since the beginning, we started giving them mechanics, electronics and programming courses, but we had to face a big barrier: language. Because of that, we had to set a strategy: all of our team members learned the alphabet of the mexican sign language (MSL) and 5 of them received intensive courses. Consequently, we began teaching the ILAL's students about robotics, we even had to create our own translations from programming technicisms to MSL. Anyway, it didn't stop there, after several intensive sessions we created "RoboLeague", a regional contest where 17 teams had to build their own robots and compete against others, 23% of all teams were ILAL's students, and even 1 of those teams got in second place, this is even more special, taking into account that a few weeks earlier, they didn't even know what robotics was.

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Future counts, and there's no better way to see future itself than in a kid. Our job as a guide path is to express our community that we are committed with our kids and their future. This last season, Team 4400 transformed these efforts in a partnership with our city hall, which consisted in 3 key events: In first place, we participated in presentations and STEM related activities in marginalized neighborhoods in our region. After 10 weeks on this labor, we put into action the second step: we opened and organized a robotics course in our municipal library, where most of the kids we met in the presentations got involved, they learned how to build and program a robot, getting the necessary mechanical and theoretical instruction, being able to develop abilities they would have never imagined. We needed a way to materialize all of this, so we got into action, organizing an event unique in its kind, inviting and cooperating with 12 FRC teams, along with more than 10 private enterprises, having the presence of more than 3,000 people, scientific organizations, and with the support of our city hall; all of this with the only aim to expand STEM in its purest display, setting the seed of curiosity in a huge bunch of young minds, all of which will certainly change the world in its own way. This is what the first Robotics Festival, inside of the first edition of the day of Science and Technology in our region was about, the final event that anchored 5 months of work in favor of STEM and our community development.

Notwithstanding, none of this would have been possible without our community. Through our outreach activities, we have tried to establish in our community a feeling of helping each other when it is mostly needed, being the same community the one that lifts them up when they fall, and demonstrating what we really are, humans. As an example of this, when our country suffered one of the worst earthquakes of all times in Mexico's history, Team 4400 gathered and made a plan, by the hand of one of our main sponsors: Peñoles, to help the affected areas collecting up to 2 tons of medical aid, food and supplies, all of which were sent to a hub and distributed to 3 of the most affected states. Also, when our city passed through a very heavy rain that completely flooded a lot of neighborhoods; and, in cooperation with the local authorities, we helped by making sand sacks to prevent more water to getting into the affected buildings, delivering food, water and medical supplies in boats and taking people and animals to a safe dry area.

In the last 5 years, our recycling campaign "Reciclando-Ando" has collected almost a ton of PET, improving the life standard for hundreds of people of surrounding neighborhoods. In addition to that, we know that one of the biggest problems in our community is cancer, that's why for 5 years now, our self-examination campaign "Auto-Explore" has raised prevention practices to fight cancer in our community, having an impact on more than 5,000 people. Since 2016, Team 4400 has been supporting the organization "Destapa una Esperanza" in which we have made a collection of 685,000 bottle caps, transforming our efforts into specific treatments against cancer.

"Time to Share" is an activity that takes place each December, next to Holidays, and consists on going to a rural community at our city's periphery, to give toys, food and clothing to the children and families there. It is especially significant, since it awakens the feeling of helping in our team members. This year, Cerbotics helped 4 communities. With this feeling of helping, we are planning to make this project even bigger; for the next season we want the collaboration from our other 21 brother teams to help up to 50 communities.

All of our efforts to understand time as a whole are useless. In fact, time can only be visible by its effects, those which generate a change, that inspire others, that leave a mark in our lives. Those are the ones that plant the seed of curiosity in a single child, or in a group of 10 students, maybe in a class of 35 kids, in 3000 people attending a robotics fest, even in 300,000 impacted, each of them taking part in our history, in our time, in who we are, leaving us in the key question of our present moment: where we are, and in what direction we are working to go.