

Chairman's Award - Team 3794

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2020 - Team 3794

Team Number

3794

Team Name, Corporate/University Sponsors

UNIVERSIDAD TECMILENIO/General Motors México/DOW/INTERJET ABC AEROLINEAS S.A. DE C.V./Boeing/United Technology/BOSCH/SimpleWater/Rockwell Automation/SolidWorks/CNC-MEXICO/SOCOI/DEKA/ALUMNI WINT/FAMILY WINT&Universidad Tecmilenio

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

The team members have developed and evolved abilities that has served them to obtain better results in their academic life, 80% of our member have improved their academical performance which has resulted in a scholarship of the 60% for students that are going to college with the purpose to stay in the team as jr. mentors. 85% of our students decide to study STEM related careers. 50% of our member are women.

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

In the last few years the mentality and perspective in our community has changed, the projects that are related to STEM values have increased greatly, the people that has entered in contact with FIRST are now able to do projects on their own. We are proud of being the first Tecmilenio team, spreading the values of FIRST to all campuses across the country.

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

We believe that the best way to find out what FIRST is, it is by experiencing it, that is why we've given several types of courses, app creation and line follower robots for over 400 students from our school, we created an innovation fair where around 100 students found technological solutions for different problems, as well as give the opportunity to let other control our robots through the "Mini driver experience" thus reaching over 5k people.

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

Our institution has decided to grant a scholarship of the 60% to students that have been in an FRC team to thank their effort and invite them to keep supporting the team as Jr. mentors, this program has given fruition as most of our alumni keep mentoring 3794 as well as helping other teams. We created the Lite 10, United Hands, Green Light Bulb and E-Go Kart. Our members had invested more than 1000 hours volunteering FIRST events. (kick off and regional host, assist mentor and start teams).

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

The struggle of being a rookie team that participates on such an important competition is real, that is why since 2015 we have helped different teams from our country to obtain a grant that will let them pay their intuition, as well as mentoring them on ways to obtain resources for them to pay their spare parts and more.

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

In collaboration with STEM, we keep up to date the digital platform "WE STEM" that serves as a guide for teams from other categories in the creation of a team, inscription, administration, business plan and robot planning. Thanks to the relationship with our institution we have managed to include the FTC program in our school.

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

As hosts from the FRC kick off we created an outsourcing event where we introduce teams to several companies in order to give them the opportunity of creating a relationship that will end up in a sponsorship, in consequence 19 teams have been benefited, we also include in our initiatives the best practices program where we give resources, video conferences, blogs and whatsapp groups for other teams.

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)

Alongside 2283, 3478, 4010, etc. we have been translating the game manual for over 3 seasons; during the kickoff we partner with over 30 teams to give workshops that range from quick robot build to Business planning. With 6606 we have mentored other teams to obtain the "Rookie Grant", benefiting 12 teams; with 4723, 5696, 5874, 6010 & 6170 an application for scouting was creating this with the purpose to obtain information in a more rapid way.

Describe your Corporate/University Sponsors

GM: financial & mentorship - 4 yrs. Tecmilenio: facilities & mentorship - 10 yrs. DOW: financial & mentorship - 3 yrs. United Technologies: financial & mentorship - 2 yrs. BOEING: financial & mentorship - 3 yrs. BOSCH, Rockwell, SOCOI & CNC: use of machine shop - 4 yrs. Montesur & Simplewater: financial and material - 4 yrs. SolidWorks: license use - 4 yrs. Fundación Zurich: financial & mentorship - 2 yrs. ABB, LightHouse & Control 31: financial & mentorship - 1 yr.

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

17 mentors that are employed by our sponsors have provided us with over 6,000 hours of mentorship. Tecmilenio, DOW, BOSCH, GM, CNC Mexico, SOCOI, Fundación Zurich, LightHouse, United Technologies, Boeing, have taught us new skills about industrial machinery, industrial logistics, teamwork, gaining resources, marketing strategies, as well as taking care of our surroundings. Without them, we wouldn't be where we stand today.

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

A community where your biggest rival is your greatest ally, a place where working under pressure puts your abilities for searching solutions to the test, your comrades will show you the true meaning of teamwork. A competition that is preparing you to solve the greatest problematics of the future.

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

In 2015, we were recognized by our governor as one of the principal diffusers of science and technology in our state. We had to keep the example, that is how we noticed the importance of women in science and technology, we created the first all-female team in the country, 6606, due to this we impacted over 4,500 women. Recently, we visited 150 inmates in "Almoloyas youth jail", where we gave them courses related to STEM for 6 months.

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

Inclusion for every human being in the competition, searching for equality in the teams by accepting every person disregarding their religion, ethnicity and preferences. Rookie members search technological solutions for everyday struggles for people with different abilities. Talent hunting from different companies with our role model students that want to surpass themselves in the professional environment.

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

Nadia Marmolejo

Essay

The beginning.

We started our journey 10 years ago, a couple of students were interested in forming part of the FIRST program with the intention of learning more about STEM and sharing their knowledge with more people alongside their community, some years into the future and thanks to those kids that decided to entrepreneur, they inspire several generations of kids that had been passing their knowledge to their teammates that have created projects to help their community and always see to help other with technological solutions. Each generation that has passed on this team, has passed their knowledge on to the next in order to evolve into a better community.

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Along our journey, there has been times were we can't seem to see the light across the dark road, sponsors and key supporters of our team decided to drop the project due to situations that showed up in their labor environment, at that time the only thing that kept us going was our coach, telling us to remember the goal of the team. Those hardships helped us to guide the team to new heights, searching to help others with our knowledge, to spread what we knew with younger generations that would become the next solvers of global changing matters. Even if it's by outreach, grants given to rookie teams, grants to help students pursue a career at collage or even showing a robot to kids for the first time in their life, we are going to make a change in our community using FIRST as our tools to reach that goal.

FIRST in Mexico.

The community of FIRST is as big as it can get, here in Mexico it doesn't matter where you are from, we will treat you as an equal, since our community is so united and we saw an opportunity to help our fellow comrade teams in Mexico we decide to translate the game manual into Spanish, which is why since 2015 we have been working alongside 2283, 3478, 4010 and 6606 to finish this task during the first weeks of the season in order to help the teams that aren't as fluid on the language as others. This has helped over 30 teams each season.

In 2015 we started a movement that started as a local impact, having granted recognition from our governor due to our development during the past season we starred on several newspapers that got the attention of our university, having meeting with our coach and several members of the team the vision of having 1 FRC team for each campus from our university was no more a dream. That same year we created 28 teams across our country which we helped by mentoring them during the off season and helping them apply for a rookie grant that would allow them to participate on the competition.

Women for FIRST and FIRST for women.

In 2017 we saw that the number of female participants was decreasing in the FIRST Mexican community, we have seen teams conformed by all male members and a lot more were the women represented less than 50% of their members, knowing this and viewing statements were people thought that engineering was only made for men, we decided to prove them wrong.

That year we created the first 100% female team in Mexico, Pink Hawks 6606, this was with the objective to empower women across the world and show them what and all girls team could achieve, the team was created with the help of several alumni and teammates from our team that volunteered to share their knowledge and act as role models for the rookie girls that were just starting, as well as help them obtain a grant that would help them in their first 2 seasons as a team.

Like father like son.

Tecmilenio has been our home since our beginning, it has been the house of knowledge for all of our members, some even have decided to study collage within those walls, our school is famous for several things, one of them is by being the first university in the world to use positive psychology in the study program.

This gave us the idea to implement that same way of thinking in our projects but we still didn't know how to apply it, that was until 2018 were thanks to trial and error we first implemented this program in an agenda which we shared with teams from different parts of the globe, that told them how to interact with their rookie members as well as having activities that would improve their brotherhood overall.

STEM is a wall breaking tool.

Thanks to the positive thinking project we acquired connections with different teams across the world, one of them was 3339 BumbleB from Israel, in which we talked about how STEM has helped reached other audiences rather than our classmates and people from our community, we planned on a way in which this same tools could allow us share the FIRST values with a vulnerable sector within each other's society.

That's how we decided to visit a youth jail located in Almoloya, we shared our knowledge with the people from that place through dynamic workshops that lasted 6 months, same in which we applied our positive thinking agenda that showed them to be grateful and appreciate the small pleasures of life.

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At the end of this project the youngsters thanked us because they had a way of adapting to society now, that is why "STEM Without Walls" was created, to help vulnerable sector within our society through the values of STEM.

Small things pack the biggest punch.

In every exposition that we gave we saw that the kids were most interested in our robot rather than our exposition, that is why in 2015 we started to implement the "Mini driver experience" a way in which wouldn't just know the values of FIRST but experience in real life what it was like to drive one of our robots, this program has given out results because we have members that remember the visit to their schools when they were little and those few minutes of interaction with the robot inspired them to pursue their goal to form part of an FRC team.

However, we like to innovate in our procedures so we were tasked on searching a problematic that we could solve.

Once we saw that small towns across our state had little to no communication with the cities that were more developed, we thought on bringing FIRST to them, and so "Hanging Out with WinT" was born. A project in which we went on a road trip across 10 hard to reach communities to show them the values of FIRST through presentations and the mini driver experience, this led to one of our sponsors deciding to create an FRC team in one of those communities.

No experience, no problem.

Throughout the years we have been searching on an optimal way of introducing our rookie members to the world of FIRST, we have been doing that by doing several workshops, camping sessions, positive practices with our sponsors, but none of that has given them the true experience of what FIRST really is like. So while searching for the ideal solution, we noticed that the best solution for this was FIRST, creating 2 rookie teams on FTC in 2018 was the way to go to introduce our rookies.

Having hosted the FTC regional since 2018 gave us the opportunity to discover the abilities of our new members as well as the leadership qualities of our older member to guide their team.

In 2019, we spoke with the highest rankings in our university and municipal government to open more than one FTC team across the country, thanks to our performance in both FTC and FRC, the university agreed to have an FTC team on each campus, and even with the government, it was agreed to create 23 new teams in each library of our community. Assuming that in the 2020-2021 season there will be a total of 51 new teams throughout the country.

Safety FIRST.

Knowing the tools which we use to build our robot, the hazardous things which we interact when visiting our workshop or even at the competition, we need to be fully equipped for the occasion, however is that really all the danger we have to be prepared for?

After the season of 2019 we started doing a medical research on every member of the team, this with the purpose of being prepared for any situation that may show up during the competition, we have prepared a medical kit with medicines that will treat people that has cut his finger to teammates with seizures, having a medical record on each member let us be prepared for everything.

WE are FIRST.

In 2019 alongside our sponsor we started a project that will enable people with Down syndrome, drive an ecofriendly go kart, this was made with the purpose to show people that their abilities don't limit them. 2 members accompanied by our coach represented us in a Global forum that took place in Kenya to recognize technological projects that look to improve the quality of life in their community.

Inspired by this, a member decided to create a prosthesis that will enable people to control a robotic hand using just sensors, another one created a low cost wheel chair that will enable people travel long distances without using their own energy. The name of the program is called "We" it is to show how we are part of a society that will help each other to surpass their own limitations.

WINT is a team that seeks a way to innovate the process in which things are done, it is not to be effective but to unite our community, to show once more how we can help each other to surpass our limits, we will keep working on new technologies to help others with the value of FIRST.

The community, the teams, the mentors, the sponsors, the teammates, we all are FIRST.