

Chairman's Award - Team 4775

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2022 - Team 4775

Team Number

4775

Team Nickname

Aztech Robotics

Team Location

Mexico City, Mexico - Mexico

Describe the impact of the *FIRST* 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 *FIRST* programs as mentors/sponsors.

Many of our team members are the first in their families aspiring to attend college, or even getting the quality education that *FIRST* provides us. By taking advantage of it, we achieve 100% of our alumni entering college, compared to the citywide average of 33%. As well, 93% choose STEAM-related careers, all of whom received scholarships from prestigious colleges & thanks to our supportive values ??instilled during their stay, 38% of them return as mentors guiding the new generation.

Describe your community along with how your team addresses its unique opportunities and circumstances.

In our community the academic opportunities are limited, perpetuating the fact that 82% of young people do not finish their higher education; our school was the 1st step to break this pattern, by providing quality & inclusive education, which we have enhanced & promoted through initiatives such as: Courses in children's homes, our biannual OPEN HOUSE, SALOUA & ENGIRLNEERING, providing the opportunity to achieve social mobility to +12.5k people.

Describe the team's methods, with emphasis on the past 3 years, for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?

With our biannual OPEN HOUSE we introduced *FIRST* to +2k students & this year we started 2 FTC teams of Humanitree students by running & hosting HANDS ON DAY, a *FIRST*-style mini-tournament. Moreover, we ran AZTECH CUP, in which we adapted Ultimate Goal y *FIRST* Innovation challenges where 5 FTC teams from RNPA participated in a complete remote event, promoting Coopertition & Gracious Professionalism in +100 participants.

Please provide specific examples of how your team members act as role models within the *FIRST* community with emphasis on the past 3 years.

We are teens with limited resources who have overcome their barriers, pioneering robotics at Plantel Azteca & after years of effort we became leaders of the RNPA. We started 5 FTC teams & mentored 2 more & with the aim of continuing founding teams, in 2021 we advocated for STEAM-ed education, holding negotiations with Mexican governors, such as Omar Fayad, Governor of Hidalgo, to open schools in their respective states, promoting comprehensive education with a vision for the future.

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

We provide published resources through AZTECH ACADEMY, a mentoring & assisting program that includes written & audio-visual materials which has been made available to 7 FTC teams, seeking self & effective learning related to technical & non-technical work within FIRST competitions. As well, we provided CAD mentoring to RNPA teams, pneumatics assistance to 3527, & safety assessment to 7018, completing 15 hours of assessment & outreach to over 150 members of the FIRST 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?

Aztech has created 3 projects that ensure STEAM education for youth. Within SALOJA we fund 4 libraries through the donation of +5k books, promoting innovation & creativity. As well we started MY FIRST ROBOT summer camp, where we taught +300 Ensamblika workers' children about how to build FLL & FTC robots. Likewise, with ENGIENGINEERING we contributed to reduce the gender gap, through the STEAM DAY recreational workshops & robotics courses, encouraging +350 girls.

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 created an agreement with Fundación Azteca to start robotics teams at each RNPA campus & with Totalplay we were able to bring AZTECH ACADEMY to a digital environment. On the other hand, with the ENCB of the IPN & SNI, we wrote Plans of Action to improve our environmental pillar projects, as well as CEMDY's, with which we made a research study for the development of the FIRST Innovation Challenge & we also collaborated with SUNAE to impart vocational workshops for +200 young people.

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

We promote STEAM by & for women with ENGIENGINEERING, reaching +350 girls through workshops, courses & conferences, in addition, 54% of the team & 66% of the engineering sector is made up of girls. Aztech has always been a safe place that is inclusive of the LGBTQIA+ community. This year, the first trans woman on the team set a precedent for actively participating in the inclusion of all identities within the workshop and adapting policies so that EVERYONE could express their gender freely.

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

The lifecycle of every Aztech warrior begins with our Open House where students learn about 4775 & become interested in being part of us. They also receive engineering & business training to develop skills for the future, which facilitates their entry into 1 of our 3 FTC teams, where they gain experience to manage their own projects & then specialize in FRC. Senior members become guides for the younger ones & when they graduate, return as mentors ensuring the success of the team each season.

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

We keep our sponsors updated through various executive boards, our newsletter Aztech's Daily & interactive exhibitions with our directive's sponsor, like Ricardo Salinas; building closer relationships. To give them back their support, we run initiatives like MY FIRST ROBOT for Ensamblika workers' children, & TAPECH, a collaborative campaign between Grupo Salinas & us, which aims to fund cancer treatments through plastic caps donations

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

When a rookies joins Aztech need to acquire experience and knowledge necessary to develop tasks by themselves, this learning curve was around 1 year & with the pandemic it doubled, causing delay in the tasks execution; as a way to accelerate it we created AZTECH ACADEMY: a virtual training program using written and audiovisual material, where we taught step by step how to build a robot & business management, to provide remotely instruction & encourage them to be self-taught & proactive members.

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

At Aztech we seek to promote the integral development of young people and inspire them to work for the community, all through social projects based on our three pillars: Environmental, Community and Education, counting with 15 projects, we have impacted +24.5k people & 7 teams within the FIRST community. We also Provide & promote self-confidence, knowledge, engineering & communication skills, that are necessary tools to be the new changemakers.

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 environmental pillar aims to reduce our ecological footprint through different projects such as Trash Out, thanks to which we recycled 60% of our waste & reused 80% of materials from past seasons in the manufacture of prototypes.

During the confinement, we moved Blue Switch to our homes, where every Aztech member calculated their CO2 emissions, reducing them by an average of 96.62%. We also did environmental workshops which were taught to 142 kids in 6 children's homes by Mexico Verde.

Essay

Our FIRST chance to change the world

FIRST changes your life. While building a robot you go through challenging experiences & meet exceptional people that completely transform the way you see the world, you start to realize the love you have towards what you do, & what you do is make the world a better place for everyone.

FIRST is the chance we have to build a future in which Science & Technology bridge our differences so that everyone has equal opportunities. Step by step we are turning this chance into a reality. The first step that Aztech takes is to bring youth closer to STEAM running & hosting a biannual OPEN HOUSE, where +2k students learn about our activities, trajectory, & even have the opportunity to drive a robot like is a real competition, meeting challenges that give them a taste of Aztech.

Knowing who we are & what we do has motivated many people to join our team, to increase the opportunities to live the FIRST experience; In 2019, we started 3 FTC teams (17625, 17626, 17627), who are the first echelon in the lifecycle of an Aztech member, allowing their immersion in technical & non-technical work to facilitate the choice of an area of specialization in FRC.

To accelerate the learning curve of the team members we ran AZTECH ACADEMY, which in 2020 began as a distance mentoring program in which we trained +200 students in Engineering & Business. In 2021 we worked with TotalPlay to upgrade it to a platform where we publish streamings & readings that provide knowledge in Mechanics, Electronics, CAD, Programming, Multimedia, Social Entrepreneurship & Finance; with which we mentor 7 FTC teams & provide training to the Red Nacional de Planteles Azteca (RNPA) ensuring continuous learning.

While looking to implement the lessons learned even during the pandemic, in 2021 we ran AZTECH CUP, an online competition inspired by the ULTIMATE GOAL season & the FIRST Innovation Challenge, in which all RNPA teams designed a 3D robot & created a product that improves health through active play. Directors & administrators from Fundación Azteca supported us during the development of the tournament, as well as the principal of FIRST Mexico, Bárbara Gómez.

Taking the FIRST message beyond its borders, we ran & hosted HANDS-ON DAY, a mini-tournament based on Coopertition & Gracious Professionalism that promotes the creation of new teams. In the 2021 edition, we provided 4 kits of parts to the +40 students from the HumaniTree school who lived this experience, allowing us to start the 20746 & 20747 FTC teams.

At FIRST we find the means to transcend the application of robotics in solutions to real-world problems; Lyde, which supplies technology to the Elektra stores, allowed us to design a forklift robot that would automate their storage process, allowing the team to have a work experience completing the lifecycle of an Aztech member. By living this integral experience, young people immersed in STEAM become innovative leaders who build the future, with Aztech being our FIRST chance to change the world.

Making today the better tomorrow

The foundation for a better future lies in the education of the next generation, there is a latent need to form leaders capable of taking actions that favor the development of a sustainable world; Therefore, Aztech has created a learning pathway for youth that ensures inclusive & equitable quality education & promotes lifelong learning opportunities.

This path begins with SALOJA, a project that encourages creativity & imagination in children & young people through reading. In the last 3 years, we have collected +5k books with which we founded 4 libraries in group homes & public schools in CDMX, Hidalgo, Puebla & Oaxaca. To make the population aware of the importance of reading, we coordinated clubs, conferences, forums & writing contests that were possible thanks to the support of editors, independent authors, 48 volunteers, & +1k donors; we have impacted the lives of 2,613 children.

To ignite the STEAM spark & put creativity into practice, we designed the program My FIRST Robot, where we teach every summer at the Italika assembly plant. Annually +300 children aged 6-14 learn about mechanics, electronics & programming based on FLL & FTC by building their own robot. The scope of these opportunities should not be limited by social inequalities, which is why we set our sights on reducing the gender gap with a special focus on STEAM through our initiative ENGIRLNEERING, which attacks this problem on 3 levels.

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Challenging stereotypes & prejudices, we began by giving workshops that make female Role Models visible, inspiring girls to build their path to success. In the second level, we encourage them through practice to develop their skills with programs such as My FIRST Robot & STEAM DAY. Finally, we open a space for dialogue for our +5k followers on topics such as sexuality, feminism & positive masculinity, promoting the creation of an inclusive community. This is how ENGIRLNEERING has awakened the passion for STEAM in +350 young females, reducing the dream gap that separated them from exploiting their potential.

To ensure a never-ending learning pathway, in 2020 we created HOMECOMING, an initiative that through vocational workshops has guided +200 young people in their choice of professional careers & shares the success stories of alumni with the community, forming through education the new great leaders who are making today the better tomorrow.

A step forward together

We maintain with our community a solid relationship of reciprocity that is born within the team; By practicing values ?? such as respect, inclusion & empathy, we make everyone feel part of our family.

The well-being of all our members is essential, therefore, in support of the first trans woman on the team, we started a movement for the recognition and respect of different gender identities, making the workshop a safe place for the LGBTQIA+ community.

Our fundraisers create a bond of cooperation & solidarity that involves +7k people in the financing of supplies & social initiatives of the team, creating a close sense of belonging which encourages them to participate with us in campaigns like JUGUETÓN where we give away, pack & assist in the distribution of +18M of toys to low-income children; & TEJIENDO POR MEXICO collecting +5k winter garments for homeless people.

This power of union is reflected in projects such as TAPECH, which since 2019 encourages the participation of our community in a campaign to collect bottle caps with which medical treatments for children with cancer are financed. In its first year of implementation, we managed to cover the costs of 80 chemotherapies by collecting +80k caps that we donated to the Alianza Infantil Anti Cancer. In 2020 we began to consolidate a national collaboration network with Grupo Salinas & the RNPA, coordinating the execution of the campaign in their localities. In 2021, thanks to this alliance, we donated +100kg of caps to Banco de Tapitas, supporting programs such as TapiPacientes, Destapa Tu Sueño & iluminando Rostros.

We promote social inclusion because we are aware that access to the tools to build a better life is not guaranteed, so working hand in hand with Group Homes, Foundations & Institutions such as Ayuda y Solidaridad', Aldeas Infantiles SOS, Niñas de Tláhuac, Perpetuo Socorro, Ejército de Salvación, Dar y Amar Daya' & Fundación Pro Niños de la Calle, we provide for those who need it most with the means to improve themselves without leaving anyone behind taking to step forward together.

Seeding the future

During 3 years our efforts have shown that partnerships promote social & environmental change; with planned, solid, & constant actions we write a different story for our future generations.

By witnessing the deterioration that waste has caused to the environment, it has become clear for us that we are the generation that must mitigate the damage. The history of this transformation begins in our collaboration with LIMPIEMOS NUESTRO MEXICO, a campaign in which we participate every year by leading garbage pick-up brigades with +5k volunteers. Accomplished cleaning +130 hectares & collected 175 kg of electronic waste for recycling.

To be aware of the problem within the team, & to be able to counter it, in 2019 we created BLUE SWITCH, a platform that quantifies the CO2 emissions from activities inside the workshop, allowing us to take actions that reduce our carbon footprint. During the pandemic, this platform has allowed us to evaluate the consumption of resources when working remotely, thus reducing the per capita emissions of 4775 by 96.62%.

The first initiative to settle our environmental debt is TRASH OUT, a project endorsed by the ENCB of the IPN, where a Waste Management Plan was established; thanks to which 80% of the materials used in previous seasons are reused annually in the production of prototypes; & 60% of the waste produced in the workshop is recycled, obtaining an economic profit with which we use to finance basic equipment supplies.

To include the Plantel Azteca community in our efforts for a greener world, we established HUERTECH, where weekly sessions are given in which students can participate in the care & maintenance of green areas. Currently, these spaces generate 1,750 liters of O2 per year.

Putting our bets on environmental education as a method to preserve the future, we launched MEXICO VERDE, a national initiative that teaches new generations how to adopt a sustainable lifestyle through interactive workshops. Under a partnership with the SNI, we designed a manual that, through Aztech's guidance, other teams can adapt to their backgrounds, making its national significance possible. So far, we have impacted 142 children whom we are sure are key

factors for seeding the future.

We are Aztech Robotics 4775, the change generation that is turning the future into the world we always dreamed of.