

## Chairman's Award - Team 3478

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2020 - Team 3478

### Team Number

3478

### Team Name, Corporate/University Sponsors

PrepaTec San Luis Potosí/General Motors/BOSCH/EKK Eagle/Fundación Azteca de Grupo Salinas/BRIKO Robotics&Tecnológico de Monterrey Campus San Luis

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

All of our team's graduates go on to college, around 75% of them receive scholarships while pursuing STEM careers in some of the most prestigious universities around the world. They keep participating in FIRST programs internationally as volunteers and mentors, and also involve themselves in groundbreaking STEM projects around the world. They become leaders in our society and create their own enterprises where they still practice the FIRST core values in their work ethics.

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

With monthly visits to our local science museum we've reached +40,000 people in just 5 years. With our summer camps we've impacted 1,360 kids from different social backgrounds. With RetoMex, a project to expand robotics all over Mexico by implementing free Robotics courses, we've reached 8,000 students nationwide. We've had 2 off season events with +1,000 attendants in 2019's edition. These efforts have led us to collaborate with our state's government to establish the Robotics day.

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

We know it's important to make more than asistencial projects to make a difference. We've created ways to teach robotics to visually impaired children through sounds and tactile stimulus and in collaboration with our sponsors we raised money to return sight to 3 kids. We created the LamVlogs, a series of weekly YouTube videos with over 9,700 views to show the world how we work and that FIRST is more than robots, this initiative has engaged the entire FIRST Mexico community.

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

Because of the achievements we've accomplished and our rapid growth in the last few seasons we've been recognized worldwide, setting an example for other teams, becoming the initiator of a greater movement in our country. We're often the only latin-american team invited to high-level off-seasons, and we love sharing our experiences with other teams. We feel we have a big responsibility, that's why we always try to help other teams during the whole year.

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

Our goal is to create a greater community inside FIRST, in 2014 the headmaster of our institution at that time, signed a commitment letter to open an FRC team in all the campuses of PrepaTec. In the past 5 years we achieved to open 32 teams inside the institutional system, to help them through this process we continuously receive them in our workshop to mentor them through their robot's building process and guide them to have a functional and efficient administration.

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

With all the schools we've impacted through RetoMex we seek to open FTC teams in every school where it's implemented, impacting 30 public middle schools all over the country. We work on teaming up FTC rookies with other veteran teams in order to solve all of their questions and help them understand the competition. This year we helped create and became part of our state's robotics association, with this project we will be able to introduce many more robotics academies to the world of FIRST.

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

In 2014 LamBot created the FIRST Robotics Fest (FRF) an event where conferences and workshops are given, in order to impact more people from around the country, each year we pick a new location. In the past 2 years we've organized 2 off season events, in 2018 with 7 teams plus 1 rookie. In 2019 we tripled our impact with a 3 day long event (including the FRF) with 24 teams from all over the country, this event was possible with the support of our sponsors and our own resources.

**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)**

Each year we contact every rookie from different countries to help them with engineering and administrative issues, we've contacted 2,336 rookies since 2016. We also reach every mexican team to have video conferences in order to exchange tips and offer our help during the season. Furthermore, we invite them to our workshop, and so far we've received 8 teams. In addition, with the collaboration of GM we created Team Mentores, a group of mentors who help 10 FRC teams along the entire season.

**Describe your Corporate/University Sponsors**

Our story with our sponsors began 10 years ago, when General Motors had the initiative to open a robotics team in our city, they approached our institution the Tecnológico de Monterrey who opened its doors to the project. Other sponsors we've worked with are EKK Eagle, a Japanese industrial company, and Bosch, a company that fabrics auto parts, both multinational companies located in our city. Also, Briko, a mexican educational robotics enterprise, supports us every season with mentoring.

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

Each year, we have many events with all our sponsors like "banderazo" where we showcase our robot before the competition, and, the closure event at the end of the season to present them the team's achievements. One of their motivations to keep supporting us is our work on the robot and our outreach programs. They often invite us to their facilities and events such as "ExpoPartes", an event with 23 of the biggest automotive companies in our city, and the family faire "Día de la familia Tec".

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

FIRST is a global competition, that makes us not only build a robot, but also motivates us to build a better society. You get to learn a level of engineering ahead of your age and you get to develop yourself as a person by acquiring skills and values that turn us into leaders for a better tomorrow. At the same time you help improve your community by spreading STEM. The competition has a way of teaching you things that can't be taught inside a classroom, through fun and amazing experiences.

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

We've been working on changing our culture into one that empowers youth and promotes STEM. Yearly, we build an altar to honor a member of the FIRST community that passed away. To honor this tradition, in 2019 we participated in the National parade of the Day of the Dead, with almost 2 million attendees and 10 million TV viewers around the world. By attending our local science museum we've impact 3500 people, inspiring the future leaders of our community and transmitting the FIRST core values.

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

We've collaborated with Mexico's government since 2011, when we were invited to the president's office after winning the Rookie All Star at the championship. That year we were given the state's youth award by our governor, and in 2015 we established the National Robotics Day at a state level. With our projects RetoMex and Girable we've been able to keep collaborating with our national government. We've been recognized as the best Latam team by different media outlets like Forbes.

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

Andrea Rodriguez

## Essay

Ten years ago in San Luis Potosí, Mexico, General Motors along with our institution, the Tecnológico de Monterrey found a group of students, who realized that by building a robot, they could achieve a social impact and use FIRST as a vehicle to transform and transcend.

This is the story of LamBot 3478, today, formed by 74 students who give everything, both inside and outside this competition, spreading our passion with our entire community. Without knowing it, while maintaining excellence and honoring our country, we started to do a change in our community, that represents the FIRST steps for changing an entire generation.

The constant support from our sponsors, General Motors, EKK Eagle, Bosch, Briko and our institution is what has helped us become the team we're today. As a part of the collaboration, we support them in their events, such as the GM's IT Fair and the Family Day at our institution. They've seen the dedication we put into this project and from that mutual support we found a way to continue accomplishing our joint mission in every step we take. This has made them get truly committed with everything we do forging us into the family we're today.

By living FIRST, we realized that with dedication we could make an impact in our community and eventually the world. With a well rounded structure of projects through which we get involved in every area of opportunity we identify, reaching our commitment with society.

Through LamBot, it's clear how FIRST is truly accomplishing it's mission and we feel committed to spread that legacy with everyone we can. Because of this, in 2015, we convinced our institution's headmaster to sign an agreement to open an FRC team in every campus of our institution, today we're 31 teams around the Tec system. This has led to an exponential growth of the FIRST community in Mexico, encouraging other institutions to join FRC, going from 40 teams back in 2015 to 88 teams today.

To support these teams, we created a series of national events like the First Robotics Fest (FRF), where conferences and workshops about the competition are given to Mexico's FIRST community. Due to its impact, every year we choose a different hosting team to carry out the event.

Seeking to grow side by side with the Mexican teams and thanks to the experience from Off Season invitationals, we decided to start our own Off Season competition. That way, in 2018 we created the first Off Season done by a mexican team, and in 2019, to commemorate our 10 year anniversary, we organized a big "fiesta" by hosting the 2nd Offseason with 24 teams participating and the fifth edition of the FRF.

Looking for a way to further our help and to contribute to the development of FIRST's global community, we started Team Mentores, an alliance with our sponsors to help 10 teams with funds, materials and courses. In addition, every year we contact all the FRC rookie teams. We have video conferences to offer them our help, solving their questions and sending them materials they need, contacting 2,336 teams during the last five seasons.

To be able to open new teams in our city, we started by collaborating with other robotics academies and enterprises to found APRE, a developing association that works to gather our efforts to spread STEM in our city. Together, we organize different events to implement FIRST in the associated institutions in San Luis Potosí.

To encourage society's involvement in technology, monthly we visit our local science museum, where we impact around 1,000 people per visit. In these events, we approach our community and tell them who we are and what we do.

To celebrate the FIRST community through our culture, every Day of the Death, we build an altar to honor FIRST members that passed away. Last year, we remembered Woodie Flowers and Kendrick Castillo, pioneers in robotics competitions and role models for the community.

We took part on the most important cultural event in our country, the Day of the Dead parade in Mexico City, where we participated with our themed decorated robot, showing it throughout the festival. We demonstrated to the entire nation that the mexican youth is involving even more into robotics.

The event was presented to 2 million attendants and 10 million TV viewers, transcending in the history of this iconic event. With this, we came closer to our ultimate goal of transforming the culture in ways that will inspire greater levels of respect and honor for science and technology.

Just as we're committed to our culture, we're also committed to the Earth's well being. That's why we created "LamBot is green", a project which is focused on promoting the conservation of our planet, we've collected electronic trash to dispose it appropriately and planted +150 trees.

We're aware of the problems that are out of our reach, but this hasn't stopped us to take action on them. In 2017, in collaboration with GM we returned sight to three children and we took a sensibilization course. We were able to involve them in the STEM community, changing their entire life. Also, to support and make easier the battle of kids with cancer, monthly, we visit AMANC, where we make robotics and programming activities with lego mindstorms.

Something that usually holds people back from reaching their dreams, are the stereotypes society creates. One way of breaking these barriers is involving women into STEM through GIRLable. To achieve this, we taught to 100 girls in violent situations how to build and program Lego mindstorms. We also gave a Scratch programming course to 50 girls. Other GIRLable activities have been the video conferences and symposiums we've done with distinctive women in STEM. Continuing with our initiative, we work with children with down syndrome. We taught 90 kids how to build with Briko kits, besides doing science activities, teaching them about the world of STEM.

We've learned to live with technology, but we know it isn't easy for the elderly. This is why we keep visiting retirement homes to give them courses, so that they can make the most out of everyday tech gadgets.

**Essay - page 2**

In order to bring everyone into FIRST, our members have taken Mexican Sign Language courses, so that FIRST can go further than it already does. We're currently working with an association of deaf people to translate videos about FIRST so that they understand the competition. Demonstrating to the world that everyone can be part of this new generation of imagineers.

Thanks to FIRST, we learned that education is the key for creating leaders, not only inside the team but also inside our country. We currently visit schools to transmit our passion, being the first approach this kids have with robotics, inspiring them to become part of FIRST, impacting around 1800 students during the last 5 years.

One of our country's main issues, is the aim education has towards technology, that's why we created Retomex, a project that implements free robotics courses in schools of limited resources to increase the level of education inside Mexico.

We've already impacted 8,000 children from different states. Thanks to it's impact, we won the "Eugenio Garza Sada Award", the most prestigious distinction in our institution. Nowadays, this project it's already sustainable towards its objective.

As a way to encourage young leaders to make a change in our country, we've collaborated with our national government for 3 consecutive terms. In 2017 we were invited toCodigoX by the administration of the former president of the republic, where a conference about involving women in STEM was given to 1300 people. Due to the impact of RetoMex, last year, we were invited to present it to the Secretary of Public Education in the "Foro de Consulta Nacional" a forum for the elaboration of the new educational model, organized by the current president.

Continuing with our work to change how Mexico sees the world of STEM, with the support of our local government, we accomplished to establish the Robotics Day at a state level, taking part on the history of our city. We make several activities and dynamics on our social media, with the purpose of celebrating it.

To show what young minds can do when they have access to technology, every year we organize different summer camps. In the last 5 years, we've made 9 camps, impacting more than 2000 kids from different social backgrounds, opening their minds to an entire technological world.

To have a daily outreach with our worldwide community and go beyond our borders, we are very active on our social media, with an impact of 9,540 people in our websites. Last season we created a series of weekly Youtube videos called LamVlogs, demonstrating how FIRST is more than robots.

Our impact doesn't stop there, we were recognized by Forbes in 2018 as the best Latin American team. We appeared in the book "FIRST robots", where 30 teams all over the world show their robot's creation process. In addition, we were selected along with other team to become part of the first edition of FIRST Global.

Our main goal is to keep growing and continue being an internationally recognized team, making FIRST values present in every person we impact. Our story has been a 10 year journey, with a lot of joy, tears, ups and downs, passion and hard work.

This path has led us to live one of the best experiences we could have, moreover, to become a family, one that is not only 74 students, but also proud parents, supportive sponsors, and 10 generations that have been part of this team that nowadays represent us through the world, spreading FIRST's mission in their daily lives.

Above all, the most important thing is that we've never lost track of our main mission, there is no greater satisfaction than knowing our effort is getting us one step closer to making a real difference through STEM. We've always kept in mind the way we were described when we were rookies, "this team is destined to change the world with their work, and their attitude: Victory Goes Beyond Winning".