

## Chairman's Award - Team 3478

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2016 - Team 3478

### Team Number

3478

### Team Name, Corporate/University Sponsors

General Motors & Tecnológico de Monterrey Campus San Luis

### Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2015/2016 year and the preceding two to five years

-Students have received more than \$869,500 USD in scholarships. -From a young age, students get to interact with government and industry representatives. -100% of former team members are attending or recently graduated from university, compared to our state's average of 15%. -85% of former team members have pursued STEM careers. -Every year team members have the opportunity to prepare and teach robotics workshops, where they learn while transmitting their knowledge to younger generations.

### Describe the impact of the *FIRST* program on your community with special emphasis on the 2015/2016 year and the preceding two to five years

-We have a close relationship with the governor, major, two congressmen of our city and two senators of the republic. -We have given six different month-long robotics summer camps. -Our state's Secretary of Culture constantly invites us to give conferences and workshops. -We were given the "State Youth Award" in Science and Technology in 2011. -We have a partnership with our local Science Museum and every month we present our project at their events, where we have reached over 13,500 people.

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

-Because of our efforts for the past two years, the National Robotics Day in Mexico is currently being evaluated by the Senate of the Republic. -We created Fiestas LamBot to teach kids about robotics at birthday parties and raise funds for the team. -We spread the FIRST message by honoring Mexican traditions. We built 5 Day of the Dead altars honoring members of FIRST. -We're working on an initiative to provide public schools with equipment to give robotics courses as a part of their curricula.

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

LamBots are not only concerned with building a robot, they have created projects such as LamBot is Green to promote the care for the environment and "Asesorías LamBot" to give tutoring sessions on any subject to students who need it. They also collaborate with AMANC, an association for kids fighting cancer. Every December they give away presents to low income or foster children, adding up to a total of 700 in 5 years. They also give book donations to schools at least once a year.

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

-In 2013 we reached an agreement with the Headmaster of our institution which stated that every one of the 32 campuses around Mexico would open an FRC team. Since then, 14 teams have been opened. -We started team Vitronik 6170 at our sister school in our city. We inspired them to join FRC, provided information and assisted them with the official registration process. We have been mentoring them by inviting them to our school and visiting them at least twice a week throughout the season.

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

-We're in the process of starting five FLL teams at local primary schools and robotics institutions, one of them an all-girl team. They will compete next year but we've invited them to our competitions this season. -We talked to our governor and got him to commit to open FTC teams in public middle schools. -We've gone to 37 schools to invite them to join FIRST. The FIRST director in Mexico, Bárbara Gómez, supported us by coming to our school and talking to them.

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

-We created the FIRST Robotics Fest to strengthen the bond between FRC Mexican teams. Conferences were given by 11 mexican teams, Libby Kamen, FTA Jacob Komar and Rush 27. -Team Earth 4723 experienced trouble paying for

the registration. They asked for help so we sent their sponsors a letter convincing them to keep supporting the team. They will be competing this season. -We have assisted 4 international FRC teams by sending them parts for their robots which weren't available to them at the time.

**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)**

-Over the years we have offered our help to over 1,200 rookie teams. This year we started a series of videos as an alternative for our previous "Rookit". A video of interest for rookie teams is posted weekly on our Youtube channel. -We have mentored The Villaged Bulldogs and Cybercats with team Adambots 245 for the last two years by having a weekly videoconference to discuss robot designs. -We are collaborating with T-cats as ambassadors for the FIRST Robotics World, a community of FRC teams.

**Describe your Corporate/University Sponsors**

-Our school, Tecnológico de Monterrey, and General Motors have been our sponsors since the team started. -Tec de Monterrey provides us with resources and lets us use their facilities. GM mentors us and supports us with the FRC registration fee and tools. -We have been sponsored by Bosch for two years. They help us financially and send their employees to mentor us. -This year we are also sponsored by EKK Eagle, a Japanese company. -We have a strong partnership with our mentors' company, Ipsum.

**Describe the strength of your partnership with your sponsors with special emphasis on the 2015/2016 year and the preceding two to five years**

-GM has invited us twice to the "Expo Partes", an important event in the automotive industry in Mexico. They often invite us to their local plant. -LamBot is the only extracurricular activity to weigh the GPA in our school. -We are working with Ipsum in our project "RETO Mex", short for Robotics in all of Mexico, where we intend to equip Mexican public middle schools with year-long robotics courses. -Our sponsor Metalsa has invited us to give annual robotics summer camps for two years.

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

FIRST is a non-profit organization committed to inspiring the youth to make a positive change in the world by engaging them in STEM. For students participating, it is a life changing experience. It teaches us the value of teamwork and good sportsmanship by competing in robotics internationally. By showing us the fun side of science, it challenges our creativity and makes us want to become better citizens of the world and strive to make a change. FIRST is an experience we will never forget.

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

-In 2011 we were invited by the president of Mexico at the time to his official residence. -Our former governor mentioned us in his annual report and invited us to celebrate Mexico's Independence Day at the City Hall. -This season we started "Girlable by LamBot", a campaign for the empowerment of women. We have a webpage in which we post videos, articles and blogs. -This season we equipped a Mathematics institution in our state with the necessary material to give robotics workshops.

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

Ana Paula Aviles Echeverry

**Essay**

What if I told you that we are magicians?

There are moments inside all the movement of FIRST when we stand still, ignoring all sights and sounds surrounding us, and simply reminisce about our entire experience. Our goals, struggles, achievements, and the way we have changed and made an impact. It can happen anytime; while watching our robot on the field or doing something as trivial as eating pizza on a Saturday with the team. It's all magic. An ineffable sensation that fills us with satisfaction and the motivation to be agents of change to ourselves and the people around us.

Team LamBot 3478 started six years ago in San Luis Potosí, Mexico. The team was founded by 32 students determined to positively change our community and spread interest in STEM. This year there were over 120 interested students of which 44 form the official team. Being involved in FIRST has had a positive impact on us. Over \$869,500 USD have been earned in scholarships. 100% of former LamBots are attending or recently graduated from university, compared to our state's average of 15%, and 85% of them have pursued STEM careers. Former LamBots have opened teams, stayed as mentors and volunteer in FRC events.

Although LamBot is now a fully functioning team, we haven't forgotten the challenges of being a rookie, especially an international team. This moved us to start a project to help them. In 2012 we contacted 15 teams, but since 2014 we've tried to contact all rookies. In total we've reached out to over 1,200 teams and we have at least five weekly

videoconferences with teams who need it during the build season. In 2013 we created a rookie manual and this year we replaced it with a series of weekly videos.

LamBot is aware that for FIRST to keep growing we must build a strong community of teams who can spread its message. For this reason we collaborate with teams to ensure everyone has a good experience. Alongside team Adambots we've mentored The Village Bulldogs and Cybercats for the last two years by having weekly videoconferences about robot design and game strategies. We've assisted 4 international FRC teams by sending them parts that weren't available to them at the time. As for supporting teams, last year we created and hosted the FIRST Robotics Fest to strengthen the bond between FRC Mexican teams. Libby Kamen, 11 Mexican teams, FTA Jacob Komar and Rush 27 gave conferences. This year, team Earth 4723 experienced trouble paying for the registration and reached out for help. We sent their sponsors a letter asking them to keep supporting the team. They agreed and Earth will compete this season.

To make FIRST louder in our community, in 2014 we talked to our governor, who committed to open FTC teams in public middle schools. We're in the process of starting five FLL teams at primary schools and robotics institutions, one of them an all-girl team. This year we started team Vitronik 6170 by providing information about FRC and assisting them with the official registration process. We mentor them by meeting up at least twice a week. In 2013 we reached an agreement with our institution's Headmaster which stated that all 32 campuses around Mexico would open an FRC team. So far 14 teams have opened.

Our school, Tec de Monterrey, and General Motors are our main sponsors and have always supported us. LamBot has gained importance in our school and is the only extracurricular activity that weights the GPA. Students choose between joining the team or taking a regular class. GM provides us with mentors and has invited us twice to "Expo Partes", an important event in the automotive industry where we had the chance to interact with over 200 of Mexico's biggest companies. Bosch provides us with material and mentors, and we've given two conferences at their local plant. This year we're sponsored by EKK Eagle, who wants to remain as a permanent sponsor. We have a partnership with a local company called Ipsum whose main product is Briko, an Arduino-based platform for teaching kids robotics. We gave them feedback by giving workshops with Briko.

LamBot realized that an effective way of achieving magical things on a large scale in our country is by engaging the people who have the power to make changes. Due to this, LamBot strives to keep a close relationship with the government. In 2011 the President of Mexico took interest in the team and invited us to his official residence, where we talked about the importance of our role in spreading STEM for our country's future. That same year our efforts to make FIRST loud were recognized when we won the "State Youth Award" in Science and Technology. In 2013, our governor invited us to celebrate Mexico's Independence among distinguished members of the community at the City Hall. Later on he stated in his annual report: "LamBot has marked a new beginning for this city".

We have worked non-stop for two years through the process of declaring the National Robotics Day in Mexico with two congressmen and two senators of the Republic. The decree, which is currently being handled by the Senate of the Republic, serves as a way to achieve a bigger outreach throughout our country. Working with politicians who are committed to the project shows that Mexico acknowledges the importance of supporting the growth of STEM, which has always been one of LamBot's main purposes. We're currently working with a senator to declare a National Robotics Week.

## Essay - page 2

As a team we look to unite efforts with institutions whose mission is to raise interest in STEM. In 2010 we started a partnership with our local Science Museum, and every month they invite us to present our robot and talk about FIRST. This has allowed us to impact over 13,700 people throughout the years. We've also been invited twice by the organization Sisters Cities to the "International Festival" in which over 14 different cities participate. Our state's Secretary of Culture has invited us to give four conferences and workshops to about 200 children and their families.

To a kid everything is new and intriguing, magic is present everywhere. However, while growing up it is easy to lose interest in things that once amazed us. It all comes down to the opportunities and the kind of exposure we had to certain subjects. LamBot strives to introduce children to the wonders of STEM so they can grow up and still be amazed by it. With this idea we've organized six different month-long summer robotics camps with 40 kids in each. This season we provided a local math institution with material to teach a semester-long robotics course. We've also visited 37 local schools with our FRC and Lego robots.

Visiting schools helps get students interested in robotics. However, we realized that to engage them they must be constantly exposed to STEM. To achieve this we created RETO Mex, short for Robotics in all Mexico, along with Ipsum. This initiative has the mission to equip Mexican public middle schools to give year-long robotics courses. We plan to raise funds to provide them with material, course structure, manuals, and teacher-training to ensure its effective implementation. Our goal for 2016 is to equip 30 schools so they can start the courses in August. This would impact around 4,000 students each year. However, our vision is to reach all public schools in Mexico. We're currently in the process of validation from local schools, after that we intend to collaborate with other teams to have a greater impact.

To sustain the connections we make through community outreach, we volunteer at local charities, organize campaigns and events. We created LamBot is Green to promote the care for the environment and Asesorías LamBot to give tutoring sessions on any subject to students. We've given away 700 Christmas presents to low income or foster children in five years. We've also donated around 600 books to local school libraries. This year we started GIRLable, an inspirational campaign for women to fulfill their dreams.

We care about keeping the magic of our traditions alive while spreading FIRST's message. This is why every year on the Mexican Day of the Dead we do an altar honoring a member of the FIRST community who has passed away. We've built altars dedicated to Jack and Bart Kamen, Riley from Team 1086, Allison Parker and FRC Referee, Sarah Le. In Mexico parents usually hire entertainment for birthday parties, so we created Fiestas LamBot, where we introduce LEGO robots and Brikos to children and raise funds for our team. Kids have asked us if they can continue working with robots and we've directed them towards local robotics schools. Our sponsors have become interested in these services and have hired us for their companies' events.

Our achievements and constant presence in the community have captured the attention of media outlets. We've appeared in over 700 printed publications and 15 times on the radio and television locally, nationally and internationally. We featured in the 2016 FRC book "Behind the design". We have 5841 likes and friends on Facebook, 1860 followers on Twitter, 1045 on Instagram and 32,594 views on YouTube. This has allowed us to impact over 420,000 people in 66 countries.

FIRST has shown us that magic exists but we have to work hard to make it happen. We see magic in the eyes of children when they see the robots they imagined and built moving for the first time, in the faces of our parents when they proudly watch our robot playing a match, in our team members when they are inspired to pursue the career they want, in our government believing in our mission, and in ourselves when we realize what we're capable of. Throughout our six years we have come to realize the power we have to make a difference, and we have completely understood that "Victory Goes Beyond Winning".

"As for building Robots, FRC Team 3478 believes this is just an excuse to do something more important: to inspire others with the confidence to embrace challenge."  
- FRC book: Behind the Design

## 2016 - Team 3478

### Picture 1



April 18, 2013

To all FRC judges and volunteers,

It is a pleasure to lead this testimony derived from the successful performance of our high school students LamBot 3478, members of the ITESM Campus San Luis Potosí whom, for 3 consecutive years, have represented not only the Tecnológico de Monterrey but have also taken the name of Mexico to a new predominant level on their three latest participations.

As Headmaster of Northern Zone of Tecnológico de Monterrey, I would like to take this time to let you know about the wonderful job that Team LamBot 3478 has done in spreading science and technology in their community. LamBot has made me realize that the FIRST message goes hand in hand with the mission and vision of our institution, and because of this we have decided to adopt the FRC program by making the opening of an FRC team campus-wide regulation.

The main goal of our institution is to make a difference in our students' lives so that one day they can become the change that our community has been looking for. Along with this, LamBot has made clear that what the country needs are more students that enjoy science and technology and who are involved with STEM careers. The opening of a team in every campus will allow for more than 99,000 students from over 30 campuses to get to know more about FIRST, which I hope will make an impact in our country's future, as well as involve more people in the FIRST community.

I hope this letter bids you well and brings notice to all the hard work that the students from LamBot, along with other FRC teams, have done to generate interest in STEM education. I have noticed the changes that this competition has caused in our students, and I want to personally thank FIRST and all its organizers for giving this opportunity to students from all over the world.

Sincerely,

  
Dr. Alberto Araujo Saavedra  
Northern Zone  
Tecnológico de Monterrey

Rectoría Zona Norte  
Eugenio Garza Sada 4 2701 Tor  
64559 Monterrey, N.L., México  
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2016 - Team 3478

Picture 2

**Villanova WiredCats #5885**

22/01/2016

Thank you so much for your help. Your ideas have helped us more than you can imagine. We would love to keep updated with you with any ideas or support you can provide. We are very grateful for your efforts to contact us. Your impact on our team has helped us greatly in our Rookie season. Our email is [wiredcatsbusiness@gmail.com](mailto:wiredcatsbusiness@gmail.com). Thank you and we are looking forward to scheduling an online Skype conference.

**Adroit Androids FRC #6025**

29/01/2016

Thank you so much, have a nice building season! Enjoy your days, you did really great job and you are keep continuing

great inspiration

**FIRST Robowolves**

Hey team Lambot we're extremely excited that you've reached out to us! Sorry for getting back to you so slowly but in this being our first year we've been all over the place. Let me talk to the rest of my team about it and well get back to you with questions. But in the meantime could you help us out by offering some tips? We've recently been searching for sponsors so if you could help us by offering on how you developed yours that would really help. Thanks so much for reaching out again! Hope to hear back from you all.

**Galaxia #5987- The Hebrew Reali School Team**

31/01/2016

Hi LamBots, thanks a lot for you help and we will appreciate any advice you can offer us. In fact we have a Rookie All Star group and they will be very grateful for your help. If its okay we would like to ask you some questions that we we challenged by... Once again thanks alot for your help.

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2016 - Team 3478

Picture 3





Dip. Alejandro Lozano González

Congressman. Alejandro Lozano González

01 March, 2015 San Luis Potosí, S.L.P. Mexico

01 de marzo del 2015 San Luis Potosí, S.L.P. México

**A quien corresponda**

Por medio de la presente, se reconoce al Equipo LamBot 3478, por la iniciativa de decretar el Día Nacional de la Robótica en el marco de la Semana Nacional de la Ciencia y la Tecnología.

Dicha propuesta se encuentra en proceso de validación ante el Poder Legislativo de la Nación. Se espera tenga una respuesta positiva ya que el Día de la Robótica representa un gran avance en cuanto a difusión de Ciencia y Tecnología en los jóvenes de México.

Esta carta representa el compromiso que existe entre el Equipo LamBot 3478 y el Gobierno del Estado de San Luis Potosí para que esta iniciativa pueda concretarse.

To whom it may concern:

By means of this letter, Team Lambot 3478 is recognized for having the initiative of declaring the "National Robotics Day" during the National Week of Science and Technology.

The proposal is currently going through a validation process by the Legislative Power of the Nation. the proposal is expected to be received positively because the "National Robotics Day" represents a great progress in terms of spreading Science and Technology in the Mexican youth.

This letter represents the commitment between Team Lambot 3478 and the government of San Luis Potosí for the initiative can be concluded.

2016 - Team 3478

Picture 4

