

Chairman's Award - Team 1156

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2022 - Team 1156

Team Number

1156

Team Nickname

Under Control

Team Location

Novo Hamburgo, Rio Grande do Sul - Brazil

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.

Our team members are highly impacted by the FIRST program. In the past 3 years, not only did 83% of our alumni entered college, but also 81% chose to enter STEAM fields, while the national averages are 18% & 7%. Several of them even got international scholarships, & 66% kept involved in FIRST programs after graduation, acting as mentors, judges & referees. They're also impacted by our close relationship with sponsors, such as John Deere, Riot Games, Weatherford, SAP, & their own STEAM startups.

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

Scientific & technological accessibility is still a complex issue in Brazil. e.g. shipping a KoP from the US can cost up to \$7086, while the Brazilian minimum wage is \$219.78/mo. While acknowledging structural problems, financial instability & the lack of mentors & official events, we've been using the resources of our region's technology hub to spread the value of STEAM & inspire students with new opportunities by starting teams & introducing robotics into their lives.

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?

We spread the FIRST message by creating bonds with our community, ensuring the development of FIRST in Brazil. In 2020, we created the FIRST Teams Community Brazil mov, fueling interactions & reaching 202 BR teams. We measure results by the sustainability of our actions & the teams we start, since 67% of them are still active. Through events, demos & campaigns on social & local media, we've reached +13M people, appearing twice on a TV series about robotics, promoting FIRST to future innovators.

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

A role model is an example of resilience & inspiration. To increase the reach of STEAM education, Aline intermediated the introduction of FTC in Brazil by pitching it to our local PDP. Seeing the lack of programming resources in Portuguese, Pedro started classes & organized a movement to translate the official FRC docs. In 2021, Amanda started Robotics Without Borders to mentor teams in foreign countries, offering weekly mentoring sessions for 19 weeks with 15 FTC teams from Nigeria.

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

Since 2019 we've assisted 191, mentored 24 & started 41 FIRST teams. To broaden our reach, we've developed SOP documents that were handed to 130 FIRST teams. In 2019, 2/4 FRC teams we created & mentored won Rookie All-Star at the Championship. We ran the 1st - 3rd National FTC tournaments in Brazil, with 34 FTC teams being started & mentored by us in the last 3 seasons. Also, we ran an international FTC off-season event alongside our sponsor stemOS, involving 20 teams from 3 different countries.

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?

1156 spares no effort to engage with people in different settings. With our in-house efforts, our school was the 1st in LATAM to have full FIRST progression & build a robotics curriculum for K-12. Yearly, we inspire +5.3k students & return +255 hours of volunteer work by running our state's largest robotics event & bringing STEAM to Child Cancer Institutes, hospitals & underprivileged schools. With the Robots For All project, we donated 60 robotics kits to +200 quarantined students in 6 states.

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

John Deere has been one of our major sponsors for +6 years. With them, we've implemented the JD Inspire Program, mentoring sponsored FLL teams. We assisted the local FIRST operator, SESI, to implement FTC & FRC in Brazil. With Plan Ceibal, the UY FIRST operator, we pioneered the FIRST implementation in Uruguay, providing support for yearly events & teams. We've also partnered with the NGO Coderina to mentor their FTC teams in Nigeria, continuing to extend STEAM enthusiasm outside our country.

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

We aim to create environments in which everyone feels empowered & accepted. To do so, in 2019 we implemented the Girls In Control project to encourage women to pursue STEAM fields & give our female members more visibility. It resulted in a 50% female representation in our leadership structure, & +10k people reached through our social media. Focusing on promoting social equity, we've created the Robots for All project, providing kids in underprivileged schools with their first access to STEAM.

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

Planning the future means making conscious decisions in the present. To do so, we've created the Repio 2.0 project, offering preparatory courses on skills needed to face challenges on the team. We partnered with STELLA, a lightning company, to challenge future members with an engineering problem, providing their initial contact with robotics principles & industrial design. With our financial plan, we could attend 2 Regionals & the Championship for the past 6 years with a low cost per student.

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

Cultivating long-lasting bonds is a defining principle of our relationship with sponsors. We send them monthly reports about our development, organize visits to our lab, help with their own projects & are reciprocated with internship opportunities. Alongside stemOS, we've developed training material & mentor teams around Brazil. We encourage FRC rookie teams to use NI LabVIEW, providing training. Contacting companies, we retain 12 local sponsors to help us with materials, tools and services.

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

When a team grows, so does its responsibility. In the last 3 years, 1156 went through a considerable increase in the number of students. To handle this, we've created leadership structures, in which students become references via elections & represent our team areas. Due to the pandemic, we had to improve our students' commitment, encouraging their self-engagement through Hackathons, technical workshops & our badging system, rewarding them for their achievements during the season.

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

Our main goal is to globalize FIRST. To do so, we've supported the implementation of FIRST in Uruguay & its 2019 Open FLL event. With team 2526, we created the WorldWide project, scalable FLL & FTC curriculums translated into 4 languages by other FIRST teams. But to reach our main goal, we have to accomplish other goals in our country first, such as having an official FRC regional event. To do so, ran & hosted the Off Season Brazil 2019, which counted with 10 of the 17 Brazilian FRC teams.

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.

1156 is a role model for our community in Brazil. After hosting the 1st South American FRC event in 10 years, we ran the official SESI Off-Season event, being in all aspects of it: from the judging process to its live presentation. 23 teams were able to compete, of which 19 were mentored through our UnderBinars project. Following these efforts in 2022, we'll perform the same process with SESI but now with an official FRC Game Field, paving the way for an official Brazilian Regional in 2023.

Essay

Welcome to 1156's delivery route! Here you'll find all the resources needed to make a faster, inclusive & sustainable delivery. The trip is powered by our fuel: our sponsors, supporters, alumni, mentors & parents. We'll be accompanied by 23 students & 10 mentors who will deliver experience, knowledge and the FIRST message. Together, they lead us to our final destination: globalizing FIRST. Attention passengers: fasten your seatbelts, and LET'S HIT THE ROAD!

FUEL

We've developed strategic bonds with sponsors within our community, such as Stella & Fluidic, who provide us materials & services besides offering internship programs to our team members, opening doors to career development. stemOS, a company founded by 1156 alumni that became the exclusive importer of FTC & FRC kits and is the official reseller for AndyMark, REV & goBILDA in Brazil, quickly became one of our main collaborators on events & mentoring projects. Since 2016 we have been working with our main financial sponsor, John Deere, with whom we developed a strong partnership due to the JD Inspire Program, & mentoring several FLL teams from public schools around the country. Additionally, 66% of our alumni kept to be a fuel for our team as mentors, judges & volunteers.

COMMUNITY STATION

The community is our starting point. This is where we volunteer & develop outreach projects to make it go forward. However, the old conception that Brazilians aren't capable of developing cutting edge technology has damaged the rails. To break this stereotype we are constantly engaging our community through robotics competitions & STEAM events. We've run the largest robotics event in our state from 2014 to 2021, the Marist Educational Robotics Festival, with 1,5K+ yearly participants. We volunteered as judges and showcased our FRC robot in other big technology events, such as the Brazilian Robotics Olympics, counting with 540+ participants per regional, the POA Geek Week event, with 10K+ visitors, & the Kids Run event, hosting interactive activities to 340+ kids.

We've impacted over 430 kids due to our partnership with AMO Criança, a Child Cancer institute, besides partnering with hospitals, underprivileged schools & other organizations, promoting their 1st contact with STEAM & robotics through yearly volunteer work.

In 2019 the Girls In Control project was created, encouraging women to join STEAM & overcome structural barriers. They promote scholarships, technology events. They wrote Girls In Control: Women who revolutionized Science and Technology, a storybook about women in STEAM history, used in workshops.

The pandemic has been a roadblock in our journey. However, we managed to keep the team engaged by joining tech workshops & hackathons like the NASA Space Apps COVID-19 hackathon, where our team became global finalists among 26K+ participants from 148 countries.

Supporting our community through the tough times is also a priority for us. That's why we've started a campaign for families in need, resulting in 1.5+ tons of food donated. We've also produced 658 PPE's, helping 18 hospitals & NGOs in our state to face this pandemic.

As a way of helping quarantined students all over Brazil, we created the Robots for All project in partnership with our sponsor stemOS, where we sent 60 robotics Kits & a complete curriculum for remote learning, developed by our team members. The project has reached 6 states & involved 5 FIRST teams as ambassadors, building a sustainable program for the students. The fact that teams can reuse the provided materials & create new actions turned this into a highly-scalable project & brought these teams on board with us.

Your delivery is Under Control!

CREATING, MENTORING & ASSISTING TEAMS STATION

Welcome to our 1st stop! Here we'll use our fuel to create, mentor & assist FIRST teams, establishing FIRST in Brazil.

Again, we'll have to face some instability in the rails, such as the expensive prices of starting FIRST teams and engaging in advocacy matters with the FIRST Brazilian PDP.

As the first South American team to have a full progression from FLL to FRC, we understand the importance of FIRST categories for the youth. Until then, all Brazilian FLL teams used to have their journey interrupted after age 16. To change this situation, we established FTC, a formerly non-existent category in our country, & expanded FRC.

We began to work with SESI, Brazil's PDP, to move forward. Our team members provided a tour to SESI representatives at the 2018 Championship, introducing them to both categories. As a result, they gave our team the mission to start 16 FTC teams in 2019, which was successfully completed. Due to the partnership with SESI, there was no bad weather that could stop our delivery of FIRST in Brazil. That same year, we started 19 more FTC teams, registering them in the FIRST system & training all of their coaches by providing support materials.

We developed the UnderBinars project: weekly Q&A seminars on FRC. It was first applied in 4 FRC teams we started & mentored during their 2019 rookie season. In 2020/21, we repeated this mentoring process with 15 new pre-rookie teams. Now we have a total of 39 teams started & we are currently working on starting 9 more FTC teams for the next season.

In 2020, we created the FIRST Team's Community Brazil, an online movement to connect our community. Inside this project, we developed the Brazil FIRST Week seminar, consisting of a week of webinars about FIRST & robotics in general, including several important guests, reaching 1.1k+ people.

Through our project Robotics without Borders, we partnered with Coderina EdTech Foundation to run mentoring projects for 15 FTC teams in Nigeria, making the development of the category viable in the country and opening new frontiers.

Your delivery is Under Control!

GREAT EVENTS STATION

Our 2nd stop is focused on Great Events, where we measure the team's impact on a larger scale, breaking preconceived ideas to support & promote STEAM events.

Encouraged by the success of our past deliveries, SESI trusted us with the mission of officially bringing FTC to Brazil.

And so, in 2019, we ran the 1st ever Brazilian National event, repeating this process for the past 2 seasons so far. This also gave SESI a solid baseline for how FTC events are run, which allows them to run events on their own. In all events, our members represented the majority of volunteers, being responsible for training all judges attending the events through training & material created by us.

In order to establish FRC in Brazil, we ran & hosted Off Season Brazil 2019. During the 2-day event, FRC workshops & awards evaluations were conducted to acknowledge the Brazilian FIRST community's work, with 14 FRC teams, & 5 FTC & FLL teams showcasing their categories to a public of 3K+ people. Due to the success of this event, we received the opportunity to run SESI's 2021 FRC Off Season, a remote event including 24 teams, with 19 of them being mentored by us, & counting with over 2,5K+ people watching live.

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MULTINATIONAL EVENTS STATION

Our 3rd stop is based on Multinational events, where we'll need to deal with new routes.

Until 2016, Uruguay didn't have any FIRST programs. Plan Ceibal, the Technological Education Governmental Program in the country, asked for help with the road work needed to make this a reality, and we delivered. This resulted in a strong bond between us, creating new FLL teams & running the 1st FIRST Event in their country.

Now, we volunteer in their events yearly, such as at the Open FLL 2019, the first FLL international tournament in LATAM, in which we were judges & assisted in the organizational committee, reaching 7K+ students from 26 countries. We officially opened a new railway track to Uruguay, which due to all of our support & training, was able to implement FIRST in Argentina, Paraguay, Honduras, Ecuador, Guatemala, Colombia & Chile.

We've started driving alongside team 2526 to assist new teams with the WorldWide project, by developing FTC & FLL scalable curricula translated to 4 languages in partnership with teams from 5 countries. Personally handing it to 100 FLL teams to assist their progression to FTC.

Alongside StemOS, we ran the international stemOS FTC Off-Season event, spanning over 15 hours of live streaming, & counting with the participation of 20 teams from 3 countries, as well as 12 team volunteers.

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DELIVERY CONFIRMED:

1156's impact is undeniable, having travelled thousands of miles, reaching several destinations. In the last 3 years, we:

Started 41, mentored 24 & assisted 191 FIRST teams;

Attended 29 FIRST related events;

Traveled 32,298 passenger-miles to assist & mentor FIRST teams;

Reached 13M+ people through TV, newspapers & social media;

Reached 20 countries;

Directly involved 312,900+ people with FIRST.

NEXT STOP: FUTURE EVENTS

Our long-term vision is making FIRST an institution with global impact. Currently, the growth of the FIRST program in Latin America is limited by the high-cost international trips teams must face to compete in FRC.

With the success of our previous efforts in Brazil, SESI has once again invited us to run the 2022 FRC Off-Season event, a middle-step to having an official FRC regional, scheduled to happen in 2023. This will lead to massive scale in the number of FRC teams and complete the implementation of the full FIRST program from FLL to FRC in Brazil - a huge milestone in our vision of making FIRST global. This will unlock the growth of FIRST in Latin America by turning the Brazilian Regional into a viable hub for all these teams to compete in.

We're set to reach new horizons, so always remember: your delivery is Under Control!