

FIRST Impact Award - Team 5553

2023 - Team 5553
Team Number
5553
Team Nickname
Robo'Lyon
Team Location
Neuville-sur-Saône, 69 - France
Describe the impact of the <i>FIRST</i> 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 <i>FIRST</i> programs as mentors/sponsors.
Over the last 3 years, 100% of our alumni attended college and 82% pursued Engineering studies. This is significantly above the national average; in France only 5.8 % students attend an engineering program. In the last few years, Robo'Lyon propelled students to world renowned institutions, from Ecole Polytechnique and EPFL in Europe, to McGill University and UC Berkley in North America. As a way to pass on their passion, many alumni come back to mentor Robo'Lyon and help start new FIRST teams.
Describe your community along with how your team addresses its unique opportunities and circumstances.
Until last year, we counted 12 active FRC teams in Europe, and Robo'Lyon was the only team in France. As a result, we have no choice but to participate in overseas events, the closest being 1300 km away. Thus, we must gather around \$60,000 to build a robot, import parts, and make the whole team travel to an event. We also have to work around the French education system, which is highly regulated, and impose us a standard schedule that lets no room for extracurricular activities.
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?
Over the past 3 years, we reached more than 4,176,000 people through French traditional media (France Info, BFM France, RCF Radio, etc.), but also through medias targeting teenagers (Brut, Phosphore, Hugo Décrypte) and Youtubers (Hihacks, Gaspard G). We have also exhibited and given speeches at many fairs, among which the most prestigious ones in Europe: BIG Paris (Europe's largest Business event), and Viva Technology (Europe's largest Tech event), for a total estimated reach of 92k visitors.
Please provide specific examples of how your team members act as role models within the FIRST community with emphasis on the past 3 years.
As a member of The Open Alliance we publish articles on our Build Thread (website and Chief Dephi) to share our work with the FRC community during build season. On social media, our community keeps growing and counts 1,8k+ followers as of today. This platform allows us to share FIRST values through

educational posts and technical videos to help teams start with CAD, programming and manufacturing. We also created the FRC & FTC France Discord server on which French teams actively collaborate.

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

Last March, a mentor and an alumni of the team created Robotique FIRST France, an independent entity whose purpose is to promote and develop FRC and FTC in France. Thanks to the collaboration of RFF and Robo'Lyon, 9 FTC and 2 FRC teams have been started this year. To make this possible, Robo'Lyon members have visited many high schools, mentored the rookie teams, created a website to provide resources to start teams in France and written a guide to build an FTC robot for total beginners.

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?

Each summer, we organize a robotics camp open to all students in our school. Last year's camp led to 11 out of 20 participants joining the team. We exhibited at "Bercy fait son Industrie" to present engineering and industry career paths to 1,000 teenagers coming from all socio-economic backgrounds. On a national scale, one of our students gave a Ted x Youth presentation about the benefits of undertaking tech projects in high school, the video made more than 1.3k views on YouTube.

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

This season we have 32 sponsors, among which 7 technological sponsors that regularly teach us industry skills during workshops. We have established a partnership with Région Auvergne Rhône Alpes, and we collaborate with two French ministers and other local politicians. This gave us access to a network of CEOs and decision makers to expand FIRST in France. Those types of partnerships allowed us to raise about €80k each year for the team and propel projects such as the creation of RFF.

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

We make it one of our priorities that girls can join our team and engage in engineering activities. Every year, students do presentations in each class of our school to promote gender diversity. This led to a full gender parity in our engineering camp this year. To make these values resonate beyond our school, two female team members gave a speech about empowering women in the French industry at a conference in front of 400 CEOs.

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

We rigorously document our work in a Drive since 2017 and created onboarding guides for new students. Robo'Lyon is closely tied to our school, with many engaged school personnel, including the headmaster as our team president. To ensure student renewal, we have created a sustainable pipeline to recruit and train students from the younger age: they can join our 2 FLL teams (6th and 7th grade), 1 FTC team (8th and 9th grade) until they are old enough to join our FRC team (10th to 12th grade).

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

past 3 years

To raise the necessary funds, our strategy is to secure a large number of sponsors. Each of them donates a rather small amount of money but they do it every year, and will do for many other years as we put on a lot of effort in developing great relationships with them. For example, we send a weekly newsletter to keep them informed about our advancements and we organize visits in their office to present our work. This year, one of our partners even bought our robot to expose it in their office.

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

After COVID, it has been extremely difficult to keep the team motivated and maintain camaraderie among students. On top of that, last year only a small fraction of the team could participate in the regional due to health regulations. This year, we decided to revive the flame by organizing team building event: we hosted a Robo'Lyon award ceremony where team members received awards in the style of the Cannes Film Festival. We also organized an integration event for new team members.

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

We are so grateful of what the FIRST programs have brought to our school, we strive to bring the same opportunity to all student in our country. In the the past two years, RFF, the French government and Robo'Lyon have established a sustainable partnership for the creation of FRC and FTC teams. As a result, an FTC even will be held in May 13 in our state capitol. Our plans are to soon organize the first European FRC regional as a mean to catalyze the growth of the FRC community on our continent.

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.

For two years, we have been working on the conception of the "Walk Assistant": a device that helps Parkinson disease patients walk. Our work has been recognized by our team being the 2021 FIRST® Global Innovation Award winners. This appealed to the French media that shown a spotlight on the project. As a result, we found many partners (ESDES business school, Lille and Lyon Hospitals, France Parkinson Association and Robur) to help us improve the device and work towards a patent.

Essay

Being the first FRC team in France has always been a defining aspect of Robo'Lyon. From the jumpstart of our team 9 year ago, Robo'Lyon has never backed down from the challenge of being pioneers in

France, in a country that had hardly heard of FIRST®. Since our creation, our mission has been to develop FIRST® in France, and our impact has skyrocketed since the last three years.

Robo'Lyon, a sustainable pipeline

Our team is deeply rooted within our school. Two successive headmasters have been presidents of our board of members, and we are proud to count the owners of the school's buildings and the school's management association as sponsors from the beginning. Robo'Lyon has built a sustainable pipeline to keep the team up and running. Students can join our two non-official FLL teams from grade 6, then move to our new FTC team in grade 8 until they are old enough to join Robo'Lyon.

Sustainability built with partners

We are proud to count more than 32 sponsors, most of whom have been our supporters for many years. We provide a lot of effort to maintain close relationships with them. We send newsletters, give demos of our robot in their office, and organize workshops. Our partners, spanning from public institutions to local tech companies, help us gain knowledge in a wide range of industries. Those relationships carry on after graduation, as numerous alumni have carried internships with our sponsors.

More than robots

Robo'Lyon has always been heavily invested in charity work and outreach. We are sensitive to equity, especially when it comes to women in STEM. In France, women represent only 24% of engineers. At Robo'Lyon, we work hard to include women in our programs and community. Women of our team have given speeches about empowering women in the French industry, one of them being at a conference in front of 400 CEOs. Over the past three years, we have collected more than 1,500 pairs of glasses which we then distributed to low-income communities who do not have access to essential eye care services. It is a tradition for us to help the "Secours Populaire" association throughout the year with different events, such as collecting Christmas gifts for people in need, collecting food, or basic hygiene products. Robo'Lyon is particularly proud of its STEM summer camp that has been held for the past three summers. Based on the concept of a mock kickoff, small teams must build a fully functional FRC robot, guided and helped by Robo'Lyon team members. Half of the 20 kids involved in last year's summer camp were girls.

Walk Assistant

Since 2021, we have been working on a device called "Walk Assistant". This machine is designed to help patients with Parkinson's disease walk. To fully understand the problems the patients face, we collaborated with doctors from Lyon's and Lille's public hospitals and established a partnership with the France Parkinson association. Our prototypes led us to win the 2021 Global Innovation Award, but we didn't stop there. We are currently in the process of filing a patent in collaboration with a partner company called ROBUR. We organized a Parkinson's Day in our school and supported the inauguration of a photo exhibition to raise awareness about the disease. French media showed a great interest in this project: more than 10 articles about the Walk Assistant have been published, and the 3rd national TV channel made an impactful TV segment about our device.

Robo'Lyon's impact on the long run

100% of our 95 alums have or are attending college. 71% of our alums have pursued studies in STEM (86% over the past three years) compared to the 32.2% national average of students in STEM-related programs in France. Our alums have attended some of the best universities in the world, such as McGill University, UC Berkeley, Polytechnique Montréal, and Polytechnique Paris. They have also become leaders in their field. Axel, who won a local startup weekend competition last year, Louna, who started the product management club at McGill University, and Justin, who created a startup called Big Bird. They carry FIRST®'s values everywhere they go. Julia is part of the national council for disabled people and leads a sexual education program for disadvantaged schools. Emma is part of an association that educates young students about health and medicine (Hopital des Nounours) Our alums stay involved in the FIRST® community. Alexi started a new FRC team in France. Louna and Tom are mentoring and volunteering at events. Julia and Nicolas have volunteered at the Benelux FTC Championship. Many of our alums continue to mentor Robo'Lyon.

Why do we want to grow FIRST® in France?

The French education system is known for its rigorousness, standardized tests, and focus on student performance. However, it is considered by many as too traditional and not adaptable enough to the need of the students. FRC is the perfect balance for our educational system. With a pedagogy emphasizing experiential learning rather than passively receiving information, FIRST® can help French students develop technical and critical soft skills. We strive to bring this complementarity to as many French students as possible.

Our strategy to reach as many French students as possible

Our strategy is directly inspired by the FIRST® "make it loud" principle. Robo'Lyon has always focused on spreading FIRST® thanks to social media and events. A whole part of our team is entirely dedicated to marketing and communication. With over 6k subscribers spread across our social media, our online community grows yearly. We have taken part in the biggest fairs in France. We impacted more than 450,000 professionals, schools, and youth (BIG 2021 and BIG 2022 in Paris, Lyon, Grenoble, WorldSkills in Lyon, Viva Tech, and "Bercy fait son industrie" in Paris). We have been interviewed by French TV and newspapers and we have collaborated with many social media influencers. Our actions have reached more than 4 million people in our country and worldwide. We have met our two industry Ministers, Agnès Pannier-Runacher and Roland Lescure. We are collaborating to make STEM more accessible before the year 2030 as part of the "France 2030" government program.

A true local impact to develop FIRST®

We have started and mentored one FRC team and two FLL teams, and assisted one other FRC team. We have assisted 3 FTC teams and provided published resources to more than 10 FTC and 2 FRC teams. We are proud to say that this year, there will be 3 French FRC teams attending the competition in Trois-Rivières! The 13th of May, we will run France's first off-season FTC event, where 10 French and 6 European teams will compete, discover FIRST® and exchange with partners and other teams. In addition, a scrimmage will also be held for European FRC teams to meet and talk about the season. Robo'Lyon has provided many tools to help French teams be part of the community. For

example, a national discord server for FRC and FTC has been created this year. Robo'Lyon has run multiple masterclass meetings with other teams to answer questions, provide feedback and develop bonds. We have also supplied hardware to team 9102 Cyborgbulls during build season.

Creation of Robotique FIRST® France

Robo'Lyon's ambition goes beyond what a single team can do, and even with all our efforts, generating enough momentum to bring FIRST® to France was something we could not achieve alone. Thanks to the help of Gabriel Bran Lopez, Alice de Malliard, and Stephane Morin (Robo'Lyon mentor), Robotique FIRST® France was created and announced in collaboration with the French government in 2021 at the French ministry. As the pioneers of FIRST® in France, Robo'Lyon is a beacon that helps RFF shine a light on many schools, and we work side by side to achieve our ambition: having a sustainable FIRST® community in France.

RFF's impact over the past two years

For the past two years, Robo'Lyon has helped RFF grow and create foundational partnerships with Fusion Jeunesse, Ambassadors of the French industry, an initiative launched by BPI France, Auvergne Rhône Alpes region, Dassaults Systems, Visiativ, Gene Haas Foundation and many more. With Robo'Lyon as the head of spear, RFF has reached over 50 schools, among which ten have started an FTC team this year and ten more plan on starting in September 2023. RFF's partnership with Dassaults enabled Robo'Lyon to be one of the few teams to be a beta tester for their new cloud-based platform, 3D Experience. This new platform will allow thousands of teams to improve their CAD design abilities without investing in expensive computers.

Robo'Lyon has become a sustainable model that new emerging teams can rely on and have relied on for the past year. Our model is proven effective and scalable with the French educational system. With over 10 FTC teams created and two new FRC teams, FIRST® in France has reached a decisive turn and is getting set up on the runway. The culmination of the last three years will happen this May, when we will run France's first off-season FTC event. This will enable the ten new FTC teams and many other European teams to discover FIRST® and the competition and work together on developing FIRST® in France and Europe. Our goal to bring FIRST® to the heart of Europe is a long journey. We still have much work to accomplish, but we strive to show that everything is possible to every student in France. ;

