

Chairman's Award - Team 2626

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2022 - Team 2626

Team Number

2626

Team Nickname

Evolution

Team Location

Sherbrooke, Québec - Canada

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 alumni are evolving in the STEM field. 13 of our 17 mentors are alumni of team 2626 and 14 out of 17 are in school in a STEM program or have a career in STEM. The Sherbrooke University has a scholarship named Megagéniale given for engineering programs every year. It is given to 10 people (5 men, 5 women) who were involved in a conception program like FIRST or Expo Sciences in school. All our alumni who applied for this scholarship got it, that is 8 in the past 3 years.

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

Our team is a pillar in the development of robotics in our school. The FRC program that our team has developed over the years is one of the reasons many students choose our school. Our knowledge of STEM comes in handy for some teachers. Last year, two math teachers planned an activity where students had to CAD game pieces for a chess game using Onshape. Our team was able to help those teachers with the CADing and printing process. The project was a success.

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?

Each summer for the past 11 years, team 2626 has been organizing robotics summer camps for the 5-12 years old. In the camp, the kids participate in challenges with Ev3 robot kits and have a friendly competition. We know that this is a good way to create interest in the FIRST since most of our actual team members were once a kid in our camp. By introducing STEM to the next generation at a young age, we believe that more young motivated minds will join the FIRST movement in the future.

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

Our team had the opportunity to represent Canada in the 2021 FIRST Global challenge. This challenge allowed us to make a great connection with team Greece with who we made an alliance. We ended up winning 1st place in the health category and 3rd place overall with the project we developed together. We are also involved with our local youth centre and a group for mentally disabled adults where we offered robotic activities with Lego sets and EV3 robots.

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

2 years ago we started one of the first two FTC teams in the province to see if it was a program with a future in Quebec. We think our work and success inspired the creation of an FTC league in the province. The first FTC regional will take place this year in Montreal. There are 2 FTC teams now in our school and members of 2626 mentor them. During the 2020 regionals, we lent our workshop to team 4400 from Mexico so they could reassemble their robot for the competition.

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?

We have been doing various workshops around our community to raise interest in robotics using NXT and EV3 LEGO kits with various groups such as Val-du-Lac, which is a youth reeducation center and Les Fantastiques. We currently have 3 workshops planned with Val-du-Lac and one in a primary school, but sadly, COVID regulations in our area are currently preventing us from doing them. We also host a summer robotic camp for kids in our school.

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 have a great relationship with the youth center in our region. We have already gone 3 times over the past 3 years. We were planning more activities but we have to wait because of COVID restrictions. We also have partnered with Les Fantastiques. We visited them once and they will visit our workshop in March. We also have a great partnership with our school. We are always ready to help our school with diverse projects like the Tac-Tic Squad where we offer technical support with technology.

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

Since its creation, our team has always had one goal in particular: to promote robotics to the most people possible. We are able to do so by accepting everyone who has the slightest interest in robotics. Whether our recruits had prior experience in FLL, FTC or none at all we will accept them for their strengths and weaknesses, there is no selection. With that philosophy, we are able to ignite a passion for robotics that they will share later on with future Evolutioners.

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

Through their school progression, students who are interested in robotics can have robotics classes during the day and after school, we offer FLL (sec. 1), FTC (sec. 2) and FRC (sec.3-4-5, collégial 1). This year, we have two FLL teams and two FTC teams. Next year, the students that were in FLL will move to FTC. People in FTC will become new members of our FRC team, EVOLUTION 2626. After FRC, our alumni become mentors for our FRC team.

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

To recruit our sponsors, we show them our workshop and explain our philosophy, *FIRST* philosophy, we are building people, not robots. In our last season, our team invited our family, friends, and our sponsors to an open-house event. All our *FIRST* teams were, in our workshop, FLL, FTC and FRC. Each of our team got the chance to demonstrate the greatness they built and the good they are doing to the community. We really hope the restrictions won't keep up from repeating that even this year.

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

Our team needs to be more supportive of our FLL teams. Sadly, this year, our students didn't get involved with the FLL teams. FTC is more similar to FRC, it was easier for us to help them out, by showing how to program or how to improve their working methods. We need to get back to our roots and give more time to FLL and help them. To be the big brothers and big sisters we know we can be.

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 interest as many people as we can in robotics and STEM, no matter their age and their situation. For many years now, our team has hosted a summer camp for kids. We also offered activities in the youth center of our region and at Les Fantastique de Magog, a center for mentally impaired adults. Our team also focused on building a better future by implanting the *FIRST* values in every member of our team which are hard work, teamwork and gracious professionalism.

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.

9 of our members had the privilege to represent Canada at the 2021 *FIRST* Global Competition. We made an alliance with Team Greece. Their project was a medical robot that would allow patients to receive a medical check-up automatically and ours was a system to break the isolation of patients during this pandemic with a visitation room and an app to contact their families and friends. We merged both projects together and our alliance won 1st place in the health category and 3rd place overall.

Essay

Being an Evolutioner is not only about building robots, it's about building people. Our team is passionate about robotics and spreading that passion in our community. That's one of our main goals. We are putting together many activities and long-lasting connections with different organizations in our community. We hope that with everything that we do, we will spark a passion for robotics in every person we meet.

For many years, children have been eager to participate in the Evolution 2626 summer camp. Our team created a bunch of activities showing the fundamentals of robotics like programming, building robots, teamwork and many more. The main goal of the camp is to present what robotic is all about and hope to get young people interested in STEM. We believe that the reason why kids like our summer camp are because our animators, who are members of our FRC team, are passionate about robotics and they want to share that passion with them. Our animators want to show them good fundamentals because a lot of the people who signed up for the camp will become members of one or many of our numerous FIRST teams, FLL, FTC and FRC. Most of our animators had the chance to experience the camp as a kid before joining team 2626. They remember how much fun they had and they want our new kids at camp to enjoy that fun as well.

For the past few years, we have organized many STEM activities with the Val-du-Lac youth center. There are many age groups, so we had to come up with activities for each age group. For example, in one of our visits, for the younger group, we organized a Star Wars robot building, where we would work with a small group of children to replicate a Star Wars robot in LEGOs. For the older group, we inspired ourselves from old FIRST Lego League challenges and created a list of multiple challenges that they would have to solve with their EV3 robots, some more mechanical challenges and others more focused on programming. We believe that everyone should have the opportunity to experience FIRST, and we wanted to let those kids who never had the chance to try it before to live it a little and maybe develop a new passion for STEM. We had the chance to visit them on many occasions. Sadly for the past two years, we weren't able to visit them because of COVID, but we are still in touch with them and as soon as they can receive visitors again, we will go back. At least three of their groups showed interest in our activities again. We are just waiting for them to get the green light to receive people from outside their walls.

Last fall, some members of our team visited Les Fantastique, which is an activity center for adults with intellectual deficiency. Our team had never planned an activity like this. We had to adapt to the intellectual capability of each of the participants. We didn't want to plan an activity that was too hard or too easy for them. We decided to show them how to build a basic EV3 robot, thinking that the build can easily be done with or without help, depending on their capabilities. It was really fun to help someone discover the universe of robotics and even if it was a challenge for the residents and our team members, we successfully built an EV3 robot with all 7 teams of two we had. We even had them drive their construction using cell phones. It really made us happy to see the joy on their face and we are still in contact with Les Fantastiques to plan more fun STEM activities. This year, our school upgraded the robotic kits for our students with Spike sets. Since the people at Les Fantastiques enjoyed building the EV3 robots so much, we asked the school if we could offer 4 of our EV3 kits, explaining to them how much they enjoyed them and how much it will stimulate them. The school loved our idea and said yes. People from Les Fantastiques will come and visit our workshop later in March. This is when we will offer them the kits.

This school year, team 2626 and our school have put together a squad called the Tac-Tic Squad. The members of the Tac-Tic squad are students from our FRC team and their main objective is to help students with technology, especially the new students joining our school. In the first few days of this school year, members of our team helped the new students login into their different accounts and set up their connection to the WiFi. Before the holidays, we did a presentation every two weeks during the students' study period. Some presentations were about how to manage their agenda or how to send a proper email. The students from team 2626 who volunteered got a quick training beforehand from our techno pedagogical advisor on different technological-related topics and features that the Tac-Tic Squad was to share and teach to our secondary one students. Students, parents and teachers mentioned how our team really made a difference. The Tac-Tic Squad will be back again next fall and will focus not only on secondary one students but secondary two as well.

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During the summer of 2021, 9 students from team 2626 had the privilege and the honour to represent Canada for the 2021 First Global Competition. For the project challenge, we decided to focus on the health category and more precisely, mental health. The problem we focused on was the isolation of elderly people in hospitals during this global pandemic. To solve it in a cost-friendly and easy-to-deploy solution, we came up with the idea of a videoconferencing app that would be able to run on the local network of the hospital. That app would allow family members and friends to visit the isolated people even when it was prohibited to approach the patients. The entire code would be running on a raspberry pi to make it really cost-friendly. For the second phase of the challenge, we formed an alliance with Team Greece. The time-zone difference between the two countries and English being the second language for both teams made communication a challenge. But with the energy and drive of both teams, we overcame that challenge. Team Greece had designed a robot that was able to record a patient's vital signs to relieve doctors and nurses from some tasks in their job. With their robot and our visitation system, we saw that both our projects were completing each other, making our app run on their robot and, at the same time, sending some vital signs to the hospital staff. We could create a complete robot helper for the staff of the hospital and at the same time, relieve patients from their loneliness by having them talk to their friends and family instead of always talking with the same nurse or doctor. That was the main reason why we decided to make an alliance with Team Greece for the rest of the competition. To make sure our idea was plausible and that the robotic involved in it was possible to make, we contacted several professionals in the field. One of them was François Michaud, Director of the Robotic Engineering program at Sherbrooke University. His tips and advice allowed us to make a working prototype of our app. Our alliance won first place in the First Global Competition for our solution in the health category. We also won third place overall with our solution. What we got from that competition is more than just awards, it allowed us to make new friends and enlightened us on the situation of robotics in different countries. It was amazing to see all those teenagers around the world working together to find solutions to global issues. We stayed in touch with team Greece after the competition and they asked for advice for their own FIRST teams.

At the end of our last building season, in 2020, we organized an open-house event. The goal of that event was to show our sponsors all the great things we were capable of doing with their support. We also invited our families and friends, so they could see our workshop and what he had worked on all those months. We organized that even for team 2626 but also for our FLL and FTC team who also got to present their robots. By placing each team in its own room, we were able to demonstrate the evolution of our students and FIRST programs. Because of COVID we couldn't hold that event last year but we really hope to do so again this year. The event was really appreciated by our sponsors, families, friends and the school's staff.

Mentors play a major part in a FIRST team. Having former FRC team members as mentors is even more precious. Their great knowledge helps us build a better robot, and overcome difficulties they already faced in the past. Our FRC team is very lucky to have 16 mentors and we would like to give this chance to our other FIRST team. This year, 3 of our students, who are former members of the FTC team 17070, gave some of their time to help with the two FTC teams at our school, hoping to help them with the many challenges of building FTC robots. We didn't help as much with the two FLL teams this year. It's one of our main challenges to help out more with those teams, hoping that our help can make them reach their goals.

Team 2626 is also a great first step for every student who would like to pursue a career in STEM. Many of our Evolutioners have enrolled in STEM-related programs. Our team is also very proud to say that all of our Evolutioners who applied for the MégaGéniale scholarship, which is given by the University of Sherbrooke to 5 men and 5 women every year, have obtained it. Over the years, it is more than 25 000\$ in scholarships that our Evolutioners received.

Team Evolution 2626 is passionate about robotics. The one thing we love more than building our robot is spreading our passion for robotics to everyone. We firmly believe that no matter your age and your past experience, you should be allowed to program and build robots through the FIRST challenges. Our team hopes to spread this message throughout our community, for the many years to come.