

Chairman's Award - Team 5883

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2019 - Team 5883

Team Number

5883

Team Name, Corporate/University Sponsors

3M/Lubelskie Voivodship/Krasnik County/Erkado/PBF/FANUC/NABOR/SIGMA/VCC/Nadruk Na Koszulkach&Zespol Szkol nr 3

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2018/2019 year and the preceding two to five years

Participation in FIRST gives us valuable knowledge and experience in the field of STEAM. Over the past three years, our team members have developed passions in mechanics, electrical engineering and programming. They have developed also social skills - learn how to be leaders, present themselves, cooperate with each other and help community. 85% of our graduates are pursuing at various universities of technology. 70% of them are giving back to the community by working with children on robotics.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2018/2019 year and the preceding two to five years

During 7428,5h we spread the FIRST mission and inspired 1931295 people. We conducted robotic demonstrations in 30 schools and run trainings covering the basics of FLL or FTC construction. People could see us on TV, the Internet or hear on the radio where we talked about robotics, team and current activities. Thanks to our impact, 31 teams were formed in FIRST programs. People have become more open to robotics and STEAM ideas. All the universities in our district are interested in our team members.

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

Officially we organized 2 FLL tournaments. Lubelskie: Robotics League was the original idea of our team in 2018. It inspired and encouraged students to start their adventure with the FTC. As Robots Without Border with team 2220 we hosted an event in our local high school which was part of the international Day of Cosmos. We also visited schools in Poland and Ukraine. We conduct training for students and their teachers. We hosted 16h of robotics camp for 45 children this summer in Eastern Poland.

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

Our team is the best example that willingness and hard work are able to break all barriers. We cooperate with team 2220, who invited us to Robots Without Borders. With them we spread the FIRST idea all around the world. With 2485 we exchange our experiences. Chris Nawrocki, a member of their team created with us Representation for FGC in 2018. We are still in touch with teams which we met during tournaments and we solve problems together. We are a part of Global FRC Community.

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

In 2018 we started 2 FRC teams: 7570 in Poland and 7851 in Ukraine. We helped 7851 secure financial support from 3M. During 2220 visit in Poland we met with Kra?nik County Warden and Governor of Lubelskie Voivodeship. We talked about the government support for the future of FRC teams in Poland. University of Technology in Lublin and ?ód? confirmed their substantive support for new teams. The President of Poland endorse us in the endeavor to organize the first FRC competition in Poland.

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

We organized 2 FLL tournaments and started 24 FLL teams that took part in them. We came up with and organized FTC-level tournament Lubelskie: Robotics League to introduce the program in Poland. Thanks to our effort, 3 FTC teams were created. In March Spice Gears are organizing official FTC tournament - it will be first FTC tournament in Poland. We created Youth Robotics Center Foundation to support new FLL, FTC and FRC teams in Poland.

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

We have given one of the three LEGO kits, which we got from the Team 2220, to form FLL team in Wroclaw. Two other sets we have given to teams in Kra?nik. We recorded 2.5h of manuals for FLL covering team management, basics of designing, building and programming. We have conducted 1020h of FLL trainings for children. Meetings with parents and teachers allowed us to inspire them and they inspire children. In 2018, only during three months, we conducted 442h of trainings in constructing FTC robots.

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)

We mentor all of our 5 FTC teams and support 8 FLL teams on daily basis. Meetings with them, hours of talks and cooperation allowed them to be the best young STEAM leaders in their schools. Our team mentor, Marta G?uchowska wrote a book about LEGO and FLL which we use in our trainings. We have also recorded 3h of Solidworks guides for the beginners which are available for everyone on Spice Gears YouTube site.

Describe your Corporate/University Sponsors

Our main sponsor, 3M Company has paid for the team's registration this season as well as in the previous seasons. We receive financial help - Archimedes, MTL, PBI. Logistics support, machine park and consulting - Polish Bearings Factory, Nabor, Erkado. Mayor of Kra?nik city and his office started supporting us in 2019. We have successfully cooperated with University of Technology in Lublin and ?ód? and Lublin Catholic University to integrate them into *FIRST* Global Higher Education Network.

Describe the strength of your partnership with your sponsors with special emphasis on the 2018/2019 year and the preceding two to five years

Our sponsors not only give us financial support but also they invite us to their headquarters and show us their latest technological solutions. Their engineers give us valuable advices on how to build robots and perform appropriate elements. Each year we take part in events organized by our sponsors. During media interviews we always talk about their gracious support. In 2018 we have obtained patronage University of Technology in Lublin and University of Technology in ?ód?.

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

FIRST makes the dreams of ordinary children a reality. *FIRST* is breaking down barriers and stereotypes. The main goal of the organization is to spread STEAM ideas and teach youth how to influence and change the world through us. It gives perfect opportunity to learn science, technology, engineering and things that are not available in normal schools. Thanks to the participation in *FIRST* programs, real bonds are born - its members are like family.

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

This year we have established a strong cooperation with Polish government. We cooperate with Ministry of Entrepreneurship and Technology and President Andrzej Duda. We are also working on a robotic prosthesis for a woman who has lost her hand in an accident. We took part in various competitions thanks to which we have received 3D printer to fulfill our robotics plans. Our mentor wrote CISCO network manual. We also organized charity FIFA tournament to fundraise money for a boy in need.

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

Aleksandra ?azarz

Essay

Team 5883 Spice Gears was created as a first FRC team in Poland in October 2015, after nearly two years of effort in Kra?nik, a small city in Eastern Europe. When the team started adventure, it consisted of 17 people: 3 girls and 14 boys. Then we had 11 mentors. This numbers changed during three years and now team includes 5 girls, 14 boys and 7 full-time mentors. Plus 7 alumni members of our team became coaches.

The team is divided into three groups: Mechanics & Electricians, Programmers and Social Media - also called More Than Robots. Each part of the team is responsible for individual tasks in the team. Every group has their own leader. Thanks to this solution each division has a person responsible for determining the direction of work. All groups cooperate closely and learn from each other.

We are trying to constantly develop our skills and broaden horizons. We encourage team members to work not only in one group. Thanks to this, they will be able to acquire more skills. For example, mechanics can teach programmers to use tools, and also programmers can teach mechanics the basics of programming.

As a team we started 24 FLL teams. We try to be in touch with all of them and constantly mentor 8 of them. Moreover, we organized 2 regional FLL tournaments. Report from the 2019 Krasnik tournament was broadcast in the 2 largest nationwide TV stations in Poland and 4 radio stations. The Ministry of Entrepreneurship and Technology and Member of the European Parliament Krzysztof Hetman took patronage over the event.

Our team prepared YouTube video manuals in Polish to help newly formed teams, the length of recorded footage is at the moment 2 hours and 30 minutes. Apart from that we made online training sessions in programming, robot construction, and project preparation. During the season we mentored FLL teams via Skype and conducted on-the-spot meetings and trainings for the teams who asked for our help. We let one of the teams, LAMA team, work in our workshop. In the summer 2017 we have also visited primary school in Lviv, Ukraine to help them set up FLL team. Mentor of our team Mrs Marta G?uchowska wrote a book about FLL construction, this is first such manual in Poland. We always give a copy of this book to new teams.

Lubelskie: Robotics League was the first in Poland competition based on FTC. Our team created it to develop interests in robotics in young people. We successfully reached 263 schools from the Lublin voivodeship. Some of them prepared the robot project. We evaluated these projects and choose the 8 best ones, for which we funded kits of parts. During the week of their work, we supported them technically. During their These teams took part in the finals of the competition and fought for the victory in the arena. The arena and manual for the game were constructed by our team members. Software for the tournament also was prepared entirely by our team members. Tournament was organized in cooperation with Marshal's Office of Lublin Voivodeship.

Universities have taken patronage over our activities under FGHEN. We cooperate with Lublin University of Technology, Technical University of Lodz and Catholic University of Lublin. Our team graduates learn at these universities. They run scientific groups for students to promote robotics and STEAM ideas. Lublin University of Technology is working on the introduction of our Robotics League at the academic level.

The team's priority is to maintain a good contact with local government. At the beginning of the team's existence, we set ourselves the goal of cooperating with as many institutions as possible. It is important to stay in touch with people exercising power in our country. We cooperate with City Hall in Kra?nik, District Office and Marshal's Office in Lublin. Our sponsors are also technology companies. Polish Bearings Factory gave us cash support and their gracious specialist help. Nabor let us work in their hall and cuts out elements for us.

Furthermore, in 2018 we started cooperation with the Ministry of Entrepreneurship and Technology and Chancellery of the President of the Republic of Poland. As part of the Polish Economic Exhibition we conducted basic robot construction trainings for children in Warsaw. We were one of the exhibitors during Technologies of the Future: Space Industry Exhibition. It showed the technological hundred-year heritage of independent Poland.

In 2018 Youth Robotics Center was founded. It is a non-profit foundation which aim is to promote FIRST programs in Poland. We are its originators and main activists.

We are committed to influence other countries, too.

Together with team 2220 as a Robots Without Borders in August 2018 we conducted 4 day of camps for 45 children. Teaching them how to construct FLL and line follower robots, it was a big challenge. Both our teams visited Kiev, where we helped to create a new FRC team - 7851 NeuraBlink.

Moreover, this year as RWB we took part in the International Day of Cosmos and organized themed event in our local school. The students prepared presentations about the space and models of the solar system, which were rated by the judges in accordance with the guidelines. Our friends from 2220 organized similar event for their local community. 2220 visited us in Poland three times. Together we visited schools in Wroclaw, Krakow and Warsaw to promote robotics.

In December 5883 team member was a guest in Minnesota where he spent a week exchanging experience with our sister team.

We mentor FRC Team 7851, the first and the only one team in Ukraine. Members of our team spent the summer of 2018 working with Ukrainian students helping them in their rookie time. During the build season, we remained in contact to assist them in various fields, like choosing a strategy, translating rules, and solving problems. We gave them tips on how to get sponsors, we connected them with one of our sponsors 3M Company, and helped them to create the business plan.

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We are still in touch with teams which we met in China: 5522 and 5453. We invited them to be a part of Robots Without Borders with us.

For the second year in a row, our team was chosen to represent Poland in FIRST Global Challenge. With the help of Chris Nawrocki, member of FRC team 2485 we have managed to win 3rd place in Albert Einstein Award for International Excellence. After the tournament we visited 2458 workshop and exchanged experiences related to the previous seasons. Chris' father, professor Alexander Nawrocki, became one of our mentos. During our stay in San Diego, we also exchanged our experience with 1622 Team Spyder.

In 2018 we conducted 442h of trainings in Greece for youth from all over the world participating in Erasmus program. We taught them how to construct FTC robots and use 3D printers in their work.

We are realizing a project to create a prosthesis for a woman who lost her hand in an accident. We took part in project "Cool Grants", our in-depth description of a project involving 3D printing won us an award - 3D printer. This is one of the newest addition to our ever-developing workshop and helps us immensely with prototyping.

We also took part in 116 various events and spent on this 7428,5 hours and then inspired 1931295 people. Mentor of our team was invited to participate in a conference for young and successful people to tell about his robotics experience and how choosing associates can benefit or harm your business.

Our robot had an honor to carry the documents to sign during Nevada - Lubelskie Acceleration Bridge. In May we were one of the speakers during Digital Youth Forum 2018. We met interesting young and full of passion people who taught us that you can do everything if you dream about it and work hard to achieve it.

As a team popularizing ideas worth of propagating we were one of the speakers during TEDx event in our local community. Team also took part in Lubelskie: Business Class - conference for secondary school students, organized in the TEDx convention. During both events we showed the audience our robots and encouraged people to be develop STEAM ideas.

Our work is not just robots. Our team organized a charity FIFA tournament which took place in one of the local schools. We raised money for a boy who needs a constant heart treatment. The number of participants exceeded our expectations. We collected together 4880 PLN. Moreover for the second time, we supported the Warsaw Insurgents and as part of BohaterON, we sent to them greetings cards.

Additionally we co-organized I Robotics Meeting in Karczmiska with one of our FLL teams, Space Beavers. It was a meeting for all FLL teams and other young robotics enthusiasts. Together we discussed new technologies and the future of robotics in our region and Poland.

What about the future? Of course, we would like to develop robotics in Poland. As a YRC Foundation we are trying to introduce all stages of the FIRST programs to Poland. 2019 is our big step towards the development of FLL and FTC. In March we are organizing FTC tournament in Lublin for 14 teams. We have already registered 5 teams. Also we strive to create a program that will encourage girls to get involved in robotics.

We are working hard to create next FLL and FLL Jr. teams. Our team is constantly doing trainings in the construction of FLL Jr. robots. We have already taken the first steps towards creating such teams - we have visited the kindergarten and primary schools in Warsaw interested in the program. We are trying to organize in 2020 the FLL Semi-finals of Europe. Together with Ministry of Entrepreneurship and Technology we are working of organization FRC offseason in 2020. Currently we are looking for sponsors for this project.

Our main goal is to recruit as many talented young people from our town and surroundings as it is possible. Every day we shape our future. We should show these young people that education is the passport to better life, but in all that we should never stop dreaming.