

Chairman's Award - Team 3646

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2016 - Team 3646

Team Number

3646

Team Name, Corporate/University Sponsors

Fikret Yuksel Foundation / City Tourism / Bahcesehir University / Gorkaya Machine / Alkilic Foundation / Rifsa Textile / Dogus Kalip / Basaksehir Municipality / Bahcesehir Colleges & Bahcesehir High School for Science and Technology

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

FIRST programs had a tremendous impact on our members, helping us validate our STEM studies. Our members had 16 patent applications and 5 of them have already been confirmed. 3 of our members have been offered internships in an animation company after their success in creating a safety animation. 90% of our school presidents are members of INTEGRA. Our members gained a total of \$5,000,000 worth scholarship from top colleges including MIT, Stanford, Yale and Brown at STEM-related majors.

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

Collaborating with Bahcesehir Schools, INTEGRA prepared and published a STEM-oriented curriculum that includes FIRST programs. The curriculum is being used in 45 elementary schools. Members' mechanical abilities turned to many projects including one being used by Turkish Armed Forces and other aiming to save the lives of refugees on the sea. INTEGRA informed the public about FIRST by appearing on TV channels, newspapers and via social media. We put up stands at Maker Faires & BrandWeek Istanbul.

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

Our Mobile Science Museum, carrying 20 experiment stations that demonstrate basic science laws, traveled 7,000 miles across Turkey and reached 50,000+ people. We helped form 10 Science Museums across Turkey, designed & built their stations in our school. Cooperating with Max Planck Institute, we organized the Science Tunnel and presented FIRST to 900,000+ people. We established "Girls First" which motivates girls to participate in STEM education and FIRST programs reaching out to 21 schools.

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

We are the delegate of Turkey at FIRST Robotics World which is a net between global teams founded by team 5526. We have given countless presentations about FRC and inspired many students to start teams. INTEGRA organizes lectures and educates new FRC teams at every kick-off event. We also shared our business plan with rookie teams. Members of INTEGRA volunteer at Jr.FLL, FLL and FRC events. INTEGRA sets an encouraging example and demonstrates that success is possible, even with limited resources.

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

We started teams 6038, 6232, 5773, 5946, 5558 and 6025. Team 5946 was founded and is mentored by one of our alumni. We founded team 6025 and since we are studying in the same school, we provide mentorship for them. At every national FLL tournament since 2012, we inform the FLL teams about FRC and how they can start a team by giving speeches. Many teams found out about FRC with these speeches. We also exchange contact information and help them in their journey to become an FRC team.

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

Last season we organized a program and trained 45 new FLL mentors. With the help of this program, we started 47 FLL teams in different cities of Turkey. INTEGRA is coaching 25 FLL teams; 22 via internet and 3 in person. We also started an FLL team in Living Lab Basaksehir, which is the first Living Lab in Turkey. INTEGRA started Jr.FLL in Turkey and organized the last two national Jr.FLL Fairs. Team 3646 founded and is currently mentoring 8 Jr.FLL teams. Our goal is to increase these numbers.

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

INTEGRA found sponsors for 15 Lego Mindstorms Kits and distributed these to state schools. In addition to FRC Turkey Forum, we created frcdonationfirst.com to assist local FRC teams in need of parts. We translated game manuals and videos into Turkish. We held the kick-off, equipped and managed the spare parts and provided sponsors for batteries and media coverage for the first Off-Season Tournament. We made presentations to Intel, HP and Microsoft to provide sponsorship for Turkish FIRST teams.

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)

With teams 2905 and 4191, we organized kick-off events in the last 3 years during which we held workshops. Thanks to our coordinated attempts with 4 FLL teams, we have arranged sponsorship for 70 new FLL teams to be provided by 30 Turkish Municipalities. We produced an open source printed FLL Project Archive in collaboration with the national organizer of FLL- Bilim Kahramanlari. In 2014, together with team 4, we contributed to the efforts to form a team in Mongolia.

Describe your Corporate/University Sponsors

The sponsorships of Fikret Yuksel Foundation and Bahcesehir University provide the greatest support, together with Bahcesehir Schools, they have covered accommodation since INTEGRA was formed. Sci-Tech PTA, Municipality of Basaksehir, Alkilic Foundation and City Tourism provided sponsorship for the plane tickets. Zetas covered the entrance fee. Torsa & Simtek Automation sponsored team outerwear. Gurkaya Makina, Atom Karınca, Yakin Makine & Turksa Kayis helped with the manufacturing of parts.

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

Sponsors are our sincere partners and part of the INTEGRA Family. We visit & invite them at regular intervals, keep in touch by sending e-mails. We give them plaques, team t-shirts, and gifts that we design and build. In addition, we gave RC plane tutorials to Bahcesehir University Mechatronics Club students and Basaksehir Municipality. We also provide value for our sponsors; for example, we prepared an animated commercial for our sponsor, City Turizm . Our alumni study at Bahcesehir University.

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

The portcullis leading to FIRST opens when teenagers discover their talents, passions & take up courage to fulfill their dreams. Then they reach a square to team up with others discovering the excitement in STEM. Afterwards, the teams are challenged to build robots. Learning how to be a solution-based thinker, they are allowed to get in to the castle. There, everyone shines under the torch of a wise man named Dean Kamen. These are what it takes to rally the kingdom of curious youth, simply FIRST.

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

We are boarding students from all over Turkey. Holidays are our only opportunities to spend time with our family; yet we choose to stay at school, sleeping in the library on beanbags. We internalize the joy of producing our own designs on which we spend countless hours. Our country's education system is based on tests and the extra time we spend on FRC create the risk of us not getting into the university we want in Turkey. However, the real life skills gained through FRC is worth it.

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

Armanc Gumustas

Essay

As she walked down the stairs from the stage, the walls of the hall were still shaking with the sound of the standing ovation she received from the crowd. "FRC is not just about building robots. The future is ours, and by spreading the message of FIRST we are building a bright future full of hope for all!" were her last words and they were directed to the mesmerized crowd.

Let me explain; first of all, her name is Dila which is Kurdish for "one who loves from the heart". Before she enrolled at Bahcesehir High School for Science and Technology (BHSSciTech), she lived in Sirnak, a city in eastern Turkey, which has been a center of terrorist activities in the last 30 years. She read about INTEGRA in newspapers and decided that she wanted to participate in FIRST.

Being the sixtieth highest scorer at the national high school entrance exams, she moved to Istanbul and enrolled at BHSSciTech, the top high school of STEM education and FIRST programs in Turkey, as a boarding student. In her second year, she participated in FLL. Since the first meeting with her team, she has been passionate about FIRST. Next year, she founded and coached an FLL team whose members were all students of local state middle schools. When she was an 11th grader, her dream became true and she joined INTEGRA.

She had just given a speech in the awards ceremony of the first ever FRC Off-Season Tournament in Turkey, which was coorganized by Team 3646. The audience consisted of hundreds of students, most of which were there because

they were inspired by INTEGRA in the last couple of years.

Bilge was there because INTEGRA travelled to her hometown with the "Mobile Science Museum" or as the team called it, the "Science Truck" and introduced STEM education and FIRST to Bilge and about 50,000 of her peers all around Turkey.

Mustafa was there because collaborating with Bahcesehir Schools, INTEGRA established Science Museums in 10 different cities in Turkey including his hometown, Diyarbakır, informing Mustafa and 10,000 students like him about basic principles of science, and FIRST.

FRC Teams 5665, 5943, 5773 were there because INTEGRA made a presentation about FRC at the previous national FLL tournament to 45 FLL teams. After that, Team 3646 exchanged contact information with these 3 and many other teams. INTEGRA helped them through their journey on becoming an FRC team by lending parts, hosting them at their school and giving valuable information about the basics of mechatronics, PR, Gracious Professionalism and many other aspects of FRC. Also the team shared its business plan with Turkish rookie teams and led them to prepare their own. To better help Turkish teams, Team 3646 became the delegate of Turkey at FIRST Robotics World which is a net between global teams founded by team 5526.

The immense excitement radiated by the new teams made Dila very emotional. Dila and her team worked really hard for this organization in the last couple of months. For instance, INTEGRA designed and published frcdonationfirst.com, which created a communication net between experienced teams in the US and newly founded teams in Turkey. This enabled part donations to teams that competed at the Off-Season Tournament. The team also made presentations to Intel, HP and Microsoft to get these corporates' support for the Off-Season Tournament.

What is more, Team 3646 translated the game manuals and related videos into Turkish so that those who are not proficient in English could also attend the competition. The team also hosted the kick-off event during which they lectured the other teams on "Creating a 3D Animation", "Mechanical Design 101", and "Gracious Professionalism". The team also equipped and managed the spare parts in addition to finding sponsors for batteries and nationwide media coverage.

When leaving the hall Sarp couldn't help but think about Dila's speech: "Thanks to INTEGRA, I have learnt much more than building a robot through FRC. As a team, we value every little effort to reach out to the community. We designed houses for birds and cats, in addition to dollhouses using AutoCAD. We produced these using our CNC machines. Collaborating with our local municipality, we placed the animal houses in our district and donated the dollhouses to orphanages.

The team also held the Young Diplomats Conference, during which thousands of high schoolers discuss current global issues, with the aim of helping teenagers gain self-confidence so that they can speak up for a better world.

What is more, we raised donations for LOSEV (Foundation for Children with Leukemia) at kermises we held together with Team 6025. For INTEGRA, FRC stands for Focusing on Renovating the Community."

Meanwhile, as the hall emptied, Dila was leaving the stage to meet a group of parents waiting to ask her questions. Among them was the chairman of Women Entrepreneurs Association of Turkey, Sanem Oktar, who was a guest of INTEGRA. She said: "Thank you for your speech and thank you even more for our cooperation. Being part of Girls First was so fulfilling. I hope we will keep on working together to get more girls to take part in FIRST and STEM." Dila responded kindly by inviting her to INTEGRA's Innovation Camp as well in which the 80 students from different high schools take part before a parent asked her a question.

"My son has joined in one of the newly founded teams and he is really happy. But the extra time he is putting into FRC worries me. Do you think he will get behind on his lessons? "

Essay - page 2

Dila answered: "FRC definitely doesn't have such a downside. On the contrary, thanks to their work at INTEGRA in part, our alumni gained a total amount of \$5,000,000 scholarship from world's top colleges including Brown, Yale, Stanford and MIT. Furthermore, our members have 16 patent applications 5 of which have already been confirmed. This of course is a result of high academic capacity, and creativity fueled by involvement in the FIRST programs. An example of FIRST assisting our academic studies is a project about utilizing model planes to provide the security of the shores. This project is being used by the Turkish Armed Forces. Another project which aims to save the lives of refugees on the sea is currently being developed. Moreover FIRST inspires us to better the education system. We established an exemplary curriculum which focuses on FIRST programs and STEM-oriented activities. The curriculum is currently being taught in 45 elementary schools".

Hearing her sentences, the parent asked with an expression of amazement: "These are really impressive. You must be putting a lot of effort into this."

Dila said: "We are all boarding students but even at the holidays we stay in school. Instead of spending time with our family, we sleep in the library on beanbags. We get motivated by our determination that engineering should advance with the aim of creating a better world for everyone. You know, after the invention of steam engine, industries grew rapidly in some of the countries. Then followed the regulations of worker's rights, women rights and the establishment of modern democracies. That is a perfect example to show engineering is as related to the community and people as much as it is to machines. The principle that engineering is tied closely with every aspect of the daily life from the political systems to the city transportation is the CORE (Code of Real Engineering) of Team 3646. Also, Team 3646 develops sustainable, innovative and adaptable strategies to pursue its goals. Since the team was started in 2011 with only 5 members, it grew steadily to reach 13 members in 2016. This trend of expanding brought along a review of the former strategies and thus, a new one, amongst the other minor ones, was adapted: ICoS. ICoS (INTEGRA Code of Solution) was developed by our team both as a method of overcoming challenges faced by INTEGRA and as a guide

to the newly founded Turkish FRC Teams. "

Now, the hall was entirely empty. Before leaving to join her team, Dila looked at the game field. AIM HIGH was fun from the beginning to the end. She thought that AIM HIGH was the perfect game for the first ever Off-season Tournament in Turkey. As the growing Turkish FRC Community was eager to aim the highest of heights. Dila felt proud knowing that INTEGRA started 6 FRC teams. She imagined all those kids in the 47 FLL teams her team started around Turkey as members of FRC teams. In Team 3646, each and every member has FLL experience and the team sees this fact as an important part of team's success, they put into much effort to spread the FIRST message in Turkey. They were mentoring 25 FLL teams, 22 via the Internet. They trained 45 teachers on how to coach FIRST teams, in addition they found sponsorship for 15 Lego Mindstorms Kits. These kits were distributed to underprivileged FLL teams in different cities. Team 3646, working together with 4 local FLL teams, organized sponsorship for 70 future FLL teams to be provided by 30 municipalities in Turkey. They also came up with the idea to prepare an open source printed FLL Project Archive and collaborated with the national FLL organizer, Bilim Kahramanlari, to collect and set the projects of the 2014 season. This season, they are planning to send the new archive to middle schools in 50 cities of Turkey. Walking in the corridor and saying goodbye to teams, Dila thought to herself that her favorite responsibility in Team 3646 was organizing the Jr FLL Fairs. The team had started Jr FLL in Turkey two years ago and they were organizing the fairs since. Team 3646 were mentoring 8 Jr FLL teams as well.

It was time to leave, Dila got on the bus. On her way to the dormitory, she fell asleep. In her dream, she saw nothing but good things for the future of INTEGRA, FIRST, and STEM. There was a lot of work to be done, but her dreams would eventually come true.

2016 - Team 3646

Picture 1



2016 - Team 3646

Picture 2



2016 - Team 3646

Picture 3



2016 - Team 3646

Picture 4

