

## FIRST Impact Award - Team 5993

<b>2023 - Team 5993</b>
<b>Team Number</b>
5993
<b>Team Nickname</b>
Istech Robotics Society
<b>Team Location</b>
Bakırköy, 34 - Turkey
<b>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.</b>
IRS has a sustainable work model that provides our members with FIRST awareness skills such as programming, manufacturing, industrial design, entrepreneurship and resource management to succeed as future STEAM leaders. This philosophy of IRS has led %90 of our alumni to pursue STEAM majors in universities all over the world and continue their FIRST journey by volunteering, mentoring and supervising. Also, 7 of our alumni have returned as our mentors to continue sharing their experiences with us.
<b>Describe your community along with how your team addresses its unique opportunities and circumstances.</b>
Our fundraising efforts and community contributions provide us with a strong hand to be beneficial to those around us. In the spirit of FIRSTLikeAGirl, in collaboration with the ISTEK Foundation, we created school funds and provided scholarships to students who don't have enough resources. With this initiative, we provided education to 11 girls who became members of our team. 4 of these girls have graduated in the past year. Using the opportunities given to us, we support our community.
<b>Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?</b>
Our prior goal has always been spreading the FIRST message by drawing attention to gracious professionalism. As we aim to improve ourselves and our society, we organize monthly workshops in fields such as robotics, coding, engineering, and safety. We continue to interiorize FIRST values by integrating them into daily life. In order to measure results we track the number of participants. With 3000+ outreach hours, we reached 10000+ students via 46 FIRST Tournaments and 170+ workshops.
<b>Please provide specific examples of how your team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years.</b>
Our team acts as role models within our community, working to ignite STEAM, programming and leadership among all ages. We have hosted 42 FLL Explore, 4 FLL Challenge tournaments attended by

716 FIRST teams. To serve our community we work through physical and virtual workshops. In the past 3 years, we served 3000+ hours of community service by organizing 5 coding festivals and 2 Maker Fairs, introducing robotics to public school students, organizing 71 workshops and 4 leadership seminars.

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

Our philosophy as Istech Robotics Society is to advocate for FIRST values and implement these values in our lives. We have started 12 FLL Challenge, 11 FLL Explore and 3 FRC teams. Providing the necessary tools and adequate curriculum for young learners has always been our priority. We have also mentored 26 teams with our alumni. Moreover, we have assisted 15 FIRST teams with online and face-to-face meetings where we answered their questions and provided them with necessary materials.

**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 create projects that target children to familiarize them with STEAM from a young age and create a sustainable cycle. Thus, we visited 14 primary schools and provided STEAM training to 1567 students. We ran annual fairs called HOUR OF CODE which have helped us introduce 2175 primary and secondary schoolers to STEAM. As a result, we have received feedback from schools stating that their students took an interest in STEM and taken initiative to start robotics teams following our workshops.

**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**

By convincing our partners to believe in our mission to spread STEAM, we organize awareness events. With our collaborations with the Turkish Red Crescent, we held workshops regarding first aid and blood donations, attended by 127 people and a blood drive that collected 684 units of blood. We have been hosting FIRST tournaments with Yeditepe University for 4 years. We organized workshops regarding effective presentation techniques with SIEMENS to help rookie teams, attended by 186 people.

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

In the spirit of FIRSLikeAGirl, we foster gender diversity and equality in our team. We initiated 15 FLAG workshops, reached 2500+ people with a youth coach program that extends over 7 cities in Turkiye. We host 2 equity seminars annually with Yeditepe University and organize fundraising events for domestic violence victims. We got trained in sign language and provided training for other FIRST teams. This enabled us to ensure that everybody, despite their disabilities, can be included in FIRST.

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

Sustainability is a key factor in our team. By creating subgroup leadership positions we nurture new leaders and help them develop team management skills. Our subgroup leadership positions are open to all members, our new recruits are welcome to join executive board meetings. We have seen the advantages of this model for years since our team captains are selected from the people who have

previously led subgroups. By creating a viable team management model we ensure the continuation of our team.

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

Over the past 3 years, we have worked with 34 sponsors. To ensure the sustainability of our sponsorships we work with our alumni who get job offers from companies like SIEMENS, thanks to the skills they obtain while participating in STEAM. The connections they create with companies help us find the opportunity to reach more sponsors. These companies can choose qualified employees from our alumni and we have the chance to work on further projects together which results in both parties benefiting.

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

One significant challenge we face is insufficient capacity and logistic opportunities for social responsibility events. Through events such as Kick Off, a blood drive and natural disaster conferences we caught the attention of the local government and plan on collaborating on future events. We have an agreement with the Istanbul Municipality to use their venues for the largest event our team has held which will take place in the fall of 2023 and encourage women that aim to work in STEAM.

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

On the mission to create a global impact, we have started an initiative, FIRSTUnites to inspire youth by connecting 7 FIRST teams from the Canary Islands, Riga, Chiba, Brazil and Shanghai with 10 workshops. Promoting FIRST culture by appearing on Show TV, CNN and Bloomberg was also a great chance to inspire our nation. Furthermore, we collaborated with one of FIRST's greatest technical sponsors, Solidworks, to create an educational video that was published on Solidworks' website.

**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.**

Following one of our primary school visits we noticed a student who had a congenital bone disease. We started searching for ways to help him and had meetings with the Robotel Foundation and Maker Çocuk. As a result, we designed and created a 3D glove prototype using EMG and Arduino Nano muscle signal sensors. We gifted that 3D model hand to the kid. Furthermore, we saw a dog that had lost a leg in the İzmir Off-Season 2021 and designed a prosthetic leg for it with assistance from veterinarians.

## Essay

In the past three years, IRS has noticed the positive impact of experiences and world views gained on the individual and society while participating in STEAM. While establishing our relations with the values of FIRST, we created "The Objective" that guides our members to be beneficial within our community.

**THE OBJECTIVE** The objective of IRS is to create a sustainable model that enables its members to create a community built on equality, diversity, and inclusion that helps prepare the STEAM leaders of the future. Our main goal is to spread STEAM by continuing to expand the reach of IRS. We aim to represent our country successfully on an international scale while being beneficial to individuals and communities. We inspire people to keep up with our developing world with projects and initiatives, especially within FIRST and STEAM. We identify problems in our society and work towards coming up with and implementing solutions. By sticking to the core values of FIRST, we work hard to complete "The Objective".

**SUSTAINABLE MODEL** Umbrella Organization: As an umbrella organization that contains FRC, FLL Challenge, and FLL Explore teams (IRS, IRS Youth, IRS Jr.), we leave a positive impact on our community as a result of our involvement in FIRST. We prepare our members and our society for a better future. IRS includes members of different age groups with an educational scale that helps us to build community contributors. Our FLL Explore members get to know FIRST and STEAM. After participating in FLL Challenge, they become more eager to learn and innovate. Since our team members start participating in FIRST from a young age they easily adopt the core values. Following 4 years of FRC experience, our alumni become mentors for our FLL teams. Since new members of our society are being led by our alumni, Istech Robotics Society is a sustainable model that includes 486 students and is continuing to grow every day.

**"THE PHOENIX"** As IRS, the sustainability in our society is based on a scale that is inspired by our logo "The Phoenix". Our rookie members start as "ash" members. Each year we have at least 30 rookie members who will become experts in certain fields and become "phoenixes" in. Once our rookie members become "phoenixes" they lead new "ash" members within their area of expertise. Thanks to our "ash" members IRS is a sustainable model that is reborn from its ashes every season. Being a team consisting of 68 members and 6 mentors can create a challenge for communication and human resource management. To solve this, along with "The Phoenix Scale" we implemented a CRM system and created subgroups to increase efficiency. Each subgroup has its own workflow and micromanages tasks under group supervision. With this system, we are not only able to maintain an efficient workflow but also store knowledge and resources which allows us to create a sustainable team model.

## PARTNERSHIPS

### FIRST

We host and run FIRST organizations to make a positive impact in our community and pave the way for future STEAM leaders. We hosted 42 FLL Explores, and 4 FLL Challenges, and ran 1 FRC Kick-Off. In Kick-Off 2023 we held various workshops such as Java, Solidworks, Vision Processing, Sign Language, Safety, Quick Robot Build, Entrepreneurship, Effective Presentation Skills, FIRST and Awards, and Media Design. These workshops were held in partnership with experts in order for FRC teams to benefit from them.

**Sponsors** We establish strong partnerships with our sponsors that are mutually beneficial and based on sustainability. We rely on the positive impact of our own, making our partners more eager to provide for the STEAM community. Throughout the 8 years of our journey at FIRST, we have collaborated with a total of 34 sponsors.

**FIRST Teams** We have started and mentored 12 FLL Challenge, 11 FLL Explore, and 3 FRC teams. We have also assisted 15 FRC teams. We created a network between teams which gives us the opportunity to cooperate on future projects. Additionally, we established a platform called FIRSTUnites which was based on creating a network between 7 international FIRST teams. Moreover, after having a meeting with an FRC team that has deaf members, we took their advice while holding sign language workshops.

## Organizations

**Turkish Red Crescent** We annually organize safety awareness workshops with the collaboration of the Turkish Red Crescent that are attended by +1000 people. We continued during the pandemic with online seminars and returned to face-to-face workshops in the past 2 years. We have organized blood drives and collected 684 units of blood, which is a record in Turkiye in terms of the number of units collected in a day. We keep cooperating with the Turkish Red Crescent and plan on organizing blood drives annually.

**Solidworks** We collaborated with one of FIRST's most important technical sponsors, Solidworks, and created an educational video that was published on their website. We told the story of trying different platforms and deciding on Solidworks while designing and manufacturing robots.

**LÖSEV** LÖSEV is an organization that provides financial and moral support to people with leukemia. We help promote the organization by handing out brochures. We also provide language translation support. Thanks to the voluntary projects we do, we support LÖSEV in every aspect.

## FIRSTLIKEAGIRL EMBASSY

As the only FIRSTLikeAGirl ambassador in Turkiye, our priority is to create a community within the values of equity, diversity, and inclusion.

**FLAG Conferences** We annually organize conferences that cover issues girls face while participating in STEAM and FIRST. We reached 50+ FRC teams with the event we hosted. We created sub-committees that targeted specific issues and gave presentations to the whole conference. Those presentations were published on our FIRSTLikeAGirl blog and Instagram account to reach a wider audience.

**Scholarship Opportunities** One of our initiatives regarding FIRSTLikeAGirl is to grant scholarships to girls who don't have enough resources to get the education they need. We collaborate with our school's foundation, ISTEK, in order to provide 11 girls with education opportunities.

**Influence and Impact** With the collaboration of Yeditepe University, to reach a wider audience and make a positive impact, we hold annual FIRSTLikeAGirl seminars, which have been attended by 3000+ people in the past 3 years. Furthermore, we have an Instagram account dedicated to FIRSTLikeAGirl. We created a digital magazine that covers the lives of inspiring women in STEAM. Moreover, we have created a #FIRSTLikeAGirl blog on our website. With every initiative we take, our influence and impact on our community get stronger and wider.

## COMMUNITY CONTRIBUTIONS

**Protecting the Environment EcoTire** With one of our sponsors, SEPA, we conducted a study on the types of plastics that are the least harmful. We researched the effects of car tires on air pollution and created a tire out of natural materials, EcoTire. With this project, we won the “Most Creative Project” award given by the Istanbul Municipality. Since we are aware of the impact of reducing our ecological footprint, we make a great effort to improve ourselves.

**Environmental Conferences** We organize annual conferences that address a designated environmental topic. Last year we had the theme of natural disasters and we are planning to move on with the theme of renewable energy and sustainability. Within these conferences, we divide participants into 4 committees that aim to overcome a sub-topic related to the theme. Last year our committees were earthquakes, floods, forest fires, and erosion. These 4 committees prepared presentations regarding the issues and possible solutions. These presentations were given in a conference hall, creating an atmosphere for every participant to be informed. These conferences are attended by +100 people from 14 FRC teams.

**Hour of Code** We have been organizing “Hour of Code” workshops for 5 years and helped 2175 students understand the logic of algorithms and enable them to look at coding from a new perspective. This also creates a chance for us to introduce FIRST to students and add new members to our society.

**Earthquake Assistance** Turkiye is in a first-degree seismic zone and faced a disastrous earthquake recently. We, as IRS, did our best to provide as much assistance as we could during the process. We collected donations and prepared 2 trucks worth of supply parcels to send to the affected areas. We also are planning to increase the frequency of our natural disaster awareness conferences in light of recent events.

**Robotel** We had “Maker Kid” workshops and we gathered information on congenital bone diseases. Thus, we designed and sized a prosthetic hand and then turned it into a prototype with a 3D printer.

**WORKSHOPS** We organize STEM workshops in orphanages and schools with insufficient resources. We teach mBot and coding to people of all ages. Additionally, we organize workshops called “FRC 101” on various topics such as team management for new teams and time management in the robot production process. We also organize Career Days to help students analyze their interests and choose their professions accordingly. Furthermore, we organize Maker Teacher Trainings for +2200 teachers in 18 schools to improve their understanding of STEAM. All the workshops we organize are aimed at spreading STEAM and FIRST culture and integrating them into people’s lives.

**VISITS** Over the past three years, we visited 14 primary schools and provided STEAM workshops to 1567 students. These workshops included mBot, Arduino, and LEGO WeDo. We also collaborate with Robotistan to provide 20 Arduino Uno Starter Kits to underprivileged schools. Furthermore, we had discussions with the school principals on starting FLL Explore teams in those schools. We have taken the initiative by collecting donations and gathering supplies. We also plan on mentoring the teams once they are established. ;

