

***FIRST* Impact Award - Team 6014**

2024 - Team 6014
Team Number
6014
Team Nickname
ARC
Team Location
Istanbul, 34 - Türkiye
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 95% of our graduates pursue STEAM fields, boosted by their FRC journey. 83% of the graduates have a pathway in top world universities such as Stanford, Yale, UCL & Johns Hopkins. In 2022, one of our graduates got the Dean Kamen Scholarship. ARC members and graduates produced 20+ research papers, 3 on FIRST. 15+ currently work in tech companies and spread FIRST values. With help from their FRC experience, they become leaders in their community as climate activists, artists, and innovators.
Describe your community along with how your team addresses its unique opportunities and circumstances.
Having members that come from 10 different cities and backgrounds enables us to connect our individual interests to a common passion: FRC. ARC's activists created our environmental movement EcoARC where we worked with Fridays4Future since 2022. Our members connected us to their Anatolian hometowns, making it possible to launch the Anatolian FIRST Movement and found the first FLL team in Bayburt -the last city to not have a FIRST Team- in 2023, spreading FIRST to all 81 cities of Türkiye.
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?
Our innovative Dragon Kits'24 helped educate kids from various earthquake regions in Türkiye on simple machines, and STEAM. Our kit aims to create a lasting impact through inventive solutions. FIRST: News Around the World magazine delivers global FIRST news to 17K+ people. Our FIRST4Her curriculum improved the STEAM skills of 20 girls at school, sharing it with 10 FRC teams&He4She scaled it to a greater Turkish audience.We measure our impact by analyzing feedback & social media reach.
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.
We created the first free FRC chatbot ARCINATOR that helps teams answer questions regarding FRC, the game manuals&more. ARCINATOR answered 12K+ questions of 3.1K+ people from the FRC community in less than a month, breaking the language barriers by translating the game manual to 150+

languages. Our members took the initiative to code ScoutARC, an app that makes scouting easier for FRC teams. 150+ people joined Solution FIRST'22 where we acted as&created role models.

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

We started 8861, Championship Rookie All-Star winner & mentored Electric Heroes, the first blind Turkish FLL team & winner of the Rising Star Award. We trained 30+ walking-impaired kids to start an FLL team in TOFD (2022). We initiated Bayburt's first FLL team. Until 2023, we started 5 (currently starting 3), assisted 50 and mentored 19 teams and also created mentorship chains and encouraged 13 Veterans to mentor 13 Rookies. We're mentoring rookie FTC team 24140 from the earthquake region.

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?

In collaboration with Türkan Sabancı, and TOFD we tutored 60 disabled students on coding. Currently, we are working with Hayriye Kusun Kindergarten to design toys tailored to strengthen the senses of special-needs children aged 3-6. We gave 15 students lessons on LEGO WeDo, Scratch, and MINDSTORMS. The participants were immersed in various activities designed by our team to not only include fundamentals of robotics but also foster creativity, collaboration, and engineering skills and principles.

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 partnered with TEMSA to build our practice field, creating a close relationship with our mentor through the season. We are in communication with 20+ different schools in earthquake regions to send our Dragon Kits. In Solution FIRST: Environment, WWF/Reflect Studio&Byqee hosted workshops and GSK&TURMEPA delivered speeches, inspiring 15 participant groups to create sustainability projects. We worked with 8863, a deaf team, to enhance our sign language training.

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

Our gender equality movement Girls Have a Place reached 50K+ people. Speaking with experts and realizing kids with learning disabilities struggle with senses, we designed a toy kit that improves special-needs kids' abilities for Hayriye Kusun Kindergarten. Empowering disabled kids in STEAM through FRC4Inclusivity: we worked with TOFD & Türkan Sabancı School to train 30 walking-impaired and 30 blind kids on FLL, 6 ARC members learned sign language & hosted workshops to support deaf people in FRC.

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

With FIRST4Her we provided a mentorship chain for girls in our school that we can train our potential members individually. We shared our curriculum with 10+ teams. Rather than having small-scale projects, we start movements like Girls Have a Place, FRC4Inclusivity, and Anatolian FIRST Movement. We created Dragon Kits to educate kids from the earthquake region, aiming for a long-lasting impact. To expand our impact, we are once again working with Electric Heroes 7828 this season.

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

After years of hardship in terms of managing team finance, we developed a strategy that expands our search for sponsors beyond local boundaries to different regions of Türkiye and global. This strategy not only increased our financial support, but also broadened our mentor network. Further, we collaborate with our sponsors: Byqee gave an upcycling workshop at our Solution FIRST event. Gülermak visited our pit to showcase products. Making sponsors a part of our vision allows us to engage them.

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

In 2024, we created our Dragon Kits, a project dedicated to creating and distributing simple machines like pulleys, inclined planes, and levers to children in earthquake relief zones. This product was a significant milestone to us, since none of our previous productions had gone beyond the prototyping stage, whereas these kits would be mass produced. Even though the process of designing and producing these kits took us longer than expected, its massive impact makes us want to develop it further.

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

As a team of people with various backgrounds, we knew the importance of a little push and support to spark confidence. Throughout our collaboration with Türkan Sabancı Secondary School, we aimed to spark the confidence in team Electric Heroes 7828, the first blind FRC team, and mentored them as we watched them grow, winning the Rising Star Award. With our LEGO WeDo training we aimed to show children the necessary skills as well as the resilience and confidence they need to build a better world.

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.

We are ARC, we are #eb92be. For us, it is ARC pink. On our website, we have COED's location as our place, not our school's. It's our workspace where we spend hours together, in an environment where we paint pink. Perhaps, not an often color. It means unity, gender equity and STEAM. With our Girls Have a Place movement, we thrive a world with no gender bars. We stand to share every success, concept and person that contributes to elevating STEAM girls, until no one questions our pink.

Judge Feedback

Who/When

Feedback

Mar 07,
2024
01:18:01
AM EST

How do you think the commonality of AI would affect the global community of FIRST teams?

An area the team has an opportunity to improve.

Something that really impressed the judges.

Essay

Have you ever heard the tale of the hummingbird? When an entire forest is consumed by wildfires, hummingbirds carry a single drop of water, embodying the motto of "doing the best they can." Inspired by

the hummingbird's resilience and determination, we established our projects with a similar motto. Just like the hummingbird, we started initiatives aimed at extinguishing fires in various aspects of FIRST. Each project represents a deliberate and impactful effort, reflecting the hummingbird's commitment to making a difference, drop by drop. We aspire to bring positive change to the FRC community, guided by the spirit of the hummingbird and its dedication to doing the best it can in adversity.

Fire 1: Lack of Accessible Educative Resources When the earthquake struck East Anatolia, the world had gone quiet. A new part began to burn, and it was not an option to just sit silently. We weren't the first ones to reach the region, but we realized this fire would have long-term effects on everyone, especially the children.

For us, the hummingbird's spirit not only represents the instant action of response during tough times but also the ability to sustain the impact of the drops of water we carry. To achieve this, we created and sent to 20+ schools the Dragon Kits which consist of simple machines such as pulleys, inclined planes, and levers that children can play with. Our Dragon Kits became the drops of water, each piece representing a building block for the children's future. This kit not only provided immediate relief but also had a long-lasting impact on their journey toward recovery. Even though it's been a year since the earthquake happened, the consequences still continue, and it is our duty to continue the supply of these droplets to the region to bring a powerful yet sustainable action.

Some fires in the forest were closer to us than we could foresee; Istanbul needed our help. Together with Lions Türkiye, we introduced the LEGO WeDo Curriculum, carrying drops of water to 15 middle school students and giving lessons on WeDo, Scratch, and MINDSTORMS. The participants were immersed in various activities designed by our team to not only include robotics but also foster creativity, collaboration, and engineering skills. Each day we planned was a unique blend of interactive learning. The curriculum for each day was dedicated to integrating artistic elements into STEAM projects, from storytelling, drawings, and practice with MakeyMakey kits.

Fire 2: Language Barriers and Lack of Communication In the competition, scouting was very time-consuming & impractical. The flames of this fire were spreading uncontrollably. We solved this challenge by designing and coding ScoutARC, available to all FRC teams for free. This app simplified the scouting process and redefined data collection during regionals. Hummingbirds can easily reach speeds as fast as 100 km/s, given their anatomy. Inspired by the hummingbirds, ScoutARC aimed to accelerate the scouting experience and collect a bulk of information rapidly.

We tutored and mentored 3 FLL teams ITURobee Jr, Smart Light & Electric Heroes for 8 weeks on CAD & programming. Within 3 years, we mentored 15+ teams for FRC. We assisted 45+ teams, including 9 international, by conducting online meetings and visits to our workshop. We're actively mentoring 9583 and 9694.

Language barriers casted shadows over the FRC community, and the fire of inequality persisted, particularly during Kickoff events for Turkish teams. Knowing the urgency of this, hummingbird took flight for a solution. We created ARCINATOR, Türkiye's first FRC chatbot, to bridge linguistic gaps. Proudly published on our website, ARCINATOR serves as an assistance for teams worldwide, offering answers to questions in over 150 languages regarding game manuals, The Blue Alliance team data and many more.

ARCINATOR is more than just a practical tool; it's a creative companion, enriching the FRC experience

with the “Song and Artwork of The Day”. In a month, ARCINATOR has already proven its impact, answering over 12K+ questions across 15+ languages and reaching teams in 17+ countries. This success is not just proof of its utility but also reflects the hummingbird's commitment to extinguishing the flames of inequality by offering accessibility. ARCINATOR embodies the hummingbird spirit, delivering assistance and creative touches that refine the FRC journey for teams around the world. The hummingbird fetches drops of collaboration, aiming to suppress the flames that threaten the global FRC community.

Fire 3: Limited Opportunities Another aspect of the fire was the growing lack of opportunities for disabled children in FIRST. It was the initial spark that started the fire. The urgency of this issue acted as a catalyst, prompting our hummingbird spirit wings to beat. Thus, a distinctive journey unfolded: FRC for Inclusivity.

Hummingbird's first drop of water fell with our mentorship at Türkan Sabancı School for Visually Disabled Children. Together, we learned valuable lessons from the kids themselves—resilience and consistency. During our mentorship Electric Heroes 7828, Türkiye's first blind FLL team, not only won the Rising Star Award but demonstrated that everyone, regardless of ability, could make meaningful contributions to FIRST. Recognizing the importance of consistency in controlling the flames, we are once again mentoring Electric Heroes.

Our commitment to inclusivity is our way of adding drops of water to the fire of limited opportunities, creating a domino effect that provides a more inclusive environment. The journey of FRC for Inclusivity is not just a one-time effort; it's a continuous action to break down barriers in FIRST. With this idea, we started “FRC Terms in Sign Language” and “Barrier-Free Inventions” Instagram series, reaching 750+ people. With the Turkish Sign Language and Translators Association (TIDTED), we gave sign language training to 20 students.

As we traveled further in the forest, we realized we had more fires to extinguish. We established an 8-week coding workshop with the Spinal Cord Paralytics Association of Türkiye (TOFD). We provided coding training to 30 disabled students with a specialized curriculum created by us. We are collaborating with Hayriye Kusun Kindergarten, talking with experts about the needs of kids and take action to design toys tailored to strengthen the senses of special-needs children aged 3 to 6. Our team has designed and manufactured these special toys and delivered them to the children.

Fire 4: Gender Inequality As we put our efforts into extinguishing new fires, it is crucial for us to not forget the remaining ones. Gender inequality is still a persistent challenge in STEAM, with women often encountering barriers to full participation in these fields. As a response, we initiated the “Girls Have a Place” movement. Our drop of water in the flames of gender inequality seeks to challenge societal norms and create an inclusive environment in STEAM.

With this movement, we launched an Instagram series showcasing Turkish women who have made groundbreaking contributions to STEAM, reaching 900+ people and inspiring young girls. We launched FIRST4Her, a program where we mentored 20+ newcomer girls at school to develop their mechatronics and coding skills, as well as introduce them to FRC. With the joy of having team members who joined us from FIRST4Her, we aimed to increase our droplet effect to a broader community by sharing our curriculum with 10 FRC teams.

Fire 5: Environmental Injustice The actual flames kept burning in the wild forests, and the amount of waste we produced made us wonder. Each drop the hummingbird carried encouraged us to make small yet consistent steps in making our lives more sustainable. This way, EcoARC was born.

Our journey began with the first drop of recycling: reusing plastic bottles. We collected used plastic bottles from our school and cut them in half to store the small pieces we didn't want to lose or mix. Our following drop was the dragon made out of waste. Most of the unrecyclable pieces that came out of our robot wouldn't be used again, however, we didn't want to throw them out. We made a dragon out of this waste to efficiently reuse these materials and hang it to the entrance of our working space. We turned it into an art piece to inspire more people and teams to reuse their waste and turn it into tools for creativity. We were moved by how much we could accomplish through upcycling, so we started the series "Upcycle with ARC" and published it on YouTube reaching 500+ people. Through these creations, we're integrating art into areas of STEM. Even while writing this essay, the word STEAM is autocorrected to STEM. This small, but widespread correction is reflecting our tendencies to overlook art next to other disciplines.

We wanted to reach not only our community but also outside. We had a great idea: "fARC yarat". Our podcast series called people into action to create a difference—as the name suggests, and reached 18K+ people. We aimed to reach people around our country to inspire them to live more sustainably, provide them with knowledge about the state of our world, and call them into action. We tutored 150 students on ecological awareness with STEAM4All Ecology'22.

Extinguishing Fires: Our Ongoing Mission for Sustainable Impact As 28 hummingbirds, our mission to extinguish long-lasting fires still continues, and more importantly, we have the duty to prevent new flares before they can turn into flames. While continuing this goal that we've set for ourselves, our ambition doesn't decrease, yet grows gradually with every drop of water that we carry. We are and will continue to inspire others to carry that one drop of water and "do the best they can," because while a single drop may not stop the fire, the combined strength of 28 and more drops holds the potential to make a long-lasting impact, even leading to the growth of new forests.;

