

FIRST Impact Award - Team 2096

2023 - Team 2096
Team Number
2096
Team Nickname
RoboActive
Team Location
Dimona, D - Israel
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.
FIRST has impacted us to pursue STEM - 100% of our members major in these fields in high school, and 13% of our alumni serve in technological units - 3 times larger than the average in the periphery. We create opportunities and develop diverse skills which opens doors to careers, internships & scholarships- 46% of our alumni received honorary certificates in the IDF; At only 21 yrs old, one alum started a 12M+ dollar startup; 52% of our alumni stay involved in FIRST by volunteering or mentoring.
Describe your community along with how your team addresses its unique opportunities and circumstances.
Our team is based in Dimona, a small, diverse, peripheral city in southern Israel, ranked 4\10 on the socioeconomic index. Although starting with insufficient STEM education & recognition, we managed to create a vast STEM & FIRST community. With 200+ teams, families, school & local seniors involved, we are shaping the future- turning the desert into an oasis. Following our efforts, we became strategic partners of a new national robotics research center that is being built these days in Dimona.
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?
Since 2017 we run Community FIRST, an international volunteering day, supported by FIRST HQ. 400 teams from 30 countries have participated. We raise awareness of FIRST in outreach, hosting, visits, and online engagement in our social media & website (2M). In the PFP project our parents encourage other parents to be actively involved in FIRST. We promote FIRST through active citizenship legislation & reforms. We will soon publish a STEM online series for children- providing high quality content.
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.
Sharing knowledge & resources is part of our mission to inspire. We lecture at national conferences like Refresh & MAC (which we co-run), and we serve as an open house for teams, including a 2-days workshop for teams 9303 & 8175 last year. Each team member mentors one or more FIRST teams,

adding to 96 teams in total who are cultivated daily. Beyond that, we are empowering teachers and university students for 8 years to become mentors themselves, creating a ripple effect in our community.

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

Using a sustainable financial model, we've created a national sensation by starting 241 active teams in Dimona, engaging 25% of our local kids in FIRST. Over the past 3 years only, we started 1 FRC (8335 from Argentina), 4 FLL.C & 120 FLL.E teams. Moreover, we assisted in starting 8 FLL.C teams & 2 FTC teams in Hatzor (19476 & 20426). These days we're assisting a team from Haiti to start teams in their area. With 5k+ mentoring hours in the past 3 years, we're fueling the sensation with energy.

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?

Following our vision to expose people to STEM & FIRST, we initiated dozens of unique events with thousands of participants for which the demand and attendance have risen over the years. They became traditions and have changed the consumer culture of science & technology in Dimona. We also initiated long-term curriculums like Engineering Challenges & House of Engineers, which will be available soon for teams to implement using our open-sourced Franchise Project, expanding their crowd and impact.

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

In the past 3 years we developed strategic alliances with 64 global FIRST teams & 28 organizations among all economic sectors including: WIX, Salesforce, World ORT, Dimona's municipality & IDF. NICE provided us 112 PCs which we repaired & donated as part of our BeNICE project. In collaboration with HOODIES, we developed and donated 1500+ transparent masks to help the hearing impaired during COVID. One sponsor collaborated with us to bring FIRST to his peripheral birth town & start 10 new teams.

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

Everyone deserves access to STEAM & FIRST. We started 11 teams for the ultra orthodox sector, the Hebrew Israelites & welfare kids. this year, we started an FLL.E team at the Families' House for kids with special needs. We break glass ceilings in the field of gender through projects like Active Girls & Spark Conference. 48% of our team and 42% of our leading crew are women. Our members come from diverse social backgrounds, so we ensure to eliminate differences like making traveling affordable.

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

We document all our data in our Drive, website & 500+ pages book. We set a standard to our future generations by exposing them to our outreach through cooperation & mentoring. 100% of the members take part in our initiatives. Each of them is run by one member and has a clear organizational structure (Active model) which includes goals, budget, roles, partners & feedback. We work all year and always think of ways to improve- within our meetings and in shared ones with our parents & sponsors.

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

Our sponsors are a key component of our success. We recruit new sponsors through emails, referrals & alumni relations. From the recruitment, we strive to create a personal relationship based on gratitude & active partnership- some even take part in our outreach. We constantly share our activities & achievements with them to show what fruits their investment is bearing. To celebrate our strong bond, we hold an annual sponsor's tribute gala and we proudly display them on our shirts, pit & robot.

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

Due to the global economic crisis that Covid & the Russia-Ukraine war had caused, a main sponsor had to stop his support. We changed our economic model and strengthened our stability by developing an independent financial mechanism. As a result, we came up with a new interactive Science Show for kids, which we performed at schools. In addition, we expanded the duration & frequency of STEM Friday and RoboCamp, thus increasing our income. We also started to sell 3D printed and laser machine parts.

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

We strive to create a fast-growing yet sustainable *FIRST* community, provide essential hands-on education & experiences, eliminate barriers and to create an equal STEM environment for every person we reach. To fulfill it, we maintain 74 projects for 8 yrs in 3 circles: municipal, national & international (35 new projects since 2020), engaging multiple populations & sectors. Many of our projects answer needs in our society, making us an important integral part in *FIRST* community and beyond.

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.

Beyond our endless STEM-related endeavors, our team is on a mission to create a better world through humanitarian projects that inspire hope and uplift communities. After the recent devastating earthquake in Turkiye, we donated 3000 clothing items to assist whoever needs this support. In addition, we donated books in Arabic to a refugee-camp in Greece and we created and donated food baskets to families in need during the COVID crisis, providing a glimmer of positivity during challenging times.

Essay

We are RoboActive #2096 from Dimona, Israel. Our team comprises 40 students from 10th - 12th grades, 48% girls. We have students from diverse ethnicities & social backgrounds, with 44 alumni & 9

mentors; 8 of whom are our alumni.

Our journey started back in 2015 with 20 students and 1 mentor. Since then, it hasn't been a predictable and consistent straight line; but a winding journey with successes, disappointments, ups, & downs. This journey was built from thousands of hours of hard work, most of which are hidden from the eye. It is a journey in which we not only build robots but also dream, initiate, and build the future with our own hands.

We began by making an impact on our local community. We revolutionized Dimona by making FIRST a way of life. We've started 241 active teams (as of 2023) throughout the educational sequence, with 1 out of 4 kids involved in FIRST. Last year, we started FLL.E teams in all of the preschools in Dimona, and we produced a formal FLL.E mentoring course for preschool teachers approved by the Ministry of Education. To date, 21 teachers have completed the course and are fully guided and supported by us. Since 2020, we nearly doubled Dimona's teams from 125 to 241. This year alone, we started 24 teams, including 4 FLL.C teams (3172, 3340, 3170, 3173) and 20 FLL.E teams.

To create a sustainable FIRST local community, we developed a unique model with several principles, such as: - The Continuity Principle, where local human resources are key players. Students evolve from FLL.E up to FRC, along with personal development and cultivation. - The "Food Chain" Strategy, in which veteran students mentor the younger ones, feeding and developing each other. - Using a special scholarship that we initiated with the "Perah" organization, we train university students to serve as mentors to our local teams. Since 2016, we've trained 127 students. - Secure Funding. Together with Dimona's mayor and World ORT, we've created an economic model that enables sustainable preservation and operation of our broad local community, constantly raising funds & equipment.

By integrating GP values in Dimona, we've created a learning community that includes teachers, students & volunteers, where everyone shares knowledge & resources. We serve as an open house and act as the logistical & educational robotics center on the municipal level, assisting with registration, distribution of kits, and training. We pool resources, host local events, organize shared transportation to competitions outside the city, provide expert lectures, and more.

Over the years, our city has become a hub of knowledge regarding the implementation of FIRST programs in the formal & informal education systems. We host educational delegations, managers, CEOs & teachers and teach them about our model, which has already been implemented in Hazor H'aglilit & Kiryat Yam.

2023 marked our 8th consecutive year of STEM events for our community. We initiate and produce dozens of interactive events for kids & families each year, which provide engaging hands-on experiences to learners of all ages and backgrounds. Including; - Science Night (since 2016), which has introduced science to 6.8K+ people; - Virtual Olympics (since 2016), in which students conduct scientific experiments and solve STEAM riddles we compose (1.3K+ pupils); - Aerospace Day (since 2017) in collaboration with the IAF, with a total of 7.4K+ participants and 120 experts lectures, 14% of whom are combat pilots & navigators. - Hour of Code events (since 2018), with 986 participants; - Hackathons (since 2015), with 247 participants, including the 1st Dimona Hackathon, The Makeathon collaborated with teams 3211 & 2230, and the Wearable-Technology Hackathon in memory of Nehama Kening.

We also initiated several annual programs that have exposed 1,071 kids to STEM. Those include 4

unique summer camps, created from scratch, to answer the lack of STEM camps in Dimona: RoboCamp (since 2017), Future Engineers (in 2018), Code Girl (since 2019), and STEAM Friday (since 2019). In 2022, we wrote, directed & produced an interactive theatrical science show seasoned with humor, combining scientific experiments that arouse the audience's curiosity. During Hanukkah, we performed 9 times across 6 elementary schools and at the children's department of Hadassah hospital. 1.2K+ students watched the show.

One of our main goals is to give back to FIRST, by spreading its message, making it louder & expanding its community. Beyond the teams we've started in Israel, we brought FRC to a new country by starting team 8335 in Argentina in 2020. In addition, we assisted in starting the 1st FTC team in Cyprus (13906, in 2018) and an FRC team in Brazil (6404, in 2017). Moreover, we've hosted and produced FIRST events & volunteered in competitions. In 2021, we hosted the 1st FRC off-season in southern Israel, a meaningful, proud event for the local teams. This year, we mentor 96 teams, including 14 FLL.C, 81 FLL.E, & 1 FTC teams. Since 2020, we've volunteered 2.6K+ hours at events and mentored 5.3K+ hours. We serve as a remote and physical open house for teams, hosting and lecturing to 1K+ FIRST team members. We share our resources and expertise with others and have held, run, and lectured in 15 conferences, such as MAC & START, with 2.5K+ participants. Since 2017, we run Community FIRST, an international volunteering day in memory of Woodie Flowers that is supported by FIRST HQ, which aspires to get teams to spread FIRST in their community. Furthermore, we collaborate with various teams through different projects like EcoFIRST, WOW, Compass Alliance, FIRSTLikeAGirl, the Turkiye off-season, and newly - a student exchange with FRC 7415 from LA.

The FIRST community took a hit when the pandemic rocked the world in 2020. We had to close the workshop we love so much and move to a remote work model. Despite the difficulties, we decided to leap into action: we began with 3D printing and distributing 428 face shields to essential workers. Then, we developed a fully transparent face mask called Read My Lips, which allows conversations with the hearing-impaired using lip-reading without fog accumulation. We donated 1.5K+ masks all over the country. We received extensive exposure in Israeli & international media channels, highlighting our ability as teenagers to make a change.

Following the demand to move towards distance learning, and knowing that some children don't have a computer, led us to collect, repair, and distribute computers to 80 families. The effect of the donation encouraged us to partner with NICE and make it an official project - BeNICE. Since 2020, we've donated 130 computers & tablets to unprivileged families and Holocaust survivors. In addition, we created a STEAM activities kit for preschoolers alongside a series of science experiments videos. We distributed 168 kits to 4 preschools, met with the kids on Zoom, and performed the kit's experiments from home! We also hosted a Drive-in for our school's teachers' families in which they solved an escape box we developed. Lastly, we adopted 25 elderly people as part of The Grandparents Project, where we call, provide food, and make them happy. Even though COVID is technically over, we continue with this project to this day, along with tech-basics workshops.

Coming from the periphery obligates us to form a culture of equity, diversity, and inclusion with equal opportunities. "STEM & FIRST for all", is not just a slogan but a fundamental principle for us. In doing so, we actively strive to overcome barriers by managing & allocating resources, programs, and educational opportunities.

Not correlating with the global change, a significant gender gap remains within STEM careers which we

aspire to change using our girls-targeted programs. Active Girls (since 2016), a program with an annual cost of 5K\$, encourages 143 girls to major in STEM fields in high school through field tours, inspirational lectures, & 1:1 sessions with female role models. Over the years, 70% of the participants chose to study STEM topics. From 2022, the program's graduates guide the new students. This is the 2nd year we run the Spark Conference hosted by NICE & Salesforce, exposing 140 girls from Israeli FIRST teams to inspiring women from different STEM professions and to the high-tech world.

House of Engineers, established in 2017, is a STEM empowerment program for kids in welfare clubs. Starting with 1 club, we expanded our activity to another club, impacting a total of 75 kids. The success enabled us to start 2 FLL.E teams there, which we mentor! In 2022, we collaborated with FRC 1954 and created the STEM SuperHeroes kit. We distributed 50 kits to kids at Soroka hospital. In 2023, together with FRC 3065, we translated the kit into Arabic and distributed 100 more to kids at Hadassah hospital. This year, we started volunteering at a community center for families of children with special needs aged 5-25. We began with planning & funding a science fair for the kids and their families. Then, we raised resources for the center's development and started an FLL.E team that we mentor. Moreover, team members, with their parents, conduct science classes for the children every 2 weeks. Setting a positive example, our team captain received a national award for being a leading, inspiring girl. She donated her prize to the kids of the center to buy an FLL.E kit.

If our activity is a book, this essay is only the table of contents, showcasing what we've accomplished and highlighting the past 3 years. Within this book, each of our many projects serves as the chapter header for a whole story of hours of hard work, endless logistics, brainstorming, executing, receiving feedback, improving, and repeating it all again year after year, while writing new stories. It's an everlasting book about our special journey. A book, that will always have more to come. ;

