

Chairman's Award - Team 2096

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2021 - Team 2096

Team Number

2096

Team Nickname

RoboActive

Team Location

Dimona, HaDarom - Israel

Describe the impact of the *FIRST* 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 *FIRST* programs as mentors/sponsors.

All students on our team develop diverse skills like: leadership, creativity, teamwork & business skills which help prepare them for their careers. The team's alumni continue to be involved in FIRST by volunteering in events or mentoring other teams. Our alumni were accepted to elite IDF positions & academic STEM programs with scholarships and some have received prestigious national awards. One of them initiated a million dollars start-up which encourages people to contribute to their community.

Describe your community along with how your team addresses its unique opportunities and circumstances.

Our city, Dimona, is a small peripheral city in southern Israel, ranked 4/10 in the socioeconomic index. Our team has outstanding collaboration with Dimona's municipality, its mayor, and its city's education system- kindergartens to high schools and non-formal education programs. Together we've made Dimona a well-known success story: it has the highest number of FIRST teams in Israel in relation to size of the population - "The Israeli capital of robotics" (former Israeli minister of education).

Describe the team's methods, with emphasis on the past 3 years, for spreading the FIRST message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?

We motivate teams all over the world to spread STEM & FIRST in their communities on our 'CF day'. We've initiated a program in which our parents visit other teams' parents to encourage them to become actively involved in FIRST. We've raised the awareness of FIRST by lecturing to 82K+ people, organized conferences & reached 2M on social media. We measure our results in qualitative & quantitative ways; we document participants' numbers in excel tables, ask feedback, use polls & Gantt charts.

Please provide specific examples of how your team members act as role models within the FIRST community with emphasis on the past 3 years.

Sharing knowledge & resources is part of our mission to inspire. We inspired the kindergartens of our Jr. FLL teams to become the 1st technological kindergartens in Dimona. We've lectured about our vision, values & the Active work model in national conferences. We mentor FRC rookie team & 58 other FIRST teams. We motivate others to host, run & volunteer at FIRST events. Our alumni, who serve as role models, initiated the "Mentors For Life" project in 2019, which prepares us for real life.

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

We're able to start and preserve FIRST teams thanks to a financial municipal model we established. We share knowledge & equipment to help teams as part of our belief in the GP value. In order to create a sustainable mentoring model, we adopted the Food Chain model - veteran students mentor younger ones etc. We've mentored 1 FRC, 2 FTC, 18 FLL & 38 Jr.FLL teams, investing 11K hours. We initiated Robocamp that gives students the opportunity to gain technical skills before participating in FLL.

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're changing the face of Dimona by initiating activities as Science Night, Aerospace Day, Virtual Olympics etc. that encourage thousands of students to take part in scientific & challenging activities. Thanks to the feedback we've got on our Community First day we learned that several teams were inspired to start spreading STEM in their community. We've created "Active Girls" - a girls empowering program that resulted in 70% of the participants choosing to study STEM subjects in high school.

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've collaborated with 32 organizations from all the economic sectors & global FIRST teams. During the Covid-19 pandemic we developed a unique transparent mask- RML, which with the help of our sponsors became a product. We collaborate with the IAF by producing our Aerospace day. We've raised 173K\$ to fund teams in Dimona in collaboration with Dimona's municipality & World ORT. One of our sponsors works with us to bring FIRST to the peripheral city where he was raised.

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

In our team there's a variety of ages, secular & religious & 45% girls. We spread FIRST & STEM awareness everywhere. We started 11 FIRST teams in the ultra-orthodox sector, the Hebrew Israelites, in a school for kids with special needs & welfare kids. We developed a program for students in a child care facility & ran a STEM camp for the Bedouin sector. We established a suitable playground for kids with special needs. We collect & repair used computers and grant them to disadvantaged students.

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

Our vision is our compass, following it to keep our goals in mind, striving for an effective teamwork. In our team there's no community crew, every member takes part in our initiatives & every project has it's manager, making sure each one will get its full attention. We've created long-term projects that became a tradition by having a clear organizational culture - Each project production includes several stages: planning, execution, monitoring, completion, feedback & preserve of knowledge.

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

We see our partners as a family and involve them in every aspect of our team. We recruit them by sending Emails & using a "refer-A-friend" strategy. We host them in our lab & competitions, hold annual tribute events for them and showcase them on our team's robot, pit, shirts etc. They volunteer in our & FIRST's events. They serve as role models in our MFL project and inspire us. Our sponsors know they are investing in a sustainable team. We managed to retain 6 of our main sponsors all 6 years.

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

Our team believes in continuous improvement, renewal & preservation of extensive knowledge. We've found that our team needs to improve our software & programming skills-our software crew is very small, limited & not professional enough. To improve ourselves we trained more team members & reached out to team 5990 for advanced training. Furthermore, our team members learn independently from videos & blogs around the web and from our mentors & alumni who are always available to help.

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

Our ambition is to create a sustainable team that is involved and affects the community. We desire to inspire students to be engaged in the world of STEM and use it to make the world a better place. To fulfill it, we maintain 55 projects in 3 circles: regional, national & international. We make STEM accessible to several challenged communities, we encourage students to take part in STEM activities & we inspire girls to break glass ceilings. Moreover, we've started teams among all the 3 circles.

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.

"If one person can change the world, what can an entire team do?" We believe that managing our whole team as one powerful, passionate and enthusiastic community allows us to efficiently conquer new heights. This unique organizational structure enables every team member to be a proud ambassador of STEAM & FIRST in the local, national or international circles, with a spark in the eyes. Each and every sponsor, alumni, parent, teacher etc. holds a personal stake in the success of our team.

Essay

Today, in the age of 'Instant', more and more children dream of becoming famous. FIRST inspires us to create a new way of thinking - becoming famous by changing the world with STEAM. FIRST allows us to dream big without being afraid of challenges, failures & "impossible missions"□ it motivates us to build a better society and solve the world's challenges. We strive to spread this way of thinking and inspire others to live a life of meaning and fulfillment.

We are RoboActive #2096 from Dimona, Israel. Our family includes 39 students, 45% of whom are girls. On our team we have secular & religious students from diverse social backgrounds, with 3 mentors & 39 alumni - 9 of whom are youth mentors. Every student on our team takes an active part in our community involvement, all year long.

How It All Began

We established our team in 2015 as a "New Veteran" team. Our 1st year in FRC was a struggle - we had no workspace, mentors or resources. We started raising money by washing cars, sales stands, bottle deposits etc. Afterwards, we started looking for sponsors & mentors, who today are part of our family. We are proud to say that the small, empty workshop became our innovative Laboratory of Robotics where we've hosted hundreds of Government Ministers, CEO's, principals, & delegations & teams. Our mission to expose every person we can reach to the power and impact of STEAM & FIRST seemed impossible. Yet, we went out on a journey into the unknown and began to build the future in our hands, making the impossible possible.

Think Global, Start Local

We've set ourselves a goal to change the consumer culture of STEAM in Dimona and to make people fall in love with STEM as we did. We began as the only FLL team in Dimona, but over the years, in full cooperation with our mayor & Kadima Mada, using a sustainable financial model, we have started 129 Dimona-based teams in 100% of the schools, all from FIRST programs, 1/7 of Dimona's students participate in a FIRST program, giving us the highest number of FIRST teams in Israel relative to the population size. ? In order to ensure the sustainability of these programs, since 2016 we have trained 34 teachers to mentor the FLL & FLL Explore teams & since 2017 98 university students. Additionally, 100% of our students mentor teams across Dimona, some of them teach students from other teams how to be mentors as well. Next year, all of Dimona's preschools will be part of FLL Explore - from 5 participating preschools in our first year to 24 (668 kids!). We've initiated events with thousands of participants over the years that have become traditions. These include Science Night (since 2016), in which 6K+ people became scientists for one night; a local Hour of Code events with 493 kids (since 2018); and several programs which have impacted 353 kids from different social backgrounds over summer break: RoboCamp (since 2017), Future's Engineers (since 2018), Code Girl (since 2019) & STEAM Friday (since 2019). In 2016 we held for the 1st time the Virtual Olympics, in which more than 1k students conducted scientific experiments and solved STEAM riddles we had written, till today. In 2017 we started collaborating with the IAF for the Aerospace day. In which over the years 5K+ students have participated. For these events we recruited 108 lecturers, of which 15% are pilots & navigators. This year we conducted this day virtually & distributed 800 escape boxes, which kids solved with their families. We are proud to say that we have led to an explosive STEM & FIRST revolution.

Global Changemakers

We truly believe that STEAM & FIRST have the power to bridge cultures, populations & communities, so with our supportive community, we set out for the big world. We initiated Community FIRST - an international volunteering day in which all the teams set the robot aside and put the community first. In the last 4 years, over 57k people, 345 teams & 29 countries have participated□ including Libya & Turkey, with whom Israel doesn't have diplomatic relations. This collaboration inspires us that a more connected and hopeful future is possible, and that we can be the ones to bring it about. The results of this day are astounding: teams that have never volunteered before decided to be involved in their communities. Even Woodie Flowers, Don Bossi & Frank Merrick collaborated with us. ? In addition, we helped start the 1st FTC team in Cyprus, an FRC team in Brazil, and last year, we brought FRC to a new country by starting the 1st FRC team in Argentina.

Transforming the Lives of Underprivileged Communities

Since 2016, we've been volunteering in a school for kids with special needs. We were exposed to the fact that 10/55 kids use a wheelchair and can't play with their friends in the schools' playground as it's not adjusted to their needs. In 2017 we designed an adjustable park, but unfortunately, when we tried to build it we encountered many bureaucratic difficulties. However, we couldn't give up the dream. We raised over 200K NIS by crowdfunding and collaboration with the municipality of Dimona to purchase an adjustable park. In 2018 the park was finished, and the kids enjoy it every day. In addition, we have started 11 FIRST teams in underprivileged communities. ? We developed "House of Engineers", a program for students in a local child-care facility that is still running since 2017. In 2019 we ran a STEM camp for the Bedouin sector. As a result, we are breaking down socioeconomic barriers and providing hundreds of students with access to STEAM & FIRST.

Giving Back to FIRST

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We have served as an open house for teams, hosting & lecturing to 1K+ FIRST team members. We share our resources & expertise with other teams. We held 11 conferences such as MAC & START with 2K participants. In cooperation with our parents we created the "Parents for Parents" project in which our parents encourage other FIRST parents to be actively involved in their child's team. For the past 3 years we have been official partners of FIRST Israel in the FTC & FLL Explore programs. We hosted & ran 30 FIRST events, started 130 FIRST teams & assisted with starting 4 teams in Israel & over the world, mentored 59 teams with 11K+ hours of mentoring & volunteered 7K+ hours at 89 FIRST events. Last year we got the chance to join the "Compass Alliance" and initiated the Makeathon with teams 2230 & 3211-a product-developing hackathon for FRC & FTC teams. We exposed FIRST to over 2M people on social media and 82K+ people who came to visit our workshop and participated in our events. We initiated a bill submission that will grant tax-refunds for Israeli FIRST teams who must pay an additional 42% of the purchasing sum of equipment for taxes. We presented the bill to Israeli parliament members at the Knesset and on their multiple visits to our workshop. Despite the complicated political situation, we keep promoting the bill.

We Can Do It!

Struck by the low girls' STEM engagement at our school, we initiated the "Active Girls" program for which we raise 25K NIS every year since 2016 in addition to dozens of inspiring female lecturers who serve as role models. 70% of the girls who participated in the program chose to continue their STEM studies in high school. We collaborated with several organizations to run additional projects advancing women in STEM: "Code Girl" with Microsoft, "Mind The Gap" with Google & "WOW" with FRC 2485. We started & mentored a girls' FIRST team in the Ultra-Orthodox sector. We raised awareness and inspired many female students to join - now 45% of our team members. We mentor girls-only FLL teams to create a future RoboActive generation with 50% girls.

The COVID-19 Pandemic Didn't Stop Us!

Despite the uncertainty and the big challenges that came with COVID, we decided to push forward. At the beginning of the pandemic, we created 400+ face masks with our 3D printers which we then donated to essential workers. Last year, we initiated the Be NICE project, donating 15 computers through NICE, one of our sponsors. We expanded this project during COVID times, donating 44 computers to families in need for online school - 20 computers through NICE and 24 that we collected and repaired ourselves. This year, we invited our teachers' families to an outdoor drive-in experience to solve an Escape Box that we built; we tutored students in many subjects; we took part in projects with teams 6832, 6429, 1954 & NYC FIRST; we held the MAC conference and lectured in the GOAT conference; and locally, we took part in the municipal "Operation Grandparents" and our alumni packed food baskets for families in need.

A project that we are especially proud of is Read My Lips. We developed a unique transparent mask which allows hearing impaired people to read lips & facial expressions without fogging up the mask. It started with a Facebook post on our page, through which Carolina, a PhD student at Ben Gurion University, approached us and asked if we could develop a mask for her deaf parents. We immediately rose to the occasion and after three weeks of zoom conferences, experimenting at home and working hard, we developed a prototype. After 5 months, the idea has become a product. We have already donated 1K+ to hearing-impaired people. Several more projects we've done include: leading & developing an interactive activity using 163 STEAM At Home kits which we distributed for kindergarten kids & parents; an extracurricular Engineering Challenges class for kids with learning difficulties & "Madasa" - STEAM activities for hospitalized children.

COVID-19 has deeply affected our life, but, thinking positively, it has inspired us to further create, innovate, and develop technological solutions to new and unique problems - a mindset we will take into the future. We are always active and will never stop. We will continue to break glass ceilings and bring down barriers. We are grateful for the privilege to take part in this world changing journey.