

# OUTREACH

***OnyxTronix #2231***







**STEM is more than robotics for us; it is our way for creating opportunity.**

**- OnyxTronix #2231**

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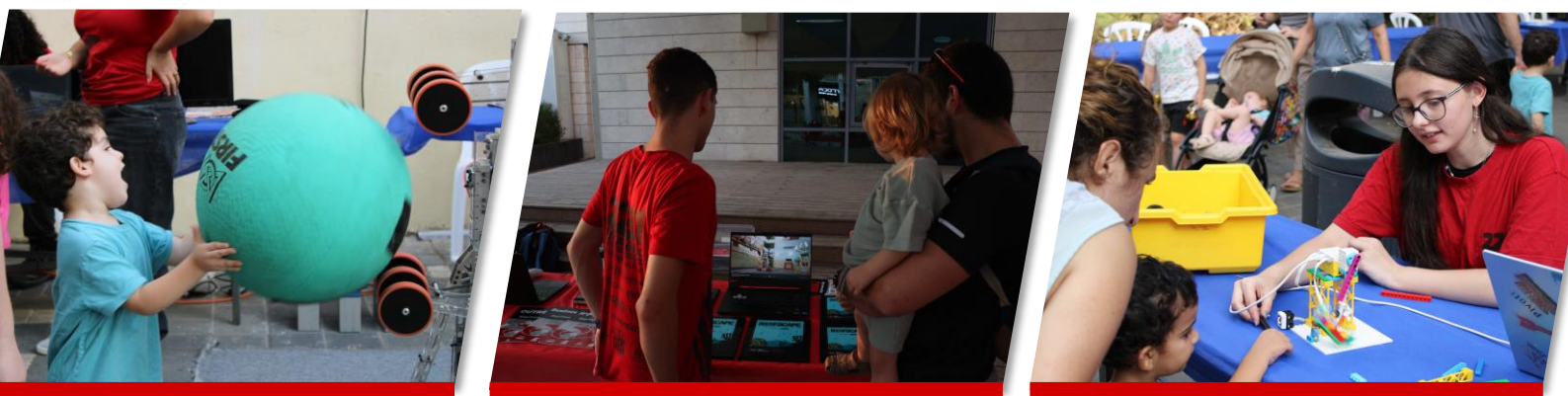
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# STEM Activities

To promote STEM in our community, we hold stands where we operate a variety of science activities, with the aim of creating a positive **STEM** related experience for young children in the community.



We hold an event with the FLL team Giraffes #3388 called "**Happening STEM**", which is the highlight of our summer activities. During the event, we showcased our robot and worked with FLL Explore models, giving **over 400 children** hands-on exposure to STEAM fields.



# IMPACTING OUR COMMUNITY



Every summer, we host OUTronix events filled with exciting, hands-on STEM experiences designed to spark curiosity, creativity and innovation in the younger generation.

**Participation of over 1,000 kids.**

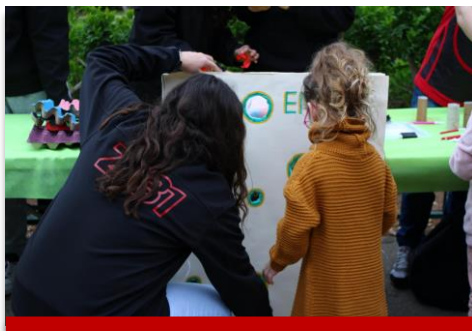
An annual local event for Tu B'Shvat. At this event, we aim to inspire and encourage recycling and environmental awareness through the use of recycled materials for the activities. 10 years running.

**Participation of about 1000 people.**



During the Sukkot holiday, we take part in the annual Museot Shoham music festival, attended by **around 10,000 people a day** from Shoham and the surrounding cities. We operated a STEM booth with creative activities for children of all ages.

**With these events, we shape the future, one young innovator at a time!**





# Activities for ALL Ages



We launched WOW Kids (Wisdom of Women), teaching elementary students about impactful women in STEM through fun, educational activities.

**Participation of 650 students.**

We held the event Onyx Hatch, working with **about 300 children** across 8 kindergartens. The event included stations with engineering challenges, scientific experiments, and hands-on electrical projects. Introducing them to STEM for the first time.



The event was held for two consecutive years, assisting seniors in our community with personal technology struggles, **improving their daily lives.**



# ***FIRST in Shoham***

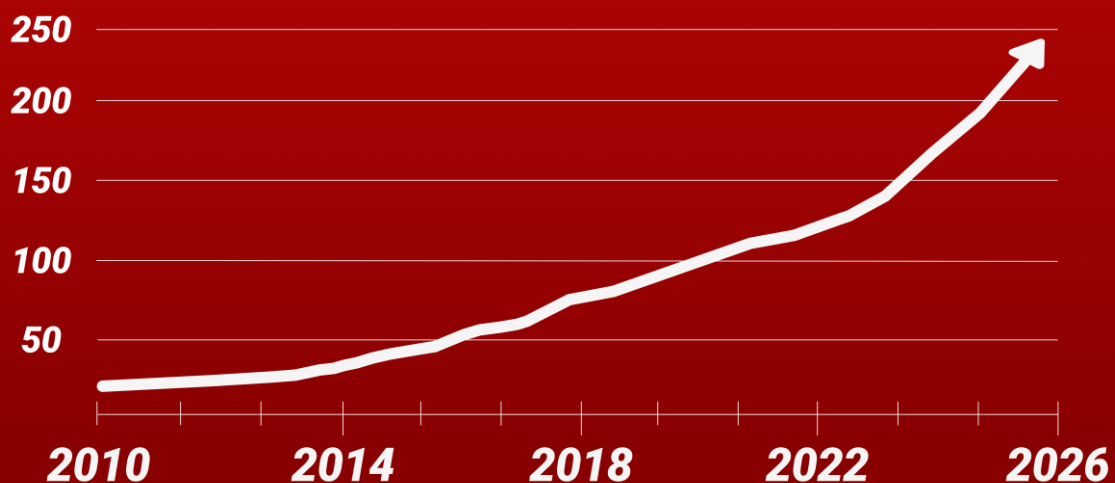
***Building and Leading a Growing Community***

What began as a single *FIRST* team in the community 20 years ago has since expanded to **19 teams** across a wide range of ages.

Our vision for *FIRST* Shoham is to be a community that fosters collaborations between all its members and grows on the strength of every individual.

## **The Growth of Students in the *FIRST* Shoham Community**

***FIRST students In Shoham***





# Community Teams

For years, we've seen the positive impact of *FIRST* in Shoham, but our work isn't over. We remain committed to supporting our teams and ensuring their continued growth.

**FTC - Shalhevet #17131** .....

**FLL - Flash #74** .....

**FTC - SuperCow  
#12989 #26233** .....

**FLL - SuperCow #1818** .....

**FLL - Keshet  
#746 #3309** .....

**FLL - Giraffes #3388** .....

**FLL - Shazam #1695** .....

**FLL Explore X3** .....

**FLL - Snitches #2326** .....

**FLL - Fabrics #3607** .....

**FLL - Sputnik #380** .....

**FLL - Nachshon #3889** .....

**FLL - Shachaf  
#1536 #2863** .....



Since 2007, the *FIRST* Shoham community has over 1,150 alumni, and today we mentor 90% of the teams!

# Big Brother Model



## Demo Competition

In preparation for the FLL competition, we held demo competitions in 2023 and 2024 to help teams gain experience. They competed against each other, and we provided a judging simulation as well as constructive feedback.



## Local Kickoff Event

In the past 3 years, together with our local FTC teams, SuperCow #12989 #26233, we held a local kickoff event for the FLL teams. We presented the annual challenge and learned the mission table together.



These events are an integral part of the "Big Brother" model, we believe that the experience and understanding from the events has prepared them effectively. We look forward to continue supporting them in the future and even having them as members of our team in the near future!

# ***Shoham Comes FIRST***

The presence of young *FIRST* teams in nearly every school in our community gives us a significant advantage! Many of our team members arrive with valuable knowledge and experience gained through *FIRST*'s youth programs.



## **Building structures for FLL competitions**

We have been volunteering with the majority of the FLL teams in Shoham, building around 160 trophies and over 150 missions for 8 full FLL fields, two years in a row!



## **Supporting younger *FIRST* teams**

Throughout the seasons, we provided hands-on support to Shoham's *FIRST* teams. We mentored FLL teams #1536 and #2863 with gear ratio workshops and hosted FTC teams #12989 and #26233 in our facility for technical training and drive practice.



# Onyx EXPLORERS



We launched “**Onyx Explorers**”, an annual FLL Explore club designed to introduce young children to *FIRST* programs. We’ve had a total of 12 teams with over 55 kids. Using custom models and booklets developed by our team, the club inspires students to continue on to FLL Challenge and beyond. It’s been exciting to watch the children’s development from one session to the next, and we’re looking forward to the continued growth of the club in the years ahead!



# GearUp

The conference was organized in collaboration with **SteamPunk #1577** and **BumbleB #3339**

We held the GearUp robotics conference in Ra'anana for two consecutive years, to share the knowledge we've accumulated with other teams. This year, the conference saw **over 130 attendees** from more than **16 different teams** across the country. The event featured nine lectures on topics including mechanics, control, and electronics, all delivered by team members.

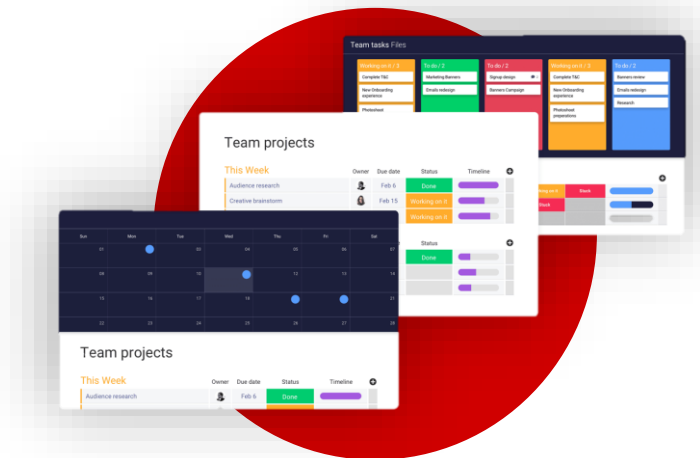


# Collaboration with



After seeing that monday.com is an excellent platform for managing tasks and work, we recruited them as sponsors for all the FRC, FTC and FLL teams around the world.

In addition, we created suitable sources for learning about the platform and improving workflow efficiency.



Today, we share the platform with **over 1000 teams** around the world, numbering **over 41,883 students**, who use monday.com to streamline their work.





# Helping Other *FIRST* Teams

As a team in the *FIRST* organization, we act with gracious professionalism, it is important for us to do everything we can to help other *FIRST* teams.



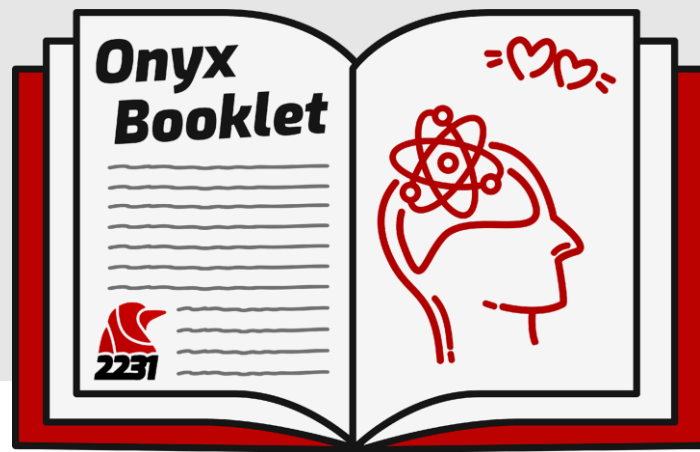
We hosted teams (#2096, #5990, #4590, #7845, #2630, #4586, #2230, #1577, #6738, #9739, FTC #28428) for tours, manufacturing support, and tech/driver training. We also CNC/lathe-machined parts for 10+ nationwide teams, including #9739, #5990, and #6738.



We actively support rookie teams by guiding them through their *FIRST* steps. We assisted #10935 and #11070, launched #11480, and assisted with recruitment for team #11390 in the Gaza border region.



We support the *FIRST* community by volunteering in recent FTC and FLL competitions. Through these efforts, we help create better experiences for young participants and strengthen the entire *FIRST* community.



To help families stay occupied at home during challenging times, we created the “Onyx Booklet,” a collection of at-home STEM activities, step-by-step tutorials, fun puzzles, quizzes, and hands-on experiments. We designed it to give young children a way to learn, explore, and stay entertained while their families were isolated with limited activities. The booklet was first downloaded **over 4,500 times**, and after releasing an updated version, it reached an additional **2,600 families** nationwide.

**During difficult times, we used STEM to bring hope, stability, and opportunity to refugee children.**



# ONYX & FRIENDS

We ran the event “**ONYX & FRIENDS**” multiple times in partnership with Beit Issie Shapiro, a school for children with severe cognitive and motor disabilities. These events were meaningful highlights of our year, giving us the chance to spark an interest in STEM within a community that rarely has access to these experiences.



During the visits, we led hands-on STEM activities with all **40 students**, most of whom had never experienced STEM before. We were honored to provide them with this opportunity, and seeing their smiles showed us just how meaningful our impact can be.

By adapting **STEM** for children with motor and cognitive disabilities, we ensure innovation is truly inclusive.



This year, we developed **"OnyxEyes"**, a free and open-source eye-tracking app that enables people with physical limitations to use SolidWorks with a webcam instead of a mouse. Using computer vision and AI, the app translates eye and pupil movements into real-time control, allowing users to model in 3D without physical input devices. By leveraging knowledge gained from robotics, we created a solution that makes advanced engineering software accessible to people who would otherwise be excluded.



**Our eye-controlled modeling program opens the world of STEM to people with physical disabilities, turning barriers into breakthroughs.**





# 20 YEARS Of OnyxTronix

