

SUSTAINABILITY

OnyxTronix #2231



Our Vision

"We believe in the right and duty of everyone to develop themselves in a safe and accepting environment that encourages learning, initiative thinking, community involvement, and self-fulfilment. All this is done by planning, developing and creating a strategic robot while building a heritage based on introducing science and technology in society".

Table of Contents

History	1
Team Structure	2
Goals and Strategic Focus Areas	3
Recruitment	4
Our Big Brother Model	5
Annual Work Plan	6
Training	7
Matrix Method	8
Gantt	9
Dealing with Unforeseen Challenges	10
Events & Projects	11
Sponsors	12
Environmental Sustainability	13
Plans for the Future	14
Fueling Our Vision	15
The People Who Shape Our Future	16
S.W.O.T Analysis	17
Business Canvas	19
Budget	20
Executive Edge	23

History

OnyxTronix #2231 was founded in 2006, and since 2007 we have participated annually in the FRC program. Over the years, our focus was on improving mechanics and control capabilities, and in 2017 we represented Israel for the first time in the *FIRST* Championship in Houston, Texas. Qualifying to the world championship for the first time led us to rethink our work processes and understand the true potential of our team.

Thanks to this new found ambition, we were able to significantly improve the efficiency of our work. In 2018, we already showed significant improvement, winning the Creativity Award - Turing Division, and just one year later, we made it to the Championship in Detroit, Michigan and were selected as a first pick.

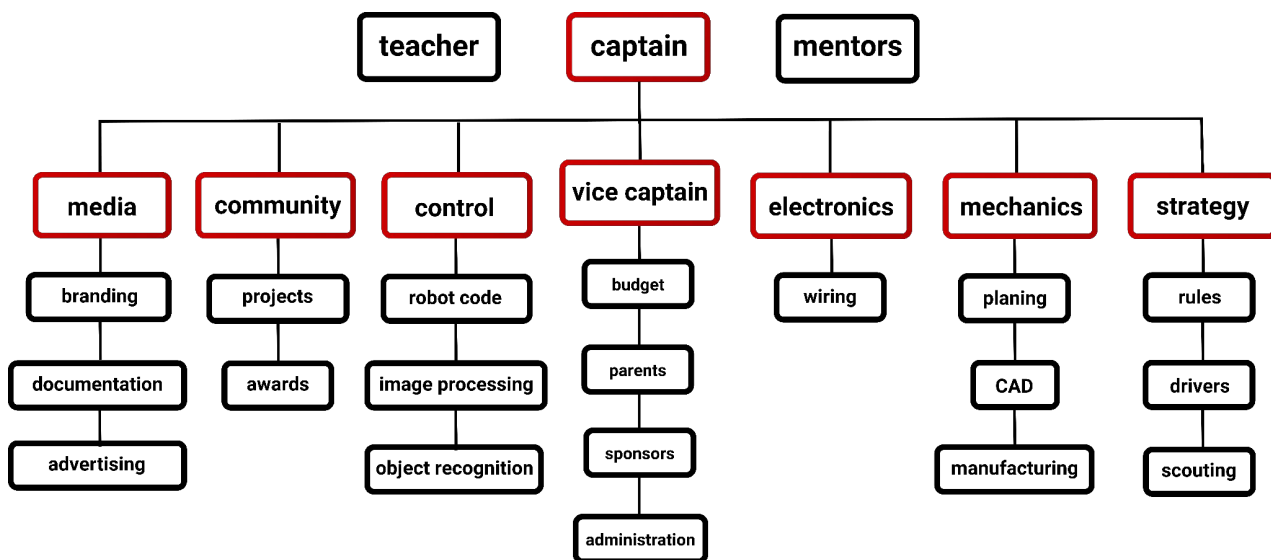
Since the COVID-19 pandemic, we qualified for the World Championship in Houston twice in 2024 and 2025, where we achieved a significant milestone - reaching the finals of the Archimedes Division for the first time.



Our team and robot back in 2006

Team Structure

The entire team is under the management of the team captain, who is chosen by the team members. The captain is responsible for the team's day-to-day activities and the integration of the sub-teams, while managing the gantt and anticipating potential risks. Until 2022, logistical tasks were spread amongst team members without proper structure, which led to a lack of coordination. To solve the problem, we created a new position: vice-captain. The vice-captain is chosen by the captain, they deal with logistics, organization, time management and assisting the captain as well as other students with the conduct.

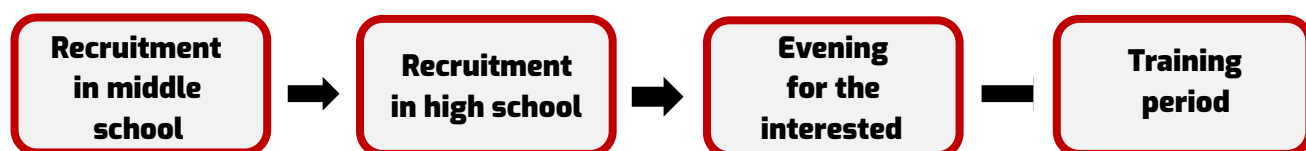


Goals and Strategic Focus Areas

- **Maintaining academic excellence:**
Ensuring that students stay on track and continue excelling in their studies and matriculation exams, without compromising their academic progress.
- **Robot development:**
Continuing the work on the off-season robot to develop skills and experiment with new ideas for our seasonal robots (e.g., Alpha, Beta, and Prototype).
- **Expand our impact:**
 - Reach new communities and populations we have not yet engaged with, while expanding our outreach to the national and global levels.
 - Maintain and strengthen connections with existing communities to ensure long-term, sustainable relationships.
- **Expose the team to the industry:**
Create opportunities for team members to connect with professionals and companies in the technology and engineering sectors.
- **Ensure financial stability:**
 - Maintain strong relationships with current sponsors.
 - Create an annual financial plan.
 - Recruit new students annually to ensure continuity and growth.
- **Preserve knowledge and expertise:**
 - Preserve and impart practical knowledge in technical fields.
 - Preserve and impart management and leadership skills.

Recruitment

To build our team in the most effective way, we actively recruit students from our school. To achieve this goal, we carry out a series of extensive recruitment stages twice a year, including the event “ONYX PRESENTS” - where the team, sub-teams and the FRC program are presented in depth.



Recruitment evening for the 2025-2026 season

Our Big Brother Model

To ensure our team's long-term sustainability, we follow our "Big Brother" model. A continuous cycle where students start in FLL Explore, advance through FLL Challenge and FRC, and later return as mentors. This process allows knowledge and values to be passed down from one generation of team members to the next. To expand this model, three years ago we launched "Onyx Explorers". An annual FLL Explore club designed to introduce young children to *FIRST* programs. Using custom models and booklets developed by our team, the club inspires students to continue into FLL Challenge and beyond. By engaging students early and supporting them at every stage, we spark long-term interest in STEM and help cultivate a strong, inclusive *FIRST* community.



Local FLL kickoff event

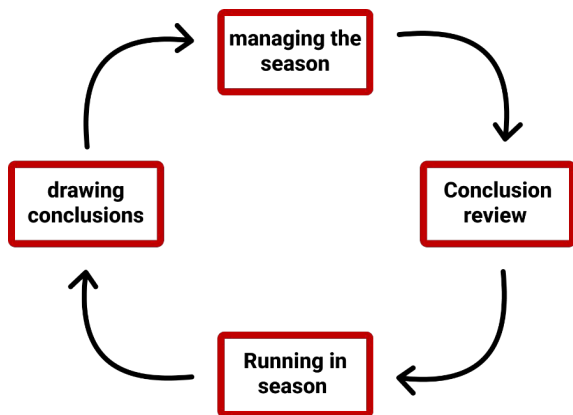
Annual work plan

The main goal of the community sub-team is to make the STEAM professions accessible and to expose *FIRST* to the community. To reach our goal, we prepare an annual work plan with all the events for the upcoming year, which enables efficient management, optimal utilization of resources and measurements of progress (KPIs). Building annual work plans provides valuable insight, enabling us to review our progress over the years and identify which practices should be maintained and which areas require improvement.

Creating the annual work plan, following and reviewing it at the end of each season, allows us to guarantee that the team is growing at a consistent pace.



At the end of each season, we dedicate time to a comprehensive review process at both the sub-team and team levels, with each team member contributing points for improvement and preservation.



Training

In order to train new team members in various fields and continue strengthening veteran members throughout the year, we conduct structured, level-based training sessions. Newcomers receive foundational instruction, learning everything from the ground up, while veteran members engage in project-based training to gain advanced skills, deepen their experience, and pass on their knowledge. Through this training, new team members participate in projects alongside veterans, who guide them and share their knowledge throughout the season. The training is led by mentors and the team's alumni, ensuring both the preservation of knowledge and the continued development of veteran members.

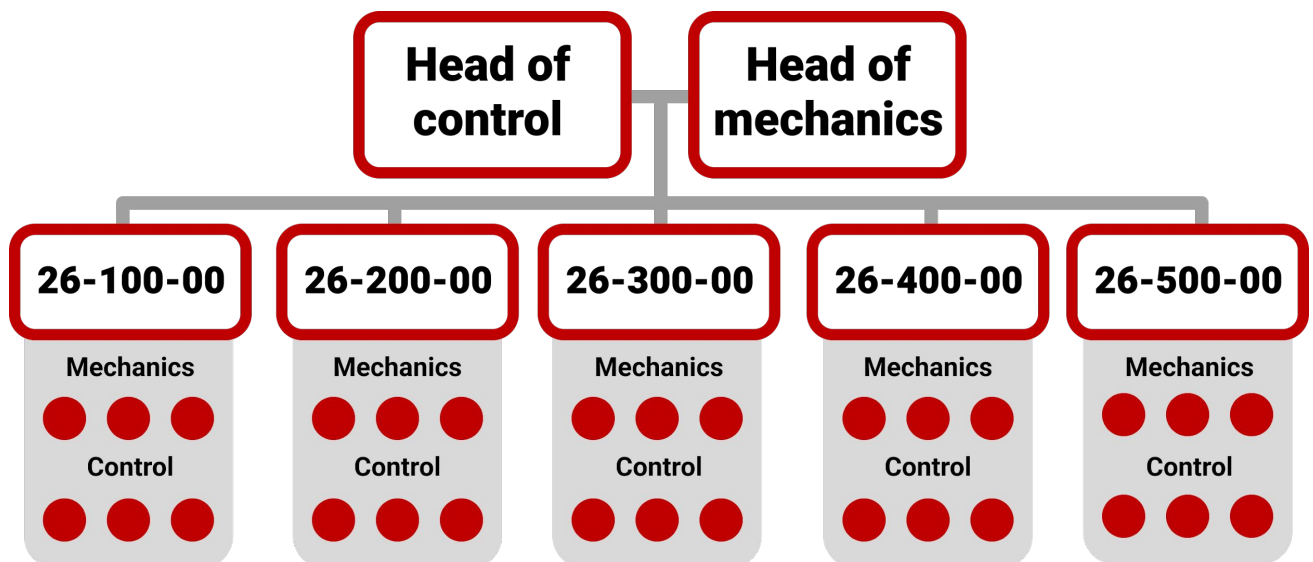


Mentor helps student plan construction of the practice field

Matrix Method

In the last five seasons, we've been using the Matrix work method, which treats each sub-team as a mechanism. For example, mechanics and control frequently work together, so they always stay up to date with each other, thus preventing misunderstandings between the two.

This method allows us to increase efficiency within our team, and makes it possible for the robot to be built weeks before the Competition season. By doing this, our robots have more time for coding, D-bugging, attending unexpected issues and troubleshooting, all while keeping the rest of the team updated.



Gantt

Annual structure

Every pre-season we write a thorough and detailed work plan for the upcoming season and create a dynamic Gantt using monday.com. The Gantt represents the workflow of the entire team throughout the season. It allows us to see the "bigger picture" according to which we adjust the pace of our work, understanding that there can be unexpected delays.



106 missions throughout 8 weeks



Student using Monday to update mission status

Dealing with unforeseen challenges

Throughout the year, unexpected events sometimes require us to adjust our workflow. We respond by shifting project priorities, rescheduling training sessions, and adapting our timetable. A major examples from the present is the war “Iron Swords”. For the entire pre-season of 2024, we were unable to access our workshop and worked online instead. During these past two years, we adapted by holding online meetings, focusing on CAD training, creating the “Onyx Booklet,” which contains at-home STEAM activities for children, and continuing all possible tasks from home. To realign afterward, we used our Gantt chart to track progress and refocus our efforts.



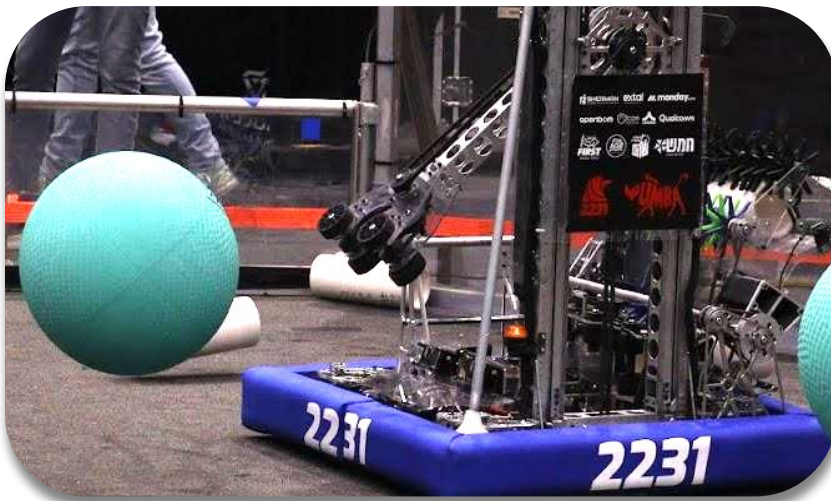
team's covid zoom meeting

Events & Projects

Project	Target Audience and Exposure
OUTronix (annual event)	1,000 people from our local community (mainly families)
STEM STAND (annual event)	400 people from our local community
Ecotronix (annual event)	600 people from our local community
Onyx Hatch	8 kindergartens (about 300 children)
WOW kids	650 4th–5th grade students
FLL Kickoff	10 FLL teams in our town (about 120 students)
Onyx Seniors	15 retirees
GearUp	131 students from the FRC and FTC community
Happening STEM	400 people from our local community (mainly families)
OnyxEyes	Individuals who can't use Solidworks to model in 3D due to physical disabilities
ONYX & FRIENDS	80 children with physical and motor disabilities (all students at “Beit Issie Shapiro” School)
Onyx Explorers	10 students (2nd - 3rd graders)
Onyx Booklet	2,600 downloads (this year)
Robotics 4 Peace	41 students in Israel
Recruitments for rookie team #11390	Recruitment of 7 new robotics team members
Opening team #11480	35 students recruited as team members

Sponsors

We begin sponsor recruitment by surveying team members' parents to identify potential supporting companies, and by running stands at our community events, where we introduce ourselves and present the team to visitors. We provide them a One Pager introducing the team, its activities, goals, and the *FIRST* organization. We collect contact details, create lead profiles, and reach out to companies for meetings or workshop visits to present the benefits of collaboration.



our robot in 2025 IOS competition

We believe that continuous cooperation and communication are key to the long-term success of our sponsor relationships. To this end, we keep sponsors informed, invite them to events, and provide tours, while constantly strengthening personal connections with their representatives. This develops a sense of belonging and partnership, reinforced through recognition on team shirts, robots, presentations, and invitations to team events.

Maintaining contact

Creating an ID card

Searching for leads

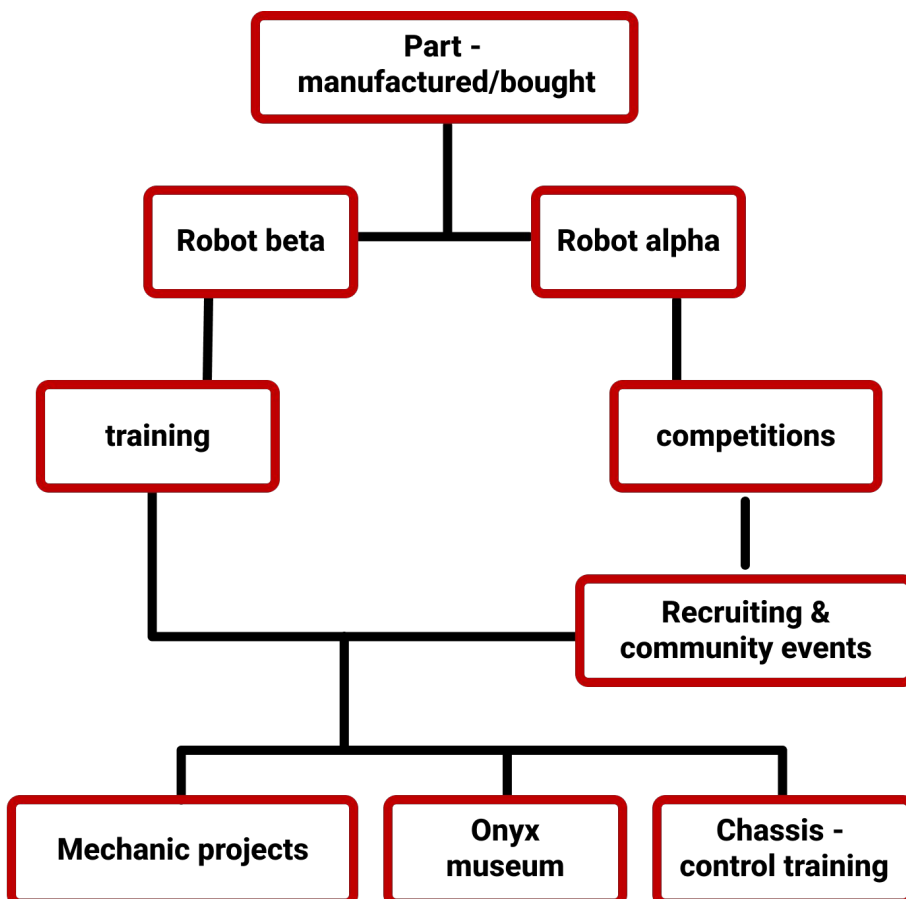
Workshop tour
and initial meeting

Sending out OnePager



Environmental sustainability

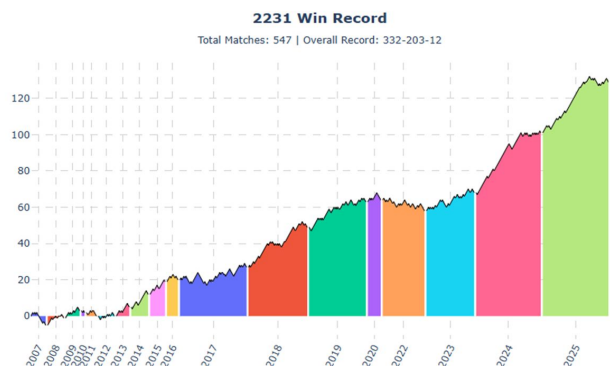
A significant amount of aluminum remains unusable during the robot's manufacturing process. To reduce waste, we recycle this aluminum and repurpose leftover plates from the previous season. These plates will be used for projects and training in the upcoming years. Batteries that no longer function are either reused as carpet weights or responsibly disposed of in recycling bins. In addition, we recycle bottles—both to protect the environment and to generate income.



Plans for the future

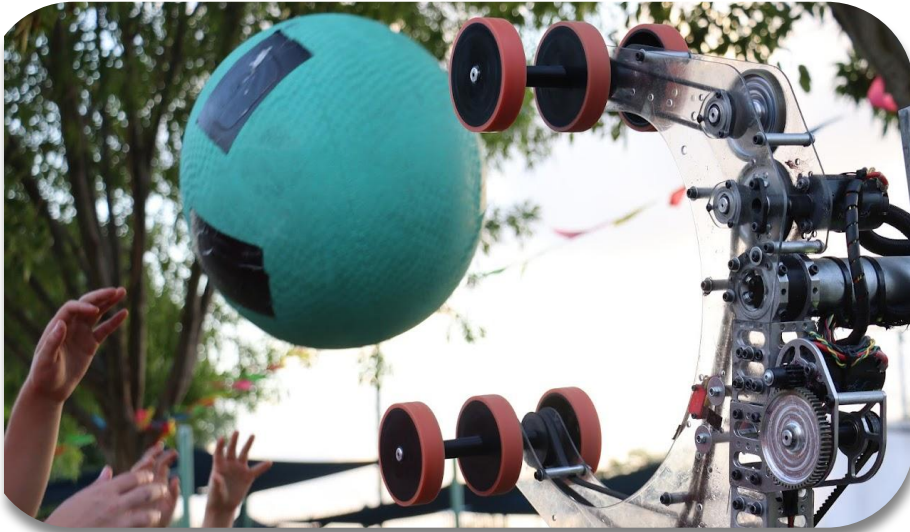
We believe that there is always room for improvement and growth; therefore, we set goals to continue advancing. Our plans for the future include:

- **Unlocking students' potential:** continuing to provide a safe and supportive environment where every student can grow through the robotics program, realizing their abilities in STEM, teamwork, and leadership while contributing to a legacy of promoting science and technology in society.
- **Demonstrating growth on the world stage:** striving to reach Einstein and the Hall of Fame as milestones that reflect the team's progress, dedication, and continuous development.
- **Expanding the *FIRST* program globally:** establishing new FRC teams and partnerships, to extend the impact of *FIRST* beyond our local community.
- **Strengthening strategic sponsorships:** maintaining and expanding long-term partnerships that drive the team's sustainable growth and help us reach our full potential.
- **Building a technology center and training field:** developing a dedicated facility, made possible by the extraordinary support of our municipal council, to advance our program and create new opportunities for students, community and our team.



Fueling Our Vision

Without the support of our sponsors, many of our events and projects would never come to life. Their partnership allows us not only to sustain the team but also to grow, improve, and reach new heights. Over the years, we have cultivated strong, mutually beneficial relationships with our sponsors, recognizing them across various platforms, attending their events to showcase our work, and organizing workshops and open days for their teams' children.



Activity carried out by our team at the “OUTronix” event

In addition, we share a weekly newsletter during the season that highlights our projects, achievements, and ongoing efforts, giving our sponsors a clear view of the tangible impact of their support. Their contribution enables us to explore new ideas, invest in resources, and pursue ambitious goals, while fostering a culture of innovation, learning, and community engagement. We are deeply grateful for their trust, commitment, and belief in our vision—the foundation of our progress and success.

The people who shape our future

Our mentors are one of the driving forces of OnyxTronix. Over 90% of them are alumni of the team who having experienced the team's unique atmosphere and approach as members themselves, chose to return and guide the next generation. Their deep knowledge of the *FIRST* programs, combined with their dedication, ensures the team's continued growth, improvement, and sustainability.

Beyond their expertise, our mentors serve as role models, bringing motivation, inspiration, and a genuine love for learning. They provide us with the guidance, tools, and support needed to reach higher boundaries, and elevate the team. They also create a safe and supportive environment where we can discuss challenges, learn from failures, and grow stronger together.

Their unwavering commitment and care make our team what it is today—a space for personal development, teamwork, and achievement—and we are profoundly grateful for their dedication.



Mentor helps student build the off season robot

S.W.O.T

Strengths (S)

1. Strong, family-like team connection – over 90% of mentors are team alumni.
2. Effective project management – extensive experience using the monday.com platform.
3. Knowledge retention – supported and mentored by experienced alumni.
4. Advanced manufacturing – capability to design and produce a complete robot in-house.
5. Strong partnerships – positive relationships with the school, local council, and community.
6. Engaged parents – contribute by recruiting sponsors, sharing expertise, and providing logistical support.

Opportunities (O)

1. New sponsorship opportunities – driven by parent connections and proximity to advanced technological industries.
2. Community growth – town expansion and new neighborhoods increase exposure to new communities, recruits, and supporters.
3. Approved technological education center – establishment of a community-based hub to expand youth engagement in STEM education.
4. Stable future leadership – majority of the current leadership team will continue with the team next season.

Analysis

Weaknesses (W)

1. Technical focus imbalance – most knowledge is concentrated on technical aspects of robotics.
2. Experience gap – more rookie members than veterans, thereby limited experience.
3. Uneven workload distribution – responsibilities are not equally shared among team members.
4. Limited manpower – insufficient number of members in the community team.
5. Resource dependence – reliance on school facilities and resources reduces flexibility and independence.
6. Student time pressure – academic workload and exams limit consistent participation.

Threats (T)

1. Limited training time – constrained schedules reduce available practice and preparation time.
2. Reduced workforce availability – demanding school workload and mentors being called to reserve duty.
3. National security situation – impacts mentor availability and limits sponsor engagement.
4. Volunteer-based mentorship – mentors are unpaid, so long-term and consistent availability cannot be guaranteed.

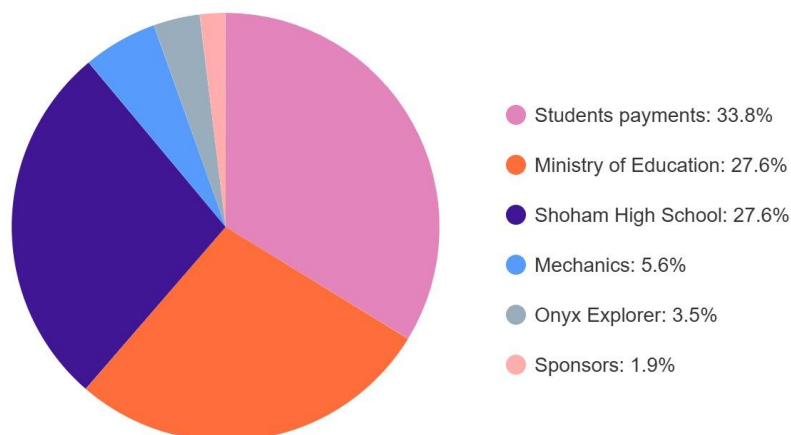
Business Canvas

Key Partners • Sponsors & supporting companies • Shoham Municipality & local council • School administration • Team alumni (mentors – 90%) • Parents & families • <i>FIRST</i> Organization • Community institutions • <i>FIRST</i> teams	Value Propositions • Students: STEM excellence, leadership, safe & inclusive growth environment • Sponsors: Long-term social impact, visibility, talent pipeline • Community: Accessible STEAM education & inclusion • <i>FIRST</i> Ecosystem: Sustainable, scalable, high-impact team model.	Customer Segments • High school students • Sponsors & partner companies • Local & national community • Underrepresented populations • <i>FIRST</i> teams • Educational institutions
Key Activities • FRC robot design & competition • Student technical training & team leadership • STEAM community outreach • Team & sponsor recruitment • Project & knowledge management • Sustainability initiatives		Customer Relationships • Long-term sponsor partnerships • Continuous communication & recognition • Recurring community programs • Alumni mentorship & leadership continuity • Feedback & improvement cycles (post-season reviews)
Key Resources • Team members • Alumni mentors • Workshop, tools & software • Training content & documentation • Brand reputation & competitive track record • Project infrastructure • Sponsor & municipal support		Channels • Community STEM events • School recruitment activities • FRC competitions • Social & digital media • Sponsor communications • Workshops, tours & open days
Cost Structure • Robot development & materials • Competition registrations • Transportation & logistics • Community outreach programs • Team uniforms & branding • Training & operational expenses Annual Expenses: ₪136,680	Revenue Streams • Parent participation fees • Government & educational grants (Gefen) • Municipal support • Program funding (Hamesh) • Corporate sponsorships • Recycling initiatives • Equipment sales Annual Income: ₪152,400	

Budget Income

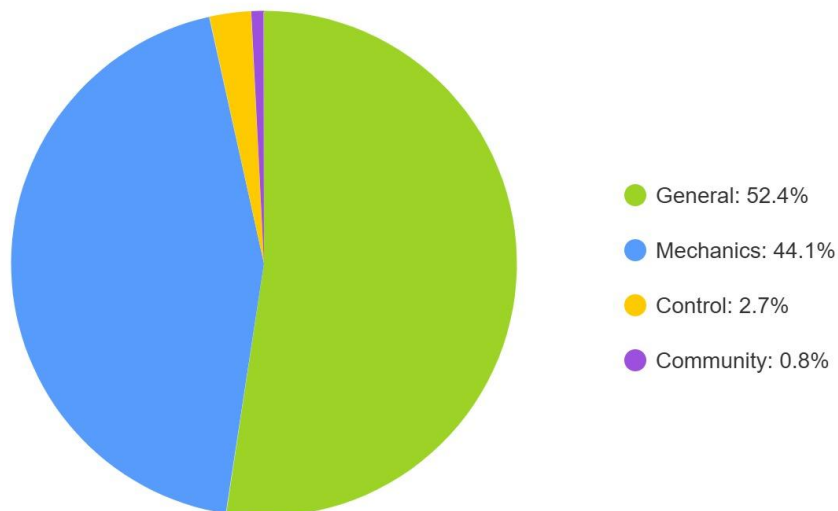
Every year, we take several actions to ensure our team becomes an independent and financially stable entity, capable of handling unexpected events. At the start of each year, we create a budget that includes both fixed and variable costs. Additionally, we allocate about 10% of the initial budget for unforeseen expenses that may arise during the season.

Source of Income	Total (₪)
Parent payment - season	61,000
"Gefen"	50,000
Onyx Explorers	6,300
Shoham municipality	50,000
Selling second-hand inventory	11,400
Sponsors	5,000
Total	183,700



Budget Expenses

Expenses	Total (₪)
Registration for Offseason competition 2025	1,500
2025 Offseason robot	2,700
2026 season robot (Mechanics and control)	50,000
Community & Media	4,000
Team uniforms	4,400
General expenses and transportation for competitions	21,000
Registration for regional competitions	33,840
Total	117,440



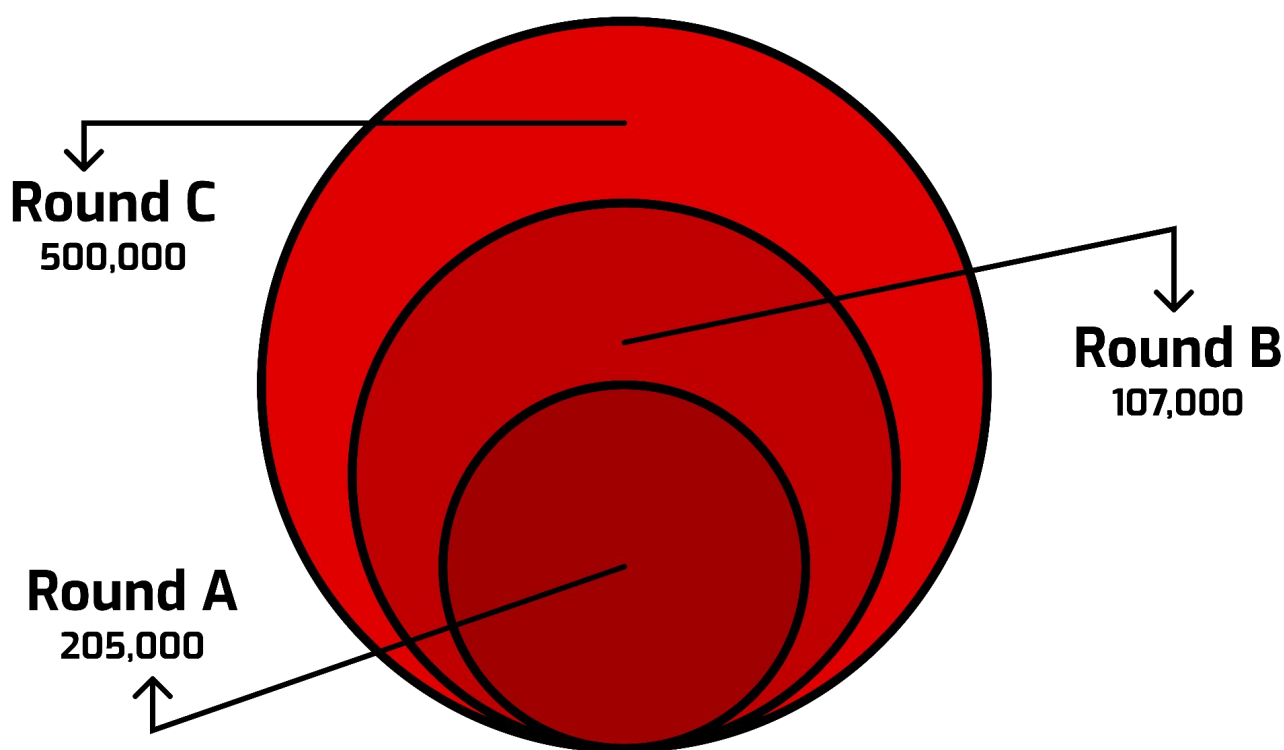
Budget Goals

Each season, we strive to improve and achieve greater success, which requires an expanded budget. To support this objective, we have outlined three key recruitment goals.

Round A – Represents the minimum budget required to be able to participate in the season.

Round B – Represents the additional budget we will need to improve and develop as a team.

Round C – Represents the budget required to compete at the global level.



Executive Edge

We are OnyxTronix #2231, a *FIRST* Robotics Competition team dedicated to developing students' STEM skills, leadership, and teamwork while promoting science and technology in society; by building competitive robots and running outreach programs that engage local and global communities.

With the support of our mentors and strategic sponsors, we innovate, grow, and achieve meaningful results. Sponsorships help us ensure the team's sustainability, as well as robot development, participation in competitions, outreach initiatives, and infrastructure projects like our planned technology center.

Our goals include expanding outreach nationally and internationally, unlocking students' potential, connecting with industry, and maintaining long-term sustainability. By partnering with us, sponsors help shape the next generation of innovators while gaining visibility and lasting community impact.



Winning in the district 4 competition 2025

20 YEARS Of OnyxTronix

