



Business Plan

Team 1792







Team Overview

Mission Statement:

Round Table Robotics (RTR), Team 1792, seeks to sustain a well-rounded, goal setting team that fosters science, technology, and business leaders who will make their communities, and the world, a better place.

Team History & Growth:

RTR was initially founded as a split-off team from Team 1714 MORE Robotics. This will be our fourth year competing in FRC. We took the challenges of our lead mentor's retirement and subsequent loss of working space and equipment and transformed them into the opportunity to grow and develop a new team. We spread FIRST by starting our team in Oak Creek and allowing MORE Robotics to expand into Milwaukee. This expanded the impact of *FIRST* in both areas.

To meet the need for skill development in a rapidly growing team, RTR students and mentors created an overarching STEM club in 2017. STEM club gives us the opportunity to explore many different STEM resources including FRC, FLL, FLL Jr, and VEX. STEM club includes projects such as FarmBot - an open source robot that autonomously manages a garden producing fresh produce for a food pantry, and parade bot - a candy dispensing robot we create in a build-season-like setting. Marketing and fundraising projects such as communicating with sponsors, participating in robot demonstrations and community service provide experience in business skills. Additionally, offseason training allows STEM club members to gain technical skills such as welding, woodworking and programming. Students can participate in any number of projects to make the most out of their involvement.

To ensure growth within *FIRST*, we created 18 FLL Jr teams and held our first FLL Jr Expo in 2018. It was held on the same day as our third annual FLL Regional where we also invite a FRC team to demo their robot. Seeing all levels of *FIRST* inspires students to stay in the program. Outside of *FIRST*, we are adding a STEAM fair in 2019. Elementary, Middle, and High School teams are participating by creating science related presentations while adding an art aspect getting more kids involved in STEM.

Team Organization

Organizational Structure:

RTR, our FRC team, is the highlight of the STEM Club and is structured into two main aspects: Operations and Technical, each led by a captain. These captains possess overall project knowledge and strong leadership qualities. Working together, they ensure both are working toward the same team goals. Operations keeps RTR organized and running smoothly as a business. Manufacturing is the technical core of the team: programming the robot, and building the robot and field elements.

Under each team lead are component design teams (CDT's); each led by a captain. CDT's concentrate on specific jobs such as manipulators or volunteering opportunities. CDT captains have displayed leadership qualities and in depth knowledge of certain skills that qualify them to teach others. CDT captains have co-captains that are trained to replace them when they graduate. This provides sustainability in leadership and in the team's future. This structure works well to support and organize our team.



Running Our Team

Risk Analysis:

One of RTR's greatest risks is also the source of our greatest opportunities: our reliance on sponsors. The majority of our funding originates from our sponsors; this means that a loss of sponsorship would prove to be a significant financial risk. Despite this risk, building relationships with sponsors provides impeccable opportunities for the team that overshadow the risks. The local businesses that fund our team also provide fantastic mentorship opportunities, possibilities for potential future careers, and chances to gain business skills and use technical equipment. In order to combat our risks, we maintain a very close relationship with all of our sponsors via build season weekly update videos, yearly sponsor thank you demonstrations, and an open door policy at all of our meetings, events, and competitions. Additionally, we also consistently fundraise in order to maintain an extra layer of financial stability and to build new relationships. Our sponsors are not merely sources of funding but are integral aspects of our team.

Another one of RTR's greatest strengths is our partnerships with many different organizations that give us not only opportunities to grow, but also provide another level of team membership sustainability. We have partnered with The Girl Scouts of America, Oak Creek High School's marketing class, the Oak Creek High School Band, our sponsors, and many more.

Marketing:

To market our team we use many diverse strategies. From demonstrating our robot at various locations in the community to having a strong online presence, RTR strives for relationship building and sustainability. We have demoed at over 30 places this year!

Sponsorship Tour: To build and sustain relationships with potential and existing sponsors we demonstrate our robot at businesses and allow their employees to ask questions. This provides the opportunity for the sponsor to see how their sponsorship contributes to the success of the team and provides an effective personal connection.

FRC Relationship Building: During competitions we strive to make meaningful connections with other teams. For example, every year we provide safety brochures for each team and create removable footprints for event space floors providing a visual reminder to 'walk not run' in the pits. Both showcased our logo and contact information. We also helped bring the Dead Battery Project to Wisconsin, which is an effort to empower female students to remain safe in unwanted situations. We then helped establish the Wisconsin Team Coalition to collaborate with other teams on more efficient and effective ways to share *FIRST*.

Community Demonstrations: As our impact log can attest, our goal is to make a noticeable impression on those around us. We do this by not only volunteering with local organizations but also by showcasing our robot and thus sparking STEM interest. We demonstrated constantly at the Milwaukee County Zoo, St. Francis Library, Oak Creek 4th of July parade, Milwaukee Summerfest, National Night Out, and many more.

Online Presence: To increase the marketing of our team we have a very strong online presence. We maintain Facebook, Instagram and Twitter accounts, and a website. These platforms provoke interest and ensure the longevity of our team. We strive to have all means of Social media outlets so no matter what platform our stakeholders use they can stay connected to our team.

Merchandising: Round Table Robotics works to maintain a solid brand so our business gains notoriety. Our marketing team works to design and manufacture giveaways to showcase our logo and to establish a consistent brand-down to our own shade of RTR blue! In 2019 we partnered with our high school marketing class to create a vendor-client relationship and create new marketing materials.

Super Sponsorship: Our proudest *FIRST* outreach was securing grants from our sponsors to be given to *FRC* teams near these sponsors' companies across the United States. RTR connects eligible teams with the businesses to establish relationships with these teams and their new sponsors. See more in the Appendices!



Recruitment:

In order to remain sustainable, as well as encourage exposure to STEM at a young age, RTR secured funding, created, managed, and mentored 18 FLL junior teams in 2018. In addition, we mentor over 8 FLL teams annually, as well as hosting an FLL Regional, which is now in combination with an FLL Jr expo. Having these two events on the same day allows the younger kids to see the different levels they are working up to. We incorporated the highest level of FIRST by reaching out to local FRC teams to demo their robot! Ensuring interest from a young age is the best way to stay sustainable as a team, as well as a wonderful way to encourage the designers and innovators of the future! This year, 9 freshman joined RTR, almost entirely originating from FLL teams we mentored in previous.

Financial Plan

Sponsorships:

Round Table Robotics relies on sponsorships to keep our team funded. We work to build relationships with engineering sponsors who may want to provide funding, in kind donations, and mentoring in the fields of STEM. Non-engineering sponsors see the value in the training, marketing and business leadership we provide. As a team, we encourage our students to identify possible sponsors in our area, then reach out to them with the sponsorship team. We find that this generates many different ideas, allows students to have a more personal relationship with our local businesses, and provides experience with public presentation skills. Throughout the year, we provide robot demonstrations at sponsor businesses and invite them to meetings and competitions. In this way we sustain ongoing relationships with our funders.

Sponsor Demonstrations:

To acquire the funds necessary to operate our team we seek to gain what we like to call a "two-way street" partnership. This means that we work together to help one another in our mission to improve the community. Businesses and organizations grant us funds to promote STEM. In return, RTR provides marketing opportunities for the business via the inclusion of their logo on our robot and merchandising. As in any business partnership, RTR also provides follow up on how funds were utilized, thus displaying accountability and responsible use of funding received. We update through weekly videos during build season, and yearly demonstrations at their business location. These demonstrations not only encourage our current sponsors to continue their partnership with us, but also introduces the STEM club to potential new supporters. It is clear that these demonstrations are an effective way to exemplify how high school students may become young engineers and leaders in the community. Live demonstrations also create a more personal connection with our sponsors. Due to these, 10 of our 20 mentors are employees of our sponsors.

Fundraising:

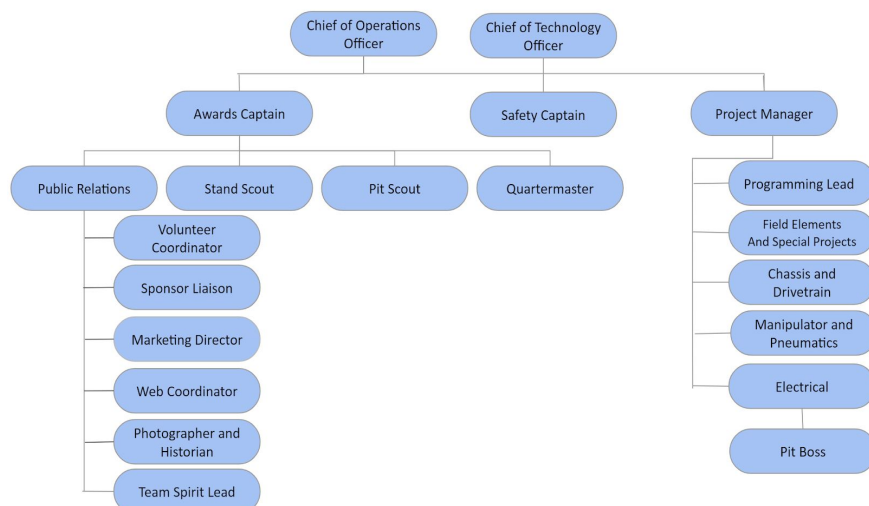
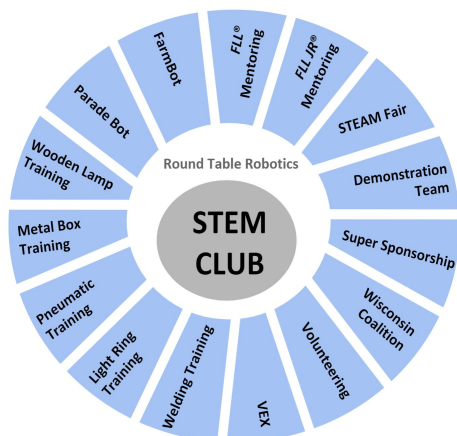
RTR has developed many creative venues in which we can fundraise, foster relationships, and increase exposure for our team. We are constantly seeking to find new ways to raise money and keep the team viable:

- **Star Wars movie night:** Fans of robots tend to also be fans of sci-fi! As each new Star Wars movie is released, the STEM club rents out an entire movie theater for opening night and sells tickets. Funds are raised as friends and supporters of the team enjoy the screening together.
- **Georgie Porgie's night:** We annually host a robotics night at a local family restaurant in Oak Creek called Georgie Porgie's. 15% of the proceeds as well as a dollar from every specially-designed "datalicious" sundae are donated to the team. We also demonstrate our robot to the local residents eating dinner, increasing team exposure.
- **Concessions:** We sell drinks at local festivals and events in our community to raise funds, foster team awareness, and to establish a relationship with our city. In 2018 we retrofitted a robot to hold a cooler, drive down the sidewalk, and sell drinks at the Oak Creek Summer Solstice Celebration. Hosting the FLL regional also provides a yearly venue at which we run a concession stand.



Appendices

RTR and STEM Club Organization



CORE VALUES

Our goal is to provide students with the tools to become the best they can be and to challenge them to gain real-life problem-solving and critical thinking skills while in high school. We do this through our core values. We always collaborate, ensuring each member's idea is considered. This is why we are called Round Table Robotics-each member has an equal say in what we do and who we are.

WE ARE ONE TEAM

We acknowledge how each and every student brings a different value to the team. We celebrate our victories with the belief that everyone contributes something absolutely vital to the success of our organization. It takes many different skills to run a business!

WE ARE HELPFUL

In order to accomplish even the smallest of tasks, we know we must come together and help each other out.

WE ARE ALWAYS LEARNING

This is a result of us working hard and being respectful as we do it. When we work together, both our successes and failures help us learn. This better our understanding of technology, mechanics and business.

SAFETY IS NUMBER ONE

Above all RTR is safe. We have a goal to create, design and innovate while remaining safe. This ensures our safety goal is sustainable year to year.



We Seek Having Fun Over Being Right

Everyone loves to have the last word. But in RTR we live by the mindset that learning and having a good time is more important than arguing.

We Are Respectful

As a team named Round Table Robotics, we pride ourselves in living up to the knight standard. The Round Table in our name represents how everyone's opinion is equally valued and considered.

WE WORK HARD

We put 100% in everything we do, as a team in order to learn and grow as much as we can.

FIRST Involvement

	2016	2017	2018	2019
FLL	Mentored 7 FLL teams	Mentored 9 FLL teams, hosted the first annual FLL regional in Oak Creek with 28 teams attending.	Mentored 7 FLL teams, hosted second annual FLL regional with 36 teams in attendance.	Mentored 5 FLL teams, and hosted the third annual FLL regional with 40 FLL teams in attendance.
FLL JR	N/A	N/A	N/A	Started 18 FLL Jr teams, and each student on RTR mentored one or more. We also started the first annual FLL Jr expo, which was on the same day as the FLL regional.
FRC	Assisted 1 team in the writing of their chairman's script.	Invited 3 teams to our shops, assisted 1 team with chairmans.	Sponsored 8 teams with the Super Sponsorship. \$28,000 total was given.	Sponsored 9 teams with the Super Sponsorship- \$38,000 total. We connected 10 teams via the Wisconsin Coalition.

18 FLL Junior teams were created this year by RTR! These teams were entirely run by RTR students.



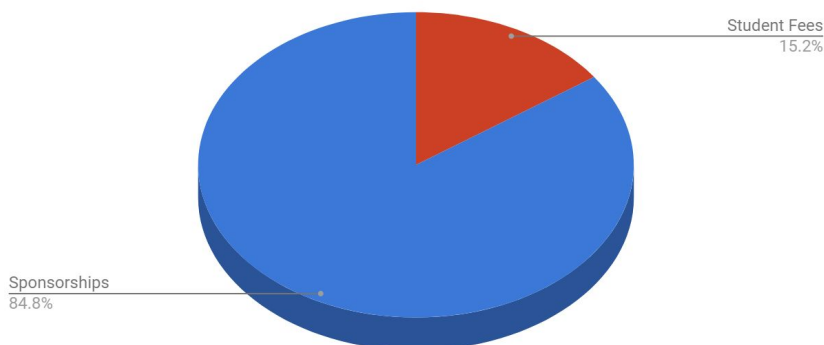
Financial Statement - Income

2018 Income	
Student Fees	3899.01
Sponsorships	21,705.45
Total	25,604.46

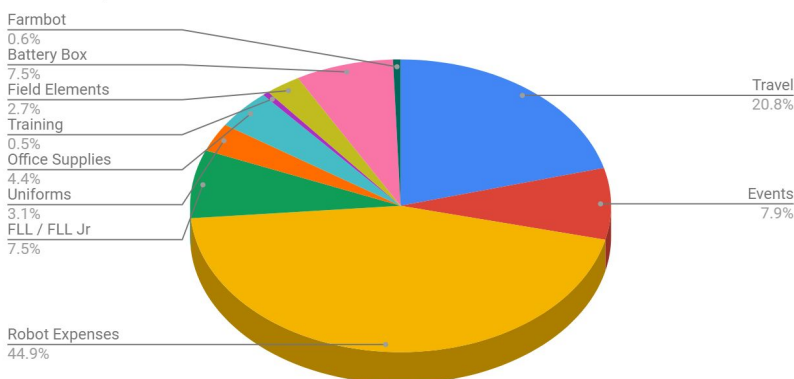
and Expenses

2018 Expenses	
Travel	4149.45
Events	1572.98
Robot Expenses	8946.96
FLL / FLL Jr	1502.09
Uniforms	625.5
Office Supplies	868.43
Training	96.59
Field Elements	543.26
Licensing / Fees	510.49
Battery Box	1500.04
Farmbot	114.57
Total	20430.36

2018 Income



2018 Expenses



MEDIA INVOLVEMENT

Social media is one of our prime ways of marketing. Our student led media team allows a broad impact, both connecting us with other FRC teams, and followers who are interested in what we do.

Over 4,800 Views YouTube

372 Instagram Followers

244 Twitter Followers

457 Facebook Followers

FARMBOT

In STEM club we delve into projects such as creating and managing agricultural robots. FarmBot is an open source robot that autonomously manages a garden with the code we program it with. It is installed in our local Hunger task force farm and everything it grows is donated to senior citizens in need. This project teaches our team members how to work with the tools to assemble the robot and the language to program. It also helps the economically disadvantaged have non-presisables and helps people learn more about robotics in agriculture in the public.





SUPER SPONSORSHIP

Our proudest *FIRST* outreach was securing grants from our sponsors to be given to *FRC* teams near these sponsors' companies across the United States. Many STEM grants are wasted each year from lack of knowledge that they exist. Round Table Robotics took it upon ourselves to find teams that were eligible for these grants, connecting these teams with the businesses and helping establish relations with these teams and their new sponsors.



- ★ Us- Round Table Robotics, 1792, Oak Creek WI
- UPS, 1675, Milwaukee WI
- Red Cat Robotics, 6670, Milwaukee WI
- Laser Robotics, 2077, Wales WI
- Walnuts and Bolts, 6643, Racine WI
- Real Robotics, 607, Racine WI
- The Mavericks, 2252, Milan OH
- Golden Hurricane, 5858, Huntsville AL
- Madawgs, 3258, Martinsville VA
- Knightrise, 5678, Valley Glen CA

In 2018: \$28,000 given to 8 teams through our sponsor PPG. These grants provided financial stability to teams in need. We were able to expand the growth of *FIRST* from Ohio to California! PPG also granted \$10,000 to fund 18 FLL Jr teams in Oak Creek and Milwaukee, WI - expanding the *FIRST* footprint in our area.

In 2019: PPG will provide additional grants this year pending foundation approval. Zund America has been encouraging their clients to sponsor *FIRST* Teams near their locations. Solid Stone Fabrics in Martinsville, VA is now sponsoring Team 3258 - Madawgs. Gilman Brothers in Gilman, CT is now sponsoring Team 1792 - Round Table Robotics.

GIRLS IN STEM

Our Girls in STEM projects, such as the Dead Battery Project, which helps girls in STEM come together against unwanted situations, and Goldieblox, which brings STEM into Girl Scouts, has increased the girls in RTR exponentially.



We are currently at 40% girls on RTR and continue to grow, and we strive to increase females in STEM both within and beyond our team.



Percentage of Girls In Round Table Robotics By Year

