

Chairman's Award - Team 1792

[Print](#)[Close](#)**2020 - Team 1792****Team Number****1792****Team Name, Corporate/University Sponsors**

PPG/Rockwell Automation/Zünd Swiss Cutting Systems/Rexnord/Everbright/Grunau/AIM Transport/Oak Creek Lions Club/PMMI, The Association for Packaging and Processing Technologies/Yaskawa/Nucor/American Legion Post 434/Oak Creek Franklin Schools&Oak Creek High School

Briefly describe the impact of the *FIRST* program on team participants within the last five years.

Round Table Robotics has been in existence for 5 years. During this time we have dramatically increased opportunities for technical and business leaders to develop in high school, continue their growth outside of high school, and entirely gear up for tomorrow with RTR. We have 18 alumni: 18 graduated high school. 12 attending college. 3 in the military. 14 pursuing STEM related careers. 14 received a STEM related scholarship. 9 received internships or apprenticeships in a STEM related field.

Describe the impact of the *FIRST* program on your community within the last five years.

Expanded safety: Hosted a CPR Training with the Dibbs 17 program: 113 people trained. Train RTR members how to use Trauma kits: helped get high school outfitted with them, as well as PPG and Nucor. Ran a STEAM Fair for all grades in our school district. 2019: gave out \$1,750 in scholarships. Implemented FarmBot at our local Hunger Task Force: 30 lbs of food it grew was donated. Made this partnership via volunteering to harvest. 21 community demos spread FIRST awareness in community.

Describe the team's methods for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative.

Our FRC team is part of a larger STEM club at Oak Creek High School, allowing year-round projects and inclusivity. Super Duper Sponsorship: we connect our sponsors with rookie FIRST teams around the country. 12 teams were secured \$35,896 ParadeBot: 2 new parade robots annually. This year's looked like Wall-E! FarmBot installed at Hunger Task Force - donated 30 pounds of food it grew in 2019. Partnership with Scouts BSA: running robotics merit badge at a 2020 district fall camporee.

Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate

STEM Club is all-inclusive and 37% female. Our booster club is a 501c3 non-profit organization. We have started 2 new levels of FIRST in our area, and 3 major STEM events. Our 4 year plan keeps us consistently growing. Safety is #1: We use a color coded carabiner system to track equipment training. We have weekly safety briefings and train our students in trauma kits every other year. We host annual CPR training. We outfitted our sponsors, PPG and Nucore, with trauma kits.

Describe the team's initiatives to help start or form other FRC teams

We built an FRC team and STEM club from the ground up in our community. We publish our award and business resources on our website to help other teams do the same. We help Rookie FRC teams secure financial stability through our Super Duper Sponsorship: We connect Rookie FIRST teams around the country with our sponsor's national plants. Since 2018, we have secured 12 FIRST teams (including 10 FRC teams) a total of \$35,896 (\$33,996 of which went to FRC teams.)

Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)

Started an FLL Jr program in 2018: 18 teams in 2018, 13 in 2019, 195 total kids involved. The program includes: 4 Milwaukee Public School teams. 2 community teams for private schools who don't offer STEM classes. Local teams that provide pathway to RTR. Started and mentor one FLL team from our FLL Jr graduates. Started an FTC team in a neighboring community that could not yet afford an FRC team. Introduced them to FTC and will provide mentorship of team development.

Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program

We run an FLL Jr expo, an FLL regional, and host FRC team demos on the same day to allow participants to see the next levels of FIRST. This is the largest FLL event in the state. Our FRC team builds our FLL tables and every FRC member mentors an FLL or FLL Jr team. We help local FRC teams get to events by sharing transportation and logistic resources. We created a pathway to our FRC team and STEM Club: we started and run an FLL Jr program and mentor 4 FLL teams.

Describe how your team works with other *FIRST* teams to serve as mentors to younger or less experienced *FIRST* teams (includes Jr.FLL, FLL, FTC, & FRC teams)

We are involved with the SouthEast Wisconsin Coalition. We share our expertise and tools with 22 other FRC teams, many of which are rookie teams. We invited 6 Milwaukee area teams to join the coalition! We mentored 4 FLL teams in 2019, 1 of which we started. We started an FLL Jr program last year: Mentored 18 FLL Jr teams in 2018. Mentored 13 FLL Jr teams in 2019. Ran the largest FLL event in the state which includes FLL Jr and FRC demos so all levels can demonstrate their hard work.

Describe your Corporate/University Sponsors

The following entities support us financially, in-kind donations, or mentors! We gain sponsors through multiple levels of contact, constant information, and in-person demos, when possible! PMMI Yaskawa Master Lock NASA Air Logic Everbright Zünd Nucor Oak Creek Lions Club Oak Creek Franklin Joint School District Rockwell AIM Milwaukee Tools Grunau Rexnord PPG Insinkerator Georgie Porgie's Hanna Trailer Waterstone Bank

Describe the strength of your partnership with your sponsors within the last five years.

Our sponsors are involved in every aspect of our team: Our financial donors grew from 11 to 20 in 5 years. 6 sponsors have supported us all 5 years. Several of our sponsors are also mentors. We maintain constant contact: Weekly update videos are sent during build season. Open Door Policy at our meetings. We invite our sponsors to all of our events. We have a "thank you tour" to demo our robot and present thank you plaques.

Describe how your team would explain what *FIRST* is to someone who has never heard of it

FIRST is the reason 95% of RTR members want to pursue a STEM-related career. FIRST provides an opportunity for kids of all ages to design, invent, create, and get involved in business and technology. FIRST has given students a chance, and in return they have the ability to spread these opportunities. FIRST grows character, encourages making a difference, provides experience in mentorship, leadership, professional presentation and fundraising. FIRST changes lives.

Briefly describe other matters of interest to the *FIRST* judges, if any

Our motto is "gearing up for tomorrow." We maintain a year-round team to provide opportunities to students. Attend 3 annual off-season competitive events. Demo at community events and sponsor visits. Collaborate with the Southeast Wisconsin Coalition. Summer training to develop technical and business skills. Every student has an opportunity to take on a leadership role. Sustainability and development through rolling four-year growth plan.

For FRC teams older than 5 years, briefly describe your team's broader impact from its inception.**Team Captain/Student Representative that has double-checked this submission.**

Mya Mendola

Essay

Round Table Robotics (RTR) has been "gearing up for tomorrow!" for the past 5 years. Our team has been actively living our motto by expanding STEM throughout the nation. This helps us fulfill our mission to inspire the expansion of STEM everywhere by fostering leaders, maintaining a well-rounded team, and aiming to make our community, and eventually the world, a better place.

OUR TEAM

Three years ago, we expanded our FRC team to be one aspect of an overarching STEM Club. This expansion allowed us to increase inclusivity and expand our club to include year-round projects. STEM Club ensures that students at any level of availability and interest have an outlet to innovate, design, learn, and create. We currently have 46 members, an increase of 23 since RTR was founded 5 years ago.

The RTR component of STEM Club is a varsity sport and is structured very simply. There are two components of the team: operations and technical. Each has its own captain as well as a project manager who bridges the gap between the two components. Under this leadership there are numerous component design teams, or CDTs, including media, marketing, drive train, and manipulator. Each CDT has an upperclassmen captain and an underclassmen apprentice to ensure sustainability for the future.

BUILDING LEADERS AND PROBLEM SOLVERS

RTR aims to build character within the members of our team. We begin each meeting by reciting our core values. Each year-round STEM Club project increases leadership opportunities to provide real-world situations in which students can use these core values. Our projects include building 4 additional robots in the offseason: FarmBot, ParadeBot, a t-shirt catapult, and test chassis. We make sure to involve our community by showcasing our ParadeBots in 2 parades and the 21 demos that we attended this year.

Our alumni's success clearly indicates we are achieving our goals. Out of our 18 alumni, 14 are pursuing STEM-related careers, 14 received a STEM-related scholarship, and so far, 9 received internships or apprenticeships in a STEM-related field.

FIRST FOR EVERYONE

There was no FRC team in Oak Creek before 2015, so a group of students split off from a community team to begin RTR at Oak Creek High School. As a result, hundreds of students have had access to STEM learning and activities. Oak Creek also lacked any STEM at the elementary level, and its middle school FLL teams were slowly dwindling. RTR responded by annually mentoring 4 FLL teams.

Soon we realized a more sustainable solution would be to create a feeder system into FLL. In 2018, we developed an FLL Jr program in our community, starting 18 FLL Jr teams and involving 108 kids the first year. These teams are entirely mentored by our team; 100% of the students on RTR mentor either an FLL Jr or FLL team. We are now on our second year running an extensive FLL Jr program and have made significant improvements. We restructured the FLL Jr team meetings by making an "FLL Jr hub" where most teams met at the same time, in the same place. This increased fluidity and collaboration. This year, we mentored and ran 13 teams in our program, and 87 additional students joined FLL Jr, totaling 195 students in FLL Jr since beginning in 2018.

This year, a member of our team assisting an FLL team in a neighboring community realized the 8th graders didn't have a FIRST team to be on the following year. Just like that, we had our next goal. This year we started the development of a FTC team in a neighboring community. This new FTC team will compete in Fall 2020. This continues our goal of implementing FIRST in communities lacking STEM.

In 2018, we also recognized that many new teams were struggling financially. We created a solution: the Super Duper Sponsorship. For the past 3 years, we worked with our sponsors, PPG and Zünd, to connect rookie FIRST teams with sponsorships. Through this collaboration, \$35,896 was provided to 12 teams nationally. It has also sparked several of our other sponsors to create similar efforts. Work begun by RTR is impacting FIRST teams throughout the country.

RUNNING COMPETITIONS

We have run 4 FLL Regionals and 2 FLL Jr Expositions. Our annual FLL Regional has grown to be the largest FLL event in Wisconsin. We want the FLL Jr teams to see what robotics looks like at the FLL and FRC level, so we hold the FLL Jr expo during the FLL tournament. We also invite local FRC teams to demo their robots. This year, we had nearly 500 students competing at our FLL Regional and FLL Jr. expo combination.

STEM OUTSIDE OF FIRST

In addition to our FIRST involvement, we have several initiatives to give new students STEM experience. To highlight these initiatives, this past spring we began and ran the first-ever STEAM Fair in the Oak Creek Franklin School District. It's a platform for students of all ages to compete with STEAM-based projects. Our first STEAM fair had 56 students in 15 groups competing. We awarded \$1,750 in scholarships. This year, our STEAM fair is scheduled for May 26th, and is expected to (at least) double in participants!

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Our partnership with Scouts provides another unique opportunity. This fall we will work with Scouts BSA Three Harbors Council to run a robotics merit badge and coordinate demonstrations of FRC Robots, FLL Mindstorms, and FLL Jr We-Dos. This 3-day Fall camporee will facilitate hundreds of scouts participating in FIRST.

Our FarmBot project broadens our horizons while helping those less fortunate. FarmBot is an autonomous farming robot that plants, waters, and weeds its own produce garden. We installed it at our local Hunger Task Force. This initiative began in the summer of 2018, and this year, FarmBot grew 30 pounds of greens and 148 carrots, all of which was donated to senior citizens in need.

We are now in the process of redesigning FarmBot to maximize efficiency next growing season. We also plan to expand FarmBot by installing a 2nd FarmBot at the North American world headquarters of our sponsor Zünd. Our innovation links agriculture, STEM, and volunteerism.

COLLABORATION

RTR thrives through collaboration with our sponsors, other teams, online resources, and programs. Our close and inclusive relationship with our sponsors helps us maintain a stable financial position. We strive for personal connections by providing in-person demonstrations on site at sponsors' businesses. We continue to include our sponsors through our open door policy, personal invitations to our events, and weekly update videos during build season. After build season, we follow up with a thank you tour. We go to our sponsors' businesses, demo the robot, review the season's success, and express our gratitude for their support. In just four short years, our sponsorships grew from 11 to 20 companies. These companies return each year as they see the impact of their support on our students and community.

This year we partnered with the Make-A-Wish Program. Like FarmBot, this relationship links tech with service to others. We are currently fundraising for the Program by selling pop sockets to the City of Oak Creek.

RTR also utilizes technology to foster communication. Our website, built entirely by our student marketing team, is used as a hub for our calendar, blog posts, and information on our activities. We also publish our past award submissions as a resource for other teams. To further collaboration with other FIRST teams, we run active Twitter, Instagram, Facebook, and most recently, TikTok accounts.

Despite social media, all of the FRC teams in our area still worked in isolation. To improve collaboration, we joined a coalition in a nearby town, and then invited 6 Milwaukee area teams. This created the Southeast Wisconsin Coalition. The 28 teams meet monthly, hold collaborative workshops, and serve as a resource to younger FRC teams. Based on the philosophy of coopertition, the Wisconsin Coalition reminds us that we're all trying to increase FIRST participation and STEM learning.

FIRST LIKE A GIRL

Steminist (noun) - A female who is passionate about STEM and equality in the STEM workforce.

In the past 2 years, our team has embraced a Steminism initiative. Our team is made up of 37% females, an increase of 20% since our first year. We attend Indy Rage, an all-girls off-season event. This year, we invited the Wisconsin Coalition to attend Indy Rage with us, and carpooled with another team! We are proud to have brought The Dead Battery Project to Wisconsin; a system that connects girls in STEM and allows them to help one another out of unwanted situations.

Finally, we promote a Steminist attitude by supplying Steminist stickers at competitions and other events. We love seeing other teams from across the country adopt our attitude!

SAFETY

Safety is RTR's number 1 core value, and we promote safety uniquely. Every RTR member receives a carabiner that they wear as a quick, visual indication that they are trained on a certain machine. Our safety captain gives a safety briefing at the beginning of each meeting. Every other year we train the team in the use of trauma kits. To expand our safety initiatives beyond RTR, we've participated in 4 trauma kit assembly nights to help the Fire Department outfit the High School and 2 of our industrial sponsors. In 2019, 113 people were trained in CPR at an event we hosted.

THE FUTURE

Our motto is "gearing up for tomorrow." We maintain a rolling four-year plan that supports our team's growth and our connection to the community. Our specific plans for next year are to expand our sustainable agriculture movement through FarmBot, develop the new FTC team, and to attend the National Advocacy Conference.

Round Table Robotics has geared up for tomorrow for 5 years. We are comprised of students who are laying the foundation for the future through our strong dedication to STEM, FIRST, our community, safety, and education. Gear by gear, RTR is promising the future that this world needs.