

## Chairman's Award - Team 59

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2022 - Team 59

**Team Number**

59

**Team Nickname**

RamTech

**Team Location**

Miami, Florida - USA

**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.**

Many of our members that graduated three years ago up until this past 2021 graduation class have been working part-time in STEM industries outside of the university campuses and the more recent graduates are either Teacher Assistants (TA) or run Computer Aided Design (CAD) labs at various universities. Ramtech has had its members accepted and admitted to highly recognized schools including but not limited to Duke and Embry Riddle Aeronautical University.

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

Our community is full of families and youth who are constantly looking for STEM related activities to participate in. RamTech has held showcases at local middle/elementary schools; hosted an annual robotics summer camp; volunteered at schools, hospitals, and community centers; ran robotics competitions such as FLL, both in house at our facility and at other locations. The overwhelming support and attendance from our community throughout all our events inspires us to do more each year.

**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?**

In 2019, we completed our most successful Summer Camp and planned on even making it better for Summer of 2020. Due to the pandemic, we decided to hold the 2020 Camp virtually that forced us to design a new curriculum and create a take home kits for each camper. This virtual camp reduced our numbers but insured that we would spread the *FIRST* message. Increased Covid numbers closed other camps that had not planned to go virtual, and we were able to hold ours with much gratitude from parents.

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

Our RamTech members really stepped up by assembling face guards during the start of the pandemic for City of Coral Gables Police and Fire Department, UM/Jackson Hospital, Miami Dade County Schools, and employees at our school. After specific fundraising our members purchased toys and presented them to children at Kendall Regional Hospital during Christmas of 2019. As of this school year, our members have volunteered at FLL tournaments at our campus and assisted at other schools with theirs.

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

Ramtech has assisted many teams such as the "Miami Mengs" team 3410 and "The Unit" team 7193. At the 2018 South Florida Regional, team 7193 was the highest ranked rookie team at 8th place. In 2019, we assisted a new rookie team from Miami Beach Senior High School. In 2020, we mentored team 8104 and team 5329. This year, we are mentoring new rookie teams, South Dade, and American Senior High School. We have constructed a multipurpose robotics facility so all teams in our community can practice.

**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?**

Getting more students involved in FIRST and STEM in general is RamTech's primary focus and continued goal. We do this by going out and spreading the message of FIRST and recruiting kids from a young age to become interested in STEM. The RamTech Robotics Summer Camp is our prime example of this goal. Volunteering at FLL tournaments spreading the FIRST. We can see this rising interest in FIRST with how many former campers have come to our school and joined our First Team as soon as they can.

**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**

Ramtech has hosted and run robotics competitions, showcased at local middle schools, and volunteered with numerous partners. At the start of the pandemic, we collaborated with Moonlighters Maker lab and Coca Cola to produce 4700 disposable masks to donate to essential workers and first responders in our community. During the pandemic, we used the funds from our fundraiser at Chipotle Mexican Grill to visit the Kendall Regional Hospital pediatrics center and donate STEM related gifts to patients.

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

As a team, RamTech welcomes anyone to join and take part in FIRST Robotics. The exhilarating experience of the competitions creates a bond among the members of our team. This positive, fun atmosphere has inspired more students to join our team causing an increase of female members. We strive to encourage diversity throughout our program, promoting the multicultural atmosphere that our members bring, advocating for parents to provide food from their own cultures for after-school eating.

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

RamTech thrives through a constant mentoring method to pass the torch down to future members. Alumni return as adult mentors, who supervise and act as a source of knowledge, experience, and guidance for current members. Upperclassmen use the resources given by adult mentors to accomplish FIRST projects themselves. Then, as underclassmen join RamTech and have become more curious, the upperclassmen act as teachers and guides so that the underclassmen continue the cycle.

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

We have reached out to sponsors and companies throughout our community not only to sponsor RamTech as a club, but to team up with us for the benefit of the community. Ramtech uses connections with members, their parents, and mentors to obtain new and strong partnerships. We have been successful in recruiting and retaining our sponsors which include but are not limited to Motorola, FPL, FESTO, Beckman Coulter, and Dr. Lee Swanger.

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

Our team has displayed a need for significant improvement in the field of communication. To combat our struggles, we have ventured out into creating online chats organized for each branch of our team. That way, members receive messages that apply directly to them and can respond quickly and efficiently. This FIRST season we began a Wiki site to create central learning location for us and our mentees to use for support and guidance during build season.

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

RamTech's goal when fulfilling the mission of FIRST is to give back to the community. We can share information and get people excited about STEM all day, but it means nothing if there is no way for them to channel their newfound STEM enthusiasm. That is the sole reason for why Ramtech hosts so many events. Hosting tournaments first related or not along with our showcases and presentations provides those in our community a great number of benefits and opportunities to further discover STEM.

**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.**

We take great joy in showing our community our involvement in First, showcasing our robots at non-FIRST related events like the Marlin Tech Day Showcase, Jr Orange Bowl Parade, Magnet Ambassador Showcases, and the Miami-

Dade Book Fair. Our robot was also featured in a Rocket Mortgage commercial on October 29th, 2021. Members showcased our FRC team to school district and business officials on November 23rd, 2021, and lobbied to make FIRST a CTSO on January 5th, 2022, in Tallahassee.

## Essay

### What is RamTech?

RamTech 59 is a FIRST Robotics team located in Miami, Florida at Miami Coral Park Senior High School. It is composed of 36 students who are either Engineering magnet students or simply interested in STEM, 5 mentors, 6 alumni, and parents. As a team, we welcome anyone to join and take part in FIRST Robotics. The exhilarating experience of preparation and participation in competitions create a bond among members. This positive, fun atmosphere has inspired more students to join our team. As a result, more young women are joining our team, who we encourage and empower throughout our program.

### RamTech's History

RamTech 59 began as a team in 1997. At its inception, RamTech was a highly recognized program, attested by alumni. Our ambition is to increase our notoriety as a team. Due to the loss of our lead mentor in 2009, we had lost our streak. Fortunately, in 2012, Ramtech would return after adopting a new lead mentor, who fulfills the role currently, Charlie Delahoz. With our newfound leadership, in 2016, we were granted the Hardship Grant by Argosy to help with funding. We also began our relationship with Florida Power & Light (FPL), who sponsored us that same year and continues sponsoring years after, increasing their yearly donation. Since then, we've received more sponsorships from Motorola Solutions Foundation, Beckman Coulter, and other companies. In the summer of 2016, we began the RamTech Robotics Summer Camp which also contributes to our funding. From corporate sponsors and our summer camp, funding leaped from \$3-4K to roughly \$40K last year. We are now back on track towards success, showing significant improvement every year since we returned in 2012. With guidance from mentors and help from sponsors, our team qualified for FRC Nationals for the first time since 2006 when competing in 2018's FIRST POWER-UP.

### Our Mission

Ramtech's mission through FIRST is to encourage students to explore STEM fields with gracious professionalism and create a beneficial impact on our members and community. The goal is to educate future generations, improve life skills through competitions, and prepare the next generation of leaders. We wish to inspire members to use their knowledge and creativity to build a better reality through STEM. Our team is committed to training and preparing members for their futures, as well as spreading a love for STEM throughout the community through service and outreach.

### How We Sustain

RamTech thrives on a constant mentoring method in order to pass down the torch to future members. Alumni return as adult mentors to supervise, acting as a source of knowledge, experience, and guidance for current members. Upperclassmen use resources given by mentors to accomplish FIRST projects themselves. Upperclassmen then teach underclassmen joining the team. Underclassmen are guided and taught by older peers to become the lifeblood of the team and continue the cycle after upperclassmen graduate. In the past, the team was strained by funding to continue the legacy. As a preventative measure, we reserve up to \$5,000 in funds every year since 2016 to be prepared for unexpected obstacles. Since then, we have also benefited from the many sponsorships we gained, going from struggling with funds to being able to go to 4 FIRST competitions with little strain. In the past season, we had earned \$27,300 through donations from our sponsors and money earned through fundraisers. This year, it has more than tripled to \$84,730, with sponsorships like Motorola, FPL, Suncoast Elevator, Beckman Coulter, Dr Lee Swanger, etc.; donations from Miami Dade County, the PTSA, STEAM and EdFed; and funds from our summer camp and competition winnings. We also improve on our mission to encourage students to explore STEM fields in a graciously professional manner and create a beneficial impact on our members and community. We have made it our primary goal in the future to get more students involved in FIRST and STEM as a whole. We have done this by spreading the message of FIRST and recruiting children of all ages to take interest in engineering at every opportunity. The RamTech Robotics Summer Camp is our leading example of this, where we educate campers on FLL. Every year we expand the number of kids allowed to enroll, currently having 75 participating per week. The greatest aspect of the camps is that we become a major influence on these student's lives and futures in STEM, allowing them to grow interest and start learning at an early age. This becomes another way for us to grow as they are encouraged to become future members of RamTech.

### Ramtech's Impact

#### Adaptation of the Past

RamTech was a big influence in 2019-2020 by helping our community through FIRST. We spread our FIRST spirit by visiting community centers and donating STEM related gifts to the kids. In 2020, we donated 4700 disposable face shields to essential workers and first responders in our community which we 3D Printed and assembled. This was in collaboration with Coca Cola and Moonlighters Maker lab. Coca Cola donated the PGT plastic, Moonlighters Maker Lab fabricated and assembled it, and Ramtech designed and 3D printed the shield legs. During the summer of 2020, we saw the incoming risks of opening schools due to COVID's presence. To help school staff and administration, RamTech took action to create protection for as many school workers as possible. We fabricated plastic dividers for 3 schools in Miami Dade county. We also volunteered at Kendall Regional as one of the many ways we spread the selfless morals of FIRST. We spread FIRST spirit by using funds from our Chipotle Mexican Grill fundraiser to purchase STEM related gifts to give to the patients between the ages of 3 months to 18-year-olds, showcasing our engineering club at Kendall Regional Hospital. This gave the opportunity to interact with robots in order to get them interested in the STEM field.

Throughout our years, we have also taken pride in assisting several FRC teams such as the "Miami Mengs" team 3410, and "The Unit" team 7193. At the 2018 South Florida Regional, team 7193 was the highest ranked rookie team, ranked at 8th in the competition. In 2019, we assisted a new rookie team from Miami Beach Senior High School. In 2020, we mentored team 8104 "Squidworks" and "S(A^3)S" team 5329. We dedicated our efforts into constructing a multipurpose robotics outdoor facility so that other teams from all levels and ages in our community can come and have the freedom to practice and further their passions for STEM. We enjoy helping other teams achieve success and we value the connection we build with those teams while doing so.

#### Preparing in the Present

RamTech has had a significant impact in our community through numerous outreach experiences. Ultimately, the dedication and heart of our members is shown through their commitment to the team and the community. In 2021 alone, we volunteered 6,260 hours by hosting and running competitions, showcasing at schools and events, and running a summer camp. We run most STEM competitions and events in Miami-Dade County, including: Multiple instances of the only Miami FLL Tournament, Six "Ten80" Student Racing Challenge competitions, Five "VEX and VEX IQ" robotics competitions, Five drone competitions, The Miami-Dade County Youth Fair robotics competition

At each event, we advertise FIRST every chance given while demonstrating gracious professionalism. These events and competitions expose K-8 kids to STEM at an early age. We believe these students are the future of FIRST and society.

We are proud of our involvement in FIRST, thus we take pleasure in showing our community what we do. We've showcased our robots at non-FIRST related events including the Marlin Tech Day Showcase, the Jr Orange Bowl Parade, the Magnet Ambassador Showcase at various locations, and the Miami-Dade Book Fair. We also used our robot in the Rocket Mortgage commercial on October 29th, 2021. Showcases pique interest towards FIRST robotics, directing children to our team and engaging interest in STEM. We advocated for FIRST as we showcased our FRC team to school district and business officials on November 23rd, 2021, and lobbied to make FIRST a CTSO on January 5th, 2022, in Tallahassee. During the 2022 FRC season, it is our honor to mentor South Dade and American Senior High School as they embark on their FIRST Rookie journey. To help our and other FRC teams in our community, we are developing an FRC wiki to have a guide or reference that wasn't available before, with resources such as a gear calculator. We also continue our training of Rockway and Riviera middle schools for Vex tournaments. While encouraging FLL at Elementaries, we incorporate it in our Summer Camp curriculum, sponsor FLL tournaments at our school, and promote at other venues. During our annual RamTech Summer camp, we give free tuition to financially challenged campers. This stimulates the interest of STEM in youth of the community. It is our mission to create a lasting positive impact on our community, demonstrated through our efforts and dedication.