

Team Number

862

Team Name/Nickname

Lightning Robotics

Briefly describe the impact of the FIRST program on team participants with special emphasis on the current season and the preceding two to six years. 499 Bambos

Our students learn many skills, including, but not limited to, public speaking, technical writing, the engineering process, and handling machinery. Seniors have the opportunity to utilize these skills in the workforce. Bosch, one of our foundational partners, has given internships to 7 of our seniors, as well as scholarships to select student members. In 2017, team alumni created a new series of seminars called Leadership College, which teaches upcoming leaders necessary skills to run our team.

Describe the impact of the FIRST program on your community with special emphasis on the current season and the preceding two to five years 499 Bambos

We actively engage our community in *FIRST* and STEM through outreach events like Robots in the Park. In its 3 years, over 4,900 community members have attended this event, which hosts a variety of STEM-based activities for children of all ages. To inspire girls in STEM, we created the Girl Scout Robotics Exploration Day, where troops earn a unique badge for completing our workshop. Eastern Michigan University has invited us to hold breakout sessions and robot demos at their event, Digital Divas.

Describe the team's innovative or creative method to spread the FIRST message 498 Bambos

We spread *FIRST*'s message in our community by demonstrating our past robots at schools, businesses, public events, and nursing homes in order to reach all ages. We distribute our newsletter to 944 viewers, including team families, alumni, and sponsors. We update our 4,659 social media followers throughout the entire season. Last October, we had the opportunity to present about *FIRST* and demo our 2017 robot to government officials from 10 states and Canadian provinces in the Great Lakes Region.

Describe examples of how your team members act as role models and inspire other FIRST team members to emulate 496 Bambos

Our team is organized to put students at the forefront of decisions, offering 16 different leadership positions to create role models for younger students. With our large team size, we are able to provide many hours of assistance to *FIRST in Michigan*. Last season, we volunteered at 23 *FIRST* events. Many alumni return to inspire our team after graduation; this

year, 32% of our mentors are alumni. Students pass on the skills learned from alumni to the 13 FTC teams in our FTC mentoring program.

Team's initiatives to help start or form other FIRST Robotics Competition teams

497 Bambos

Because of the large amount of veteran FRC teams in our area, we focus on supporting newer teams. Last year, we mentored rookie team FRC6583 by sharing our shop space and helping them through the design/build process. For 2 years, we have helped FRC4405 to effectively plan the electronics and programming of their robot. This year, we collaborated with 2 Australian teams, FRC5333 and FRC5663, to discuss the benefits of programming languages, team operations, and the different aspects of *FIRST*.

Describe the team's initiatives to help start or form other FIRST teams (including FIRST LEGO League Jr., FIRST LEGO League, & FIRST Tech Challenge) 498 Bambos

This year, our faculty advisor reached out to our district's elementary schools and presented information to start FLL Jr. and FLL teams. As an outcome, 1 FLL and 6 FLL Jr. teams were created. In 2013, an 862 alumni started 2 FTC teams; through our mentoring, we have grown to 13 FTC teams in all district middle schools. This year, 14 students from our team mentored the FTC teams in our high school meeting space. We assist the teams in strategizing, designing, building, and testing their robot.

Describe the team's initiatives on assisting other FIRST teams (including FIRST LEGO League Jr., FIRST LEGO League, & FIRST Tech Challenge) with progressing through the FIRST program 500 Bambos

Since 2015, we have biannually hosted Gigawatt's FLL Jr. Expo, engaging K-3 students with activities that promote teamwork and STEM principles. Since 2012, we have hosted and ran the Canton FTC Qualifier; in 2017, we made up 75% of all volunteers. We invite 8th grade FTC students to our FTC Shadow Day, showing them how FRC teams function; this allows for an easier transition into FRC. Our efforts are shown by 10% of our current FRC students having previously participated in other *FIRST* programs.

Describe how your team works with other FIRST teams to serve as mentors to younger or less experienced FIRST teams (including FIRST LEGO League Jr., FIRST LEGO League, & FIRST Tech Challenge) 499 Bambos

In 2015, we created a new student leadership position called the FTC Coordinator. This leader is responsible for communicating to our 13 Lightning-mentored FTC teams, providing student and adult mentors, materials, and workspaces. This year, 14 students mentored the FTC teams twice a week during the FTC build and competition season. This year, our FTC Coordinator

created our new FTC Startup Guide. The Startup Guide details how to start and sustain teams, including acquiring mentors and funding.

Describe your Corporate/University Sponsors 497 Bambos

We organize our sponsors into tiers depending on their support.

Foundational Partners: Bosch, Jabil, PCCS, Belanger Inc. *Terawatt:* Leidos, Schuler, Nissan, Ford, Security 101. *Gigawatt:* BAE Systems, Community Financial, Canton Embroidery, Materialise, Hella, Educational Excellence Foundation, Upper Level Graphics, FCA. *Megawatt:* Barta, Obsniuk, & Jagadics families. *Kilowatt:* Plymouth Rotary Club, Tim Hortons, Jet's Pizza, Palermo, Schweitzer Engineering Laboratories, Adient, & families of 862.

Describe the strength of your partnership with your sponsors with special emphasis on the current season and the preceding two to five years 498 Bambos

Through our team's history, we have formed mutually beneficial partnerships with our sponsors. Leidos and the Education Excellence Foundation gave us additional support for Robots in the Park, further allowing us to promote *FIRST* and STEM to our local community. To reciprocate their support, we provide a tier-based benefit system as well as help them run their events. Since 2016, we have volunteered at Nissan's VEX Robotics qualifier, filling roles such as match queuers and judge's assistants.

For FIRST Robotics Competition teams older than 5 years, briefly describe your team's broader impact from its inception 497 Bambos

Since 1999, we have grown extensively in both student numbers and community impact. We work to promote FIRST and STEM through student participation in our 30+ events, including long-term events like Tour D'Robots and Relay for Life for 5 and 14 years respectively. Additionally, our team gives back to our community through volunteering at United Way Make a Difference Day and Rotary Chicken Dinner. We also impact other FIRST programs through mentoring FTC and FLL teams and hosting *FIRST* events.

Describe how your team would explain what FIRST is to someone who has never heard of it 494 Bambos

FIRST is a worldwide non-profit organization designed for students of all ages. *FIRST* helps students develop life skills such as communication, organization, and teamwork. In addition to applying their skills to building robots, teams can use their experiences to further their future careers. *FIRST* also includes non-technical facets like business, community outreach, marketing, and public speaking. *FIRST* emphasizes the engineering process for students to create solutions to solve problems.

Briefly describe other matters of interest to the FIRST Judges. 497 bambos

To organize our funding, lunches, and travel, we utilize a Robotics Parents & Mentors booster club; this allows our lead mentor to put more focus on running the team. Since 2016, our mentors have presented seminars for an annual event called Mentor Camp, run by FRC68, which aims to help other *FIRST* mentors. Additionally, we attended Ford STEAM Day, where we were honored for promoting STEAM in our community, alongside other high school groups across the country that impacted their communities.