

***FIRST* Impact Award - Team 930**

2024 - Team 930
Team Number
930
Team Nickname
Mukwonago BEARs
Team Location
Mukwonago, WI - USA
Describe the impact of the <i>FIRST</i> 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 <i>FIRST</i> programs as mentors/sponsors.
Team 930 is dedicated to training students for their careers. We have a 100% graduation rate and 85% of alumni, whose impact reaches high-level companies like Komatsu, TAPCO, and Milwaukee Tool, credit FIRST for shaping their education decisions. Our alumni reciprocate with volunteerism, with 20+ volunteering at FIRST events and over 15 coming back to mentor FRC teams. Our alumni volunteer in vital roles such as game announcers, FTAA, and lead volunteer coordinator for the Wisconsin Regional.
Describe your community along with how your team addresses its unique opportunities and circumstances.
Team 930 is located in a FIRST-heavy area, with 60+ FRC teams that we strive to impact. As a veteran team, we run quality events to serve as an example to others. Our off-season event MROC has hosted 35 teams and 1300 people since its start in 2022. Team 930 has donated field elements, game pieces, AV equipment, and volunteer time to FIRST events and has presented 29 workshops, reaching 250+ people in 3 years to share our seasoned knowledge for the success of our FIRST community.
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?
Team 930 spreads FIRST values with robot demos to sponsors and local businesses that have reached over 4000 people. We advocated for STEAM education at the Wisconsin Association of School Boards Conference where we collaborated with another FRC team to hold the FIRST Wisconsin booth. We measure results through the growth of our team. In order to grow, we have presented to our school board 4 times allowing 930 to finance a building, upscaling our workspace to a full sized field.
Please provide specific examples of how your team members act as role models within the FIRST community with emphasis on the past 3 years.
We have started 8 FLL teams & mentored 11, with over 85 participants in the last 3 years. 18 Team 930 students have dedicated 840 hours into mentoring these teams. We host an FLL Kickoff event, assist teams with competition costs, and host them in our high school. We strive to bridge the gap between our

FLL and FRC teams by simplifying the transition from FLL to Team 930. Over half of our team volunteers at our FLL regional and sectional every year filling volunteer roles from judges to emcees.

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

Team 930 strives to assist teams online and in their pits; we have helped 10+ teams with urgent needs during competitions, helping take their robots from non-functional to scoring by offering parts and coding help. In 2022, we launched BEAR Bytes, a Discord server with 162 teams from 8 countries, where teams engage in programming discussion and reach out for help at competitions. We also hosted student-led programming Q&A live streams, which are shared on YouTube with over 500 views to date.

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?

Team 930 runs robotics Summer Camps for elementary aged kids, with over 130 participants and 62 mentors dedicating 1380 hours since 2021. In an introductory and advanced camp, 930 students mentor kids to develop coding, building, and teamwork skills using LEGO SPIKE Prime kits. These camps allow FLL-aged kids in our community to get involved with STEAM through our short, accessible program and act as a pipeline to our FLL teams and FRC. 22 camp participants have gone to join our FLL teams.

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

We have cultured a relationship with our school, Mukwonago High School, along with working closely with the Association for Career and Technical Education program and IT Academy. We've presented and demoed 4 times to our school board and school of 1700 students, resulting in our partnership to finance a dedicated robotics workshop, office space, and full sized field with access to industry standard tools. We host other teams to collaborate with us and test on our field year round.

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

Team 930 promotes inclusivity for women in STEAM through our Society of Women Engineers Chapter, SWEBEARs. SWEBEARs has run 4 events including 3 Girl and Boy Scout events for students to earn badges. At these events we lead Scouts to build, program and present their STEAM skills by building LEGO Spike Kits. In one year our Girl Scout event has grown from 9 participants to 15, and in total 50 participants have earned 122 badges while growing their knowledge in STEAM and promoting inclusion.

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

Team 930 prioritizes constant communication and goal setting throughout our team. Students implement 1, 3, and 5 year goal plans to ensure effectiveness and continuous team growth. During the preseason, veteran members dedicate time to training rookies; this sustains the transition of knowledge between student leads and new members. We use an industry-standard tool called Trello that tracks tasks, organizes all components of the team, and teaches students to undertake team responsibilities.

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

past 3 years

Team 930 embeds core values that impact our 30 dedicated members and 29 sponsors. A team wide “Sponsor Day” is held each Fall for members to contact potential sponsors. Maintaining a collaborative relationship with sponsors is key, done by invitations and tours at regionals, in bi-weekly newsletters, and via social media. Sponsors are invited to our events, displayed on our team apparel, and are featured in our awards for MROC. 13 companies have sustained sponsorship with us for 3+ years.

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

While 930 has a thriving student base of 30 students, the majority know mostly about building and programming. The business and strategy sub teams have fewer members, with difficult transfer of knowledge year to year. To overcome this and promote inclusion, 930 members visit IT, business, and art classes to share that robotics is “More Than Robots” and recruit new students from surrounding high schools. The business team has created 20+ business handbooks to pass information to future members.

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

Along with running an annual FRC offseason event, FLL Sectional, and running the longest FLL Regional in WI, Team 930's goal is to host more competitions for multiple levels of FIRST. Consistent volunteering is a priority of 930 to ensure sustainability for these events. 930 has had over 20 volunteers at every FIRST event that we run, and at our FLL Regional and Sectional, we've hosted 137 teams in past 3 years. We further demo and impact more than 800 students during these events.

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.

Since 2022, Team 930 has run our annual Mukwonago Robotics Offseason Competition, aiming to inspire FRC teams in WI. We also host a team social that 10+ teams have attended, encouraging connections outside of game play. Our event is entirely volunteer run, with help from other teams, alumni, parents, and sponsors. We presented 16 and facilitated 25 workshops, seen by 271 attendees and over 300 online. 35 teams from across the Midwest and 2.6 million people have been impacted through this event.

Judge Feedback**Who/When****Feedback**

Mar 16,
2024
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Do you think that general STEAM outreach or FIRST specific outreach is more impactful/effective for the purpose of bettering our community?

An area the team has an opportunity to improve.

Something that really impressed the judges.

Essay

Team 930, The Mukwonago BEARs, has been an active member in our community for the past 23 years. 930 consists of 30 team members who believe in volunteerism and sustainability to share STEAM across

the globe.

FLL EVENTS: To share the story of Team 930's outreach, we have to start at the beginning with our longest sustained outreach event; FIRST LEGO League. For 20 years we have run the Mukwonago FLL Regional, making it the oldest event in Wisconsin. This year, our regional was the largest in the state with 36 teams. We have run 5 and supported 3 FLL events in the past 3 years. 137 teams have attended our events, reaching over 2000 people across Wisconsin. Our members have put over 1300 volunteer hours into the success of our events. During competitions, we ran robot demos where 914 FLL students and attendees observed our FRC robot. During this demo, 440 kids drove and fed game pieces to our robot, as well as talking to our students to spark their interest in the next step of their FIRST journey.

LEGO ROBOTICS CAMP: Since 2018, Team 930 has hosted week-long summer camps for 4th-8th graders that model a shortened FLL season. In the past 3 years we have hosted 7 of these camps. We hold separate Introductory and Advanced Camps aimed to teach kids regardless of their experience. In the Introductory Camp, kids needed no previous knowledge and learned to construct and program LEGO Robots using sensors. These short and inexpensive camps make robotics more accessible and inclusive, allowing kids to discover unique parts of a FIRST team. In the Advanced Camp, kids used their experience to solve more complex problems such as complicated sensors and advanced programming techniques, all using Python. In the past 3 years, 130 students from 13 school districts across the state attended the camps, expanding our outreach from outside of our local area. Team members dedicated more than 840 hours to running these camps. We also demoed our robot to kids & parents who attended, introducing families to FIRST, with 22 kids who attended the camps joining our FLL teams.

FLL TEAMS: Team 930 strives to impact the future generation as role models. We have started 8 FLL teams and mentored 11. Each FLL team is mentored by Team 930 students who have committed more than 740 hours to mentoring in the past 3 years. We organize our teams by providing practice space and LEGO SPIKE Prime kits as well as assisting with competition fees. Team 930 provides an introduction to FIRST through our FLL teams and then provides an easy transition straight to Team 930, with many of our FLL students joining our team. We also hosted a FLL Kickoff event where we ran a game reveal. Here, our FLL teams got to collaborate with new ideas and help build the new boards to spark creativity.

SOCIETY OF WOMEN ENGINEERS: Team 930 empowers women in STEAM through our SWENext chapter SWEBEARs. Since 2022, we have hosted 3 events for Scouts to earn robotics badges. During our Girl Scouts events, 24 girls learned engineering processes through teamwork activities, programming and designing LEGO robots, and showcasing their designs; 25 girls and boys earned similar merit badges at our Boy Scouts of America events. A total of 122 badges have been earned, with all students being introduced to FIRST by interacting with our robot. Our SWENext chapter also participates in national SWE calls and panels, actively learning how to diversify STEAM and overcome gender stereotypes.

COMMUNITY DEMOS: Throughout Southeastern Wisconsin, Team 930 has spread FIRST values with robot demos to sponsors, schools, and our community 13 times to over 4000 people in three years. One of our longest-running demos is the one we hold at Mukwonago's National Night Out. We have reached over 700 people in our local community through this event, with kids feeding game pieces into our robot and getting a taste of FRC. We have visited elementary schools, middle schools, and high schools, introducing 2200 students to FRC. We also advocated for our robotics program to the Mukwonago School Board through demos, resulting in a partnership to finance a dedicated robotics building; this has

allowed us to expand our projects and goals.

CORPORATE EXPERIENCE: In order to prepare Team 930 members for their future careers, we operate like a real business, meaning that team members work with professional tools like Quickbooks and Expensify to manage actual funds. We also work with tools like Trello, a Kanban organizational system that allows the team to hold each other accountable for our tasks. Every team member has roles and jobs on the team that promote cooperation. Another way that we act as a business is by connecting with other companies via sponsorships. We have had 106 sponsors in the last three years and sustain close connections with our sponsors through sponsor demos, 13 of which we have had in the past 3 years. We also maintain a biweekly newsletter that informs sponsors of our progress throughout the season.

TEAM SUSTAINABILITY: At Team 930's annual goal setting retreat we set 1,3, and 5 year goals to help push our team toward success. Our goals range anywhere from expanding our team to making MROC a nationally-known event. These goals are created by our leadership teams who collaborate with each other closely. We also use our team's social media to advertise our events and publicize our successes. We also spend time in the preseason training new members on industry standard tools like our CNC and programming tools such as Java.

COLLABORATIONS: Team 930 strives to help all FRC teams succeed; one way we do this is by hosting an FRC Kickoff event. In the last 3 years 12 teams and 360 participants, including 2 rookie teams, have attended our event to collaborate with veteran teams. Team 930 also takes great pride in helping any team, even from outside our local area. In January, Team 930 collaborated with over 100 participants on a call from teams worldwide to talk about our ideas for the new game and learn about how other teams operate. Afterwards, Team 9085 from Brazil who was also on the call invited us to a follow up meeting, where we answered their questions about our design strategies and programming. We also donate game pieces and field elements to other teams. These teams come to our workshop to use our full size field and compete with our robot to get drive practice all year round.

BEAR BYTES: To spread our outreach internationally and connect with other teams, Team 930 started the team collaboration initiative BEAR Bytes. BEAR Bytes started in 2021 as a Discord server designed for any team in need of programming help to get assistance and troubleshooting from fellow FRC teams. Only 3 years old, BEAR Bytes has members from 169 FRC teams across 8 countries giving and receiving assistance from each other. We have also hosted Q&A livestreams held by Team 930 members where anyone can have questions answered in real time. These livestreams are posted to our YouTube account with over 300 views to date. Expanding upon the online efforts of BEAR Bytes, over the past year we have built upon our initiative to not only help teams online, but also in their pits. We take pride in having assisted more than 10 teams in the pits during competition weekends. When a team reaches out to us or we notice a team has a problem on the field, our members jump in to assist by fixing code, creating auto paths, and lending parts in order to improve their robots from nonfunctional to competition ready.

MROC: Started in 2022, the Mukwonago Robotics Off Season Competition is where we strive to be Wisconsin's premiere off-season event. Team 930's drive to raise the level of competition for other teams helped to inspire MROC, which hosts tournament-level play comparable to a FIRST Regional. In the two years since its creation, MROC has hosted teams from 3 states and had 1300 attendees. Each year we have held a team social to give teams a chance to make connections and find new friends on local teams. MROC even got attention from news stations WISN 12 and Spectrum News 1, reaching

audiences of about 2.5 million people across our region. We have held an annual donation drive of school supplies and in just two years we donated 39 backpacks full of school supplies to local communities. The success of MROC inspired other teams in the creation of new off-season events. We assist these teams with field elements, game pieces, AV, event expertise, and hours of volunteering to better the other events in our community.

WORKSHOPS: We value raising the floor for competition among our fellow teams. In the last three years, we have presented 29 workshops at events such as FIRST Wisconsin's FRC Training Day, our off season competition MROC, and our FRC Kickoff event. At these workshops, Team 930 students and mentors present information for 600 people on subjects ranging from business tools to mechanical design. We have also brought in other teams to present their workshops, teaching each other and raising the quality of play for many teams in Southeastern Wisconsin. We have facilitated 34 workshops to share knowledge among teams. These workshops have been recorded and posted on our team's YouTube channel, amassing 540 views online.

FUTURE OF TEAM 930: Team 930 strives to build and inspire the future leaders of tomorrow. From involvement in FLL to connection with FRC teams through MROC and workshops, Team 930's outreach always pushes to leave a lasting impact on our world. Continuously growing our initiatives allows Team 930 to not only create a path to the future for ourselves but pave it for everyone else along with us. Team 930 is determined to sustain our feats and leave an impact, no matter the challenge. ;

