Chairman's Award - Team 2500

Print Close

2020 - Team 2500

Team Number

2500

Team Name, Corporate/University Sponsors

Coloplast/Boston Scientific/General Mills/Medtronic/GAF/The Bakken Museum/Seagate/St. Thomas University/NASA/L.B. Carlson, LLP/FIRST Upper Midwest/Shingle Creek Neighborhood Association/Minneapolis Public Schools/Install This Sign and Awning Co./Patrick Henry High School Foundation/Girl Scouts of Minnesota and Wisconsin River Valleys/Patrick Henry High School Booster Club/Dunwoody College of Technology/Big Bob's Flooring Outlet/Siwek Lumber/Ajax Metal Forming Solutions/Thirsty Whale Bakery/Minneapolis Urban Robotics Alliance &Henry High School

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

-Members acquire skills in leadership, problem solving & public speaking. -Strong mentor-student relationships are mutually beneficial. -Former exchange student started a team & is growing FIRST in Japan. -75%+ of team alumni pursue STEM/business careers. -Involvement in FIRST provided 25 internships, giving students real-life experience working in STEM industry. -Students receive scholarships (many first in family to attend college) & explore college/career pathways through FIRST.

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

-Founded Minneapolis Urban Robotics Alliance (MURA) to strengthen urban sustainability. MURA includes 15+ FIRST teams, & has resulted in increased retention rate. -Developed pathways from FLL to FRC in Minneapolis through FTC. -Working with MPS to support further growth of FTC. -Recruited for our school's STEM programs through outreach. -Promoted STEM career pathways through Herobotics & FIRST. -Formed Engineering Advisory Board with 8 partners to bring STEM curriculum to industry standards.

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

-Founded American Urban Robotics Alliance (AURA), uniting teams from across the U.S. to promote sustainability of urban FIRST Teams nationally. Teams from cities including N.Y.C., Philadelphia & L.A. -Engaged in 160+ STEM/Non-STEM events over 5 years. -Promoted FIRST to 100,000+ people over 5 years. -8,000+ hours of community outreach over 5 years. -Engaged in outreach focused to underrepresented & K-8 youth. -Hosted four exchange students on the team, spreading the FIRST message globally.

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

-Cultivate inclusive & welcoming culture on our team. -Composed of diverse team background (50% female & 15+ languages spoken). -Present numerous workshops on diversity & inclusion at off-season events, regionals & FIRST Championship. -Promote the sustainability of urban teams locally & nationally through MURA & AURA. -Remain tenacious through adversity to remain sustainable & successful. -Promote FIRST & STEM pathways to underrepresented & K-8 youth through outreach events in our community.

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

-Started Japanese FRC Team 6909 SAKURA Tempesta through exchange student involvement on team. -With nearly all high schools in Minneapolis already having an FRC team, we've focused our efforts instead on promoting & securing the sustainability of urban FRC teams locally through MURA. -Assisted with team recruitment to restart urban teams. -Created AURA to support sustainability of urban FRC teams nationally.

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

-Started 5 FTC teams in local middle schools after receiving FIRST STEM Equity Community Innovation Grant in 2016. -In process of partnering with MPS to form FTC programs across middle schools in district. -Encouraged urban parents & faculty at MPS FLL Tournament & other events to form FIRST teams in their own schools & neighborhoods. -Support the sustainability of urban FTC programs through MURA. -Started FLL team at local community center to engage urban youth in FIRST programs.

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

-Created a full-sized FRC & FTC practice facility (MURA Field), aiding in success & sustainability of FIRST teams across the region. -Hosted open houses, FTC workshops, & FTC League meets at MURA Field. -MURA Field served as a prototype facility that secured FUM a $100,000 grant to fund practice facilities across MN. -Promoted FTC & FRC at FLL tournament encouraging continued youth involvement in FIRST. -Hosted statewide workshops to FRC teams on awards, diversity & inclusion, & outreach.

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)

-Founded & organized MURA to foster the sustainability, collaboration, & competitiveness of urban FIRST teams in our area. -Mentored local FLL & FTC teams through their first seasons to support their success. -Hosted & mentored 10+ FIRST teams in our facility in areas of build, programming, leadership, imagery, & awards. -Mentored & supplied resources to FIRST Team 6909 SAKURA Tempesta, supporting the start & continued growth of their team & FIRST in Japan.

Describe your Corporate/University Sponsors

-Corporate Partners: Coloplast, Boston Scientific, Medtronic, NASA, Seagate, Ajax Metal Forming, LB Carlson, LLP. -Community Partners: Shingle Creek Neighborhood Association, Install This, Girl Scouts of Minnesota and Wisconsin River Valleys, Patrick Henry High School Foundation, Patrick Henry High School Booster Club, Siwek Lumber. -Education Partners: Minneapolis Public Schools, St. Thomas University, Patrick Henry High School, Dunwoody College of Technology.

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

-Redefined sponsors as partners to illustrate the strength of our relationships. -Secured grants to build & continue to operate a FRC/FTC practice facility for MURA & metrowide teams. -Established strong mutual partnerships with 10 business partners for at least 10 years. -Collaborated with partners on strategic STEM advocacy & events. -Strengthened partner relationships with on-site company visits. -Offered 25+ professional internships to team members through partner support.

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

FIRST is a life-changing, worldwide robotics competition for K-12 youth; it transforms culture & expands innovation in STEM. However, it's more than just robots; through partnerships with 3500+ sponsors, FIRST grants participants a solid pathway for the future. FIRST benefits all students by creating scholarships, college opportunities, & careers in STEM. Together with over 10,000 teams from around the globe, FIRST is moving forward and building the future generation of innovators & leaders.

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

Herobotics has always sought to have an impact beyond our team & contribute to our global community. We seek to transform the culture of STEM by advocating for new FIRST opportunities for underserved youth & encouraging the success of urban teams nationwide. We don't only serve within FIRST; we also support our community through outreach events, & charity campaigns. By building people, not just robots, Herobotics is able to build sustainable futures for underrepresented, urban youth in STEM.

For FRC teams older than 5 years, briefly describe your team's broader impact from its inception.

Beginning as a small, tenacious crew in 2008, Herobotics has grown over the last 13 years to become a leader in urban robotics. We strive to not only succeed in our own team's sustainability but continue on our mission to help other urban teams sustain and develop the tools for success. Through founding MURA and AURA and expanding their reach, we are continuing to build sustainable futures for underrepresented, urban youth to follow and pursue their passions in STEM.

Team Captain/Student Representative that has double-checked this submission.

Isabella Luna

Essay

FIRST Team 2500 Herobotics strives to change the face of STEM through dedicated work to build sustainable futures across our city, region, & world. By connecting underrepresented youth with tools & resources they need to succeed, we are able to empower the next generation of innovators & help build a new sustainable future.

Herobotics has remained sustainable over the last 13 years as a result of our unique team culture. Our core value is that everyone has the ability to learn, grow, & thrive in FIRST. All team members live by the credo of "Each One, Teach Two". This effort pushes veteran team members & mentors to teach at least two newer members what they know, supporting our team sustainability. Another core value is our inclusive team culture, reinforcing the idea that anyone, regardless of who they are, has a place in FIRST. Our diverse school unites people of all backgrounds, & our team culture helps each member feel welcome & safe. This inclusive culture has created a team of many different backgrounds that's 50% female and speaks 15+ languages. Our diverse member base propels us to champion diversity in FIRST. In the last five years, we've led presentations on Diversity & Inclusion at regionals, workshops, & even the FIRST Championship. By constantly creating a sense of belonging for team members, Herobotics builds a sustainable future for our team.

Herobotics is a major recruitment force for our high school, attracting students & building pathways from across the city to our engineering programs. To reinforce skills that students learn in FIRST, we sought to improve our school's STEM programs. Herobotics was instrumental in our school being one of 20 worldwide to pilot the International Baccalaureate Career-Related Programme (CP), which combines rigorous global-minded coursework with hands-on STEM experience. As a result of Herobotics' promotion & integration of CP, enrollment in the program has increased, as team members see it as a natural fit with their experiences in FIRST. We also recruit for Project Lead the Way (PLTW), which helps students apply teamwork, design, & problem-solving skills central to FIRST. Herobotics also helped form an Engineering Advisory Board, bringing together mentors & eight business partners to continually improve our engineering programs, meet industry standards & integrate trades back into the curriculum. By strengthening our triad of PLTW, CP, & FIRST, we build a sustainable future for students to pursue STEM pathways in our school & beyond.

Herobotics is not only about building robots, it's about building our community. Throughout our history, we've sought to expand the presence of FIRST, raising awareness of the great opportunities of the program. In the last five years, we've dedicated 8,000+ hours to community outreach, exposing 100,000+ people to the benefits of FIRST. By presenting at 160+ STEM & non-STEM events, we've reached an even broader audience & further generated interest in FIRST. A key focus of our team is outreach to K-8 youth, aiming to inspire them to pursue their passion in STEM through FIRST. One example is our outreach at the annual Minneapolis FLL tournament. At this event, we present on the progression of FIRST programs to the nearly 2,000 youth & adults in attendance, encouraging them to continue in FIRST through middle & high school. By promoting FIRST to youth & adults alike across our community, we generate further interest in the program, creating a sustainable future of FIRST involvement at all levels.

In observing the challenges that urban teams face with sustainability in our city, we formed the Minneapolis Urban Robotics Alliance (MURA). Beginning as a coalition of 3 teams in 2015, it has since grown to include 15+ FTC & FRC teams from across the city, coming together to share resources & promote sustainability. MURA has helped to connect schools within Minneapolis, assisting in the awareness & accessibility of FIRST for underserved youth. Through MURA, we also work to bridge the gap between FLL & FRC in Minneapolis. With the help of a FIRST grant, we started 5 FTC teams in 2016, hoping to create solid pathways for youth in Minneapolis to participate in FIRST all the way to graduation. Now through MURA, we will be partnering with our school district to support more FTC teams to start & thrive, further elevating access to FIRST. By building pathways through FIRST & supporting each other to succeed, MURA has led to an increased retention rate of urban teams in Minneapolis, building a sustainable future of FIRST programs citywide.

A major accomplishment of MURA was the creation of a full-sized FIRST practice facility called MURA Field. Our vision began in 2018 when Herobotics captains advocated to the school district for designated workspace. After raising thousands of dollars & dedicating 400+ hours of build time, MURA Field was born. Since then, MURA Field has transformed into a community resource aiding teams from across Minnesota (MN). The facility has hosted numerous FIRST events, including FRC open houses, FTC workshops, & FTC league qualifiers, engaging teams, community members, & politicians from across MN. Last year, we assisted with the addition of a full-sized workshop & robot parts depot to the facility, greater supporting the ability of teams to innovate, iterate, & improve. Access to a practice field is proven to bring great benefit to teams in Minneapolis & beyond; nearly 100% of FRC & FTC teams that utilize MURA Field for practice improve between competition events.

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Our successful implementation of a FIRST practice facility was used as a prototype by FIRST Upper Midwest (FUM) in their proposal to the State of MN Department of Employment & Economic Development to fund the creation of more facilities statewide. With MURA Field being designated as Phase 1.0 of the proposal, FUM successfully received a $100,000 grant to fund five competition-official field perimeters for use in newly created community practice facilities around MN. MURA Field successfully applied for & received the first of these field perimeters, striving to provide a more realistic environment for teams to practice & improve. Through MURA Field & the newly created practice facilities, robot competitiveness is able to increase, further fueling the sustainability of teams in MN. As a result of the success of MURA Field, MN teams have greater opportunities to connect, practice, & succeed in FIRST.

Recognizing the value of MURA in Minneapolis, Herobotics founded the American Urban Robotics Alliance (AURA) in 2018 to expand our urban sustainability initiative nationally. Since then, AURA has grown to include teams from several major cities around the U.S., including Philadelphia, Los Angeles, & more. Currently, we are developing an urban resource library & contact list, & hope to host video conference calls for teams to collaborate & share resources. Our vision for AURA is a blossoming national network, developing connections & financial support streams that reinforce sustainable futures for all urban FIRST teams.

After creating strong local & national connections, we sought to build a sustainable future for FIRST globally. Over the years, we've welcomed exchange students to the team from several countries, including The Netherlands, Malaysia, Japan, & Bangladesh, who discovered the magic of FIRST by being on the team. The impact of FIRST inspired our 2017 exchange student, Kanon, to return home & spark the development of FIRST in Japan. Through our guidance, mentorship, & support, she founded FIRST Team 6909 SAKURA Tempesta, the third FRC team in Japan. With our resources & mentorship, 6909 advanced to the FIRST Championship their first two years, even winning the Chairman's Award in Hawaii their second year. The team is now working to build a sustainable future for FRC in Japan, starting more teams & campaigning for a home regional event. Kanon's involvement with Herobotics has come full circle, returning to Minneapolis once again to attend college. She currently serves as an alumni mentor for our team, helping to further grow the sustainability of our connection with our sister team halfway around the world.

Participating in Herobotics has a transformative effect on our members. Team captain, Bella, elaborated on the team's impact on her: "Herobotics has given me opportunities to reach out to my community, grow as a person, & build life-long friendships. Being on the team has helped reinforce my future pathway in STEM & has truly been a life-changing experience."
Through the development of both technical & non-technical skills, team members have received numerous scholarships & grants helping them pursue their post-secondary education. As a result, over 75% of team members have gone on to pursue careers in STEM, art, or business, utilizing skills learned on Herobotics to thrive in college & beyond. Over the years, numerous alumni have also returned to the team as mentors, sharing knowledge gained from their studies & careers to assist the team & its members. With the support of alumni, team members are able to see what sustainable futures built from FIRST look like, encouraging participation through & after graduation. As a result of our engagement in FIRST, Herobotics motivates team members and alumni to build a sustainable future for themselves in STEM.

Herobotics is dedicated to building sustainable futures for urban youth. We break down barriers in our city, region, & world, increasing engagement in FIRST & developing the next generation of leaders & innovators. We strive to constantly innovate, building new communities & programs that broaden the reach & accessibility of STEM. By promoting the sustainability of urban robotics, diversity & inclusion, & the many benefits of FIRST, Herobotics is building people, not just robots. By continuing to empower underrepresented youth with opportunities in STEM, together we are building a new heroic future.