Chairman's Award - Team 3061

Print Close

2022 - Team 3061

Team Number

3061

Team Nickname

Huskie Robotics

Team Location

Naperville, Illinois - 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.

We experience life in a mini-engineering company, gaining technical & life skills through 11 sub-teams & 20+ leadership positions, guided by dedicated mentors. Developing vital interpersonal skills, members emerge as assured individuals prepared for their aspirations. As a result, 100% of recent Huskies graduated high school, the majority pursuing STEAM careers. Many are recipients of FIRST Scholarships & internships at companies like SmalTec & Molex (our sponsors), Boeing, SpaceX, & NASA.

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

We build & expand our FIRST pipeline in our diverse K-12 district with a thirst for STEAM opportunities. Through events like Robot Showcases, we connect with wide audiences who discover our team/FIRST &, beyond support, eagerly join our mission. We are repeatedly asked to impart skills & experiences at museums, universities, & more. Starting & mentoring FLL & FRC teams, we're invited to district galas, award banquets, & our district's Building Passion video- held up as a figure of inspiration.

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?

Enduring bonds with our district enrich our FIRST platform. With a mentor in a STEAM-related district position, we've harnessed opportunities to increase FIRST exposure, retaining & integrating members. We meet key milestones in long-term goals of connection, sharing content like CAD & Software & rerunning successful outreach across global audiences. We interpret & measure success as positive follow-up surveys & interviews, strong numbers from documentation forms, as well as smiling faces.

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

+Ran 2 mock FLL tourney: 32 district teams +Made 274 online FRC resources, technical/leadership/team development: 5000+ views +Optimized plans to 3D print 8x more PPE w/FIRST teams +Helped 5 teams at competition: build collection systems, debug code +Made/Shared FLL coach training website & videos w/3 teams to start clinics +Made SPOT: accessible open-source scouting app framework, teams easily craft scouting apps = Won Gracious Professionalism Award at Midwest Regional 4 of last 10 yrs

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

Started: 28 FLL district grade school teams w/Amazon $30k grant (resecured this year); 1 FTC & 1 FRC team raising $29K+ Mentored: 10 FLL teams 29 seasons total; weekly taught 3 FTC teams CAD/design/strategy Assisted: 150+ teams annual FLL Coaches Clinics, 3 rookie/second-year FRC teams & 26-hour holistic training; Annual leadership workshop w/global FRC attendees; Annual workshop for FLL teams w/info on registration, budgeting, & logistics; Host annual FLL Qualifiers 100% student-run for 6 yrs

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?

To outreach is to guide. We know the importance of STEAM opportunities, evolving & tailoring our activities to young minds. Through our Keep Fix Try method (KFT) we evaluate every event for efficiency & impact. With feedback, we increase efficacy, growing as role models through recurring events; e.g. we empowered 5th-grade girls by teaching software, circuitry, & confidence. They created pianos, motion-detecting lights, wonder women cuffs, & more; many of whom now participate in FLL!

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

Our team: +Engineering World Health = soldered EKG kits distributed to low-income medical facilities globally +Dupage Children's Museum = 5000+ youth reached through robot demos running Pop-Up STEAM events in-person & virtually +Naperville School District 203 = 32 FIRST teams across 13 schools +Molex = provided feedback to KoP 1st-time supplier & design guide = In 3 years, we have reached 200,000+ individuals beyond our team maintaining lasting relationships with 20+ organizations.

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

-NCWIT Sit With Me campaign- promote minority voices/diverse ideas sharing stories of influential women w/media -HuskieADAPT adaptable toys: students w/disabilities -Us + Rich Township School District + Governor State University + National Society of Black Engineers = $25k grant, starting FRC 8160 in district w/75% family poverty & 88% African American students -Partnering w/FTC 11392 to run a robotics camp = $4k to start FTC 15285 serving underprivileged students in the south suburbs

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

We remain synchronized through continual intrateam project KFT reflections & our Trello board, supported by Scrum meetings. We teach essential interpersonal skills through methods like EDGE (explain/demonstrate/guide/enable) & hold crucial conversations in annual leadership workshops. We pass the baton of accumulated knowledge & best practices to younger members, enabling our team to sustain initiatives & ensuring future success in a cycle of inclusion, leadership, & evolution.

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

-Recruited-> Ionetix & Mesón Sabika w/parent/alumni resources -Mail weekly subteam activity recap to stakeholders -Invite stakeholders to annual Robotics Showcase -Sent Thanksgiving emails to sponsors w/past season summary & videos -Sent team challenges to Molex-> connected with experts: CAN wiring + career panel -Mentored Navistar employees in FLL company competition: strategy-design-coding -Won Leadership Award in KLA's annual RoboGames -Toured Prismier facility w/joint BattleBots team Q&A

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

With a demanding schedule, members dedicate 24+ hours weekly to robotics in a high-performing district, which makes it hard for members to balance academics, activities, & self-care. We support members like a family, implementing: academic support, Big Sibling/Little Sibling, theme days, & game nights to enforce team bonds & uplift all members, but especially those who've never experienced a build season or competition. Beyond being an extracurricular, Huskie Robotics is a supportive family.

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

We build a collaborative & innovative environment that maximizes student opportunity. Students lead the team, from designing subsystems to fabricating robot parts, exploring & developing technical skills alongside leadership experience. We also require members to do 8 hours of outreach (many exceeding), promoting communication & service. Through these efforts, Huskies has grown from 5 members at our inception to 100+ members, pursuing the mission of FIRST as we develop into future STEAM leaders.

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.

A nurturing environment is vital to our Huskie Robotics family & everything we accomplish. Setting the table before meals, eating & chatting together, highlighting team milestones/achievements, & cleaning up together in a shared space creates our close bonds, fostering a strong sense of belonging. We celebrate our extensive journey & potential, as a team. We are proud of our ever-growing and ever-connected family: our members, alums, mentors, and community. Once a Huskie, a Huskie forever.

Essay

14 years ago, Huskie Robotics was 5 pups with passion. Now, we stand as a proud pack of 100+ Huskies striving to become future leaders who inspire hearts & minds through our team culture, dedication to uplifting our community, & devotion to STEAM & our FIRST family.

Rapidly Reacting to COVID-19
Transitioning virtually, we held Zoom meetings with socially-distanced outdoor meetings to introduce new members to robotics, holding a scavenger hunt, a drive-in movie night, & weekly game nights to boost team bonds.

Even with limited interactions, we retained our team size. Our core goal: providing for our community. Last year, we 3D printed 1300+ face shields & 1000+ ear-savers for frontline workers & school staff, kept youth engaged in STEAM with engineering challenges & an FLL Camp, & empowered kids remotely, from crafting marshmallow catapults to coding LEGO robots.

Through our COVID-19 response, we assisted our community safely & effectively. Through TikTok, we connected with a Florida local & created a prosthetic hand for him to play trumpet. The student-led project taught new members prototyping, 3-D design, CAD, & assembly for real-life use. And we went global with outreach, distributing EKG kits to low-income medical schools.

This year, reentering an in-person environment, with many of our peers never experiencing a "normal" season of robotics, we emphasized the value of connectivity through implementing support systems. Through adding weekly theme days & our Big/Little Sibling infrastructure we ensured inclusivity, growth, & peer mentorship- spurring community amongst our team & personal responsibility leadership.

We encouraged progress of new member technical skills through Subteam Outreach Projects. Functional play promotes the development of motor skills & independence; Huskie Robotics joined an initiative started by the University of Washington to specialize robotic plush toys for children with disabilities. Our electrical subteam modified these toys with a special adaptive switch: at the push of a large button, our HuskieADAPT toys sing & dance.

Infinitely Recharging
As a student-run team, our team structure is key to our success, upholding sustainability & leaving legacies. Our team is composed of 3 main branches, overseen by 3 Captains: Business, Robot, & Strategy- each composed of multiple sub-teams, individually led by a student lead who primarily develops subteam skills through strong leadership & technical guidance. A Team Project Manager holistically communicates across Team Leads & Captains, guiding Feature Project Managers (FPMs). FPMs work across subteams, ensuring each mechanism of our robot is successfully implemented with all members engaged. This year, with roles of Social Media Manager, Systems Integration Specialist, Materials Manager, & Co-Leads, we've specialized to our team's unique needs, skill sets, & members.

We use previous failures & successes to power our team. For example, continuous & end-of-season "Keep, Fix, Try" (KFT) team-wide discussions allow us to reflect & improve. Through one KFT, we began annual leadership workshop series for current & future team leaders. Guided by mentors, students learn servant leadership, crucial conversations, & risk/project management. Functioning as a mini-engineering company, we remain organized, using Scrum & Agile processes to divide our 8-week build season into sprints & efficiently accomplish our goals.

Huskie Robotics is not just a robotics team, but also a family. With mental health as a priority, our team unites & builds resilience through a supportive system of leisure activities, member check-ins, & promotion of self-care. Student Leads promote balance, sending reminders to prioritize mental well-being over robotics, while adapting meetings to members' energy levels. With our dinners, we ensure time to rewind & build community while dining together.

Learning from Huskie Guides
Huskie Robotics, committed to being student run, is supported by the dedication & impact of our 17 mentors. As subject-matter experts, they ensure transmission of institutional knowledge & experience, provide insight on advanced topics, & share project management & marketing strategies. Our mentors prompt us to reflect on our obstacles- questioning & guiding us instead of directly giving us solutions.

A mentor helped one of our students recognize a passion for mechanical engineering & helped introduce him to his college. Per Jacob Oblazny, a junior at Rose-Hulman, "I wouldn't have learned this without the support of mentors allowing me to make mistakes & then helping walk me through how I could improve."

Leaving our Paw Prints

Through experiences on the team, alumni have received FIRST scholarships & gained admission to prestigious colleges. Alumni give back, volunteering at FIRST competitions, even starting rookie FRC Team 8808 in Louisiana. Thanks to FIRST, a vast majority pursue STEM majors, poised to be leaders in their fields & communities. Alumnus' FIRST skills have been recognized through internships & job offers from JPL, Boeing, Collins Aerospace, SpaceX, Molex, Apple, NASA, Grid Connect, Microsoft, Caterpillar, & Tesla.

Inspiring Pups
Huskies participate in a variety of outreach events with our sponsors, school district, & community, proudly promoting STEAM & FIRST. All members must volunteer 8 hours but many go above, resulting in 3600+ outreach hours over the past 3 years!
Huskies have seen exponential growth in our impact. Across 3 years, we've reached 200K+ people thanks to student initiative & coordination. Our true measure of impact is sparkling eyes & delighted smiles.

Increasing Inclusion in STEAM
Huskie Robotics supports individuals of all backgrounds & experiences as diversity creates something greater. We find this in the NCWIT Sit With Me campaign. We find dedication to empowerment, reflected in a 35% increase in women on our team & over 50% female leadership across 3 years, shattering the glass ceiling in STEAM. Embracing diversity, we made the message our own. After our semester-long Meadow Glens Girls in STEM mentorship, Mrs. Nofke, a founder of the club, remarked "they often shy away, but for them to see you step up, inspired them to be leaders as well, it's been an amazing experience!"

Community Partnerships
Huskie Robotics values all partnerships, including our sponsors. Last season, we gave first-time KoP supplier, Molex, feedback as they developed components. This season, we won the Leadership Award in KLA's annual RoboGames.

Chris Berg, the Public Programs Manager at DuPage Children's Museum, shared "when they see kids in their own community participating in some advanced robotics competitions, they get inspired." Partnering with the museum, we spread STEAM & FIRST to 1500+ young minds with repeated events.

Maintaining engagement in extended communities, we taught a 4-week elementary-level virtual STEAM camp with demos & at-home activities at Governors State University.
Our positive influence generates close outreach partners who reach out repeatedly, resulting in 3100+ people impacted over the last 2 years.

#BuildTheFuture
As passionate advocates for FIRST, we believe inspiring young minds is key to creating leaders & innovators of tomorrow. Our mission is to spread STEAM by starting & mentoring robotics teams.

FLL
We partnered with our school district to start 28 new FLL teams among 14 schools with a multi-year $40,000 Amazon grant. To support local FLL teams, we provided mentoring for 11 teams over 28 collective seasons & since 2016, have hosted & run an FLL Qualifier. Huskie Robotics created an annual FLL Coaches Clinic in 2013 to share our extensive FLL experience, assisting 150+ FLL teams over 9 years. This year, we provided feedback to FLL Team 53354, helping them advance to state. We mentored All Saints Academy's rookie FLL Team weekly for 3 months, familiarizing them with FIRST.

FTC
FTC presence in our city has grown to a powerful force. Through outreach, community FTC team 11392 formed in 2017. Huskie Robotics works closely with them, providing mentors, volunteering at competitions, & partnering at events. Supported by Huskies, they started sister FTC team 16457. Raising money through robot camps with FTC 11392, we also started FTC 15285 for underserved students. In the past with FTC Team 16915, & this year with FTC Team 19379, we provided mentorship and resources with CAD & 3D printing.

FRC
We initiated & led a partnership with Rich Township High School District 227 (D227), Governors State University, & the National Society of Black Engineers to start an FRC team for underrepresented students of D227. The coalition was awarded a $25,000 grant from Motorola Solutions, funding FRC Team 8160.

We shared a 26-hour review of FRC with 8160 & others. A head coach described the experience as "truly motivational". We assisted 5 rookie & 2nd year FRC teams worldwide by publishing our summer clinic resources on social media. We continue to support teams, sharing training videos to develop technical & managerial expertise.

Gracious Professionalism & Coopertition
We are proud to have won the Gracious Professionalism Award at the Midwest Regional 4 of the last 10 years. Beyond regionals, one of many instances of continued assistance is our mentorship of FRC 7237, visiting them to share our team structure, scouting app, & technical skills. Sharing our team's tech with others, we recently released SPOT, an open-source, modular scouting app platform upon which teams can deploy scouting apps with no prior experience or extend

for their own custom specifications.

Huskie Pack
Huskie Robotics fully embraces the FIRST ethos, having made a deep impact on multiple levels. After 14 years of passion, hard work, & love, we are leaping higher than ever before. We stand for diversity, inclusion, & sustainability. We are coopertition & gracious professionalism, innovators & believers. We are Huskie Robotics.