

Chairman's Award - Team 1741

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2022 - Team 1741

Team Number

1741

Team Nickname

Red Alert

Team Location

Greenwood, Indiana - 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.

Red Alert teaches the importance of a defining phrase within our team, Challenge Accepted. We teach skills necessary to succeed in college and beyond with a focus on communication, leadership, and technical expertise. We host leadership training to encourage team building, growth, and a positive learning environment providing a second home and family for all. We have a 100% graduation rate, 83% of students go into STEAM fields, and 34% of our alumni have continued in FIRST.

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

We are based in a suburb south of Indianapolis in our Innovation Center, which is a center for STEAM in our community. We are the only extracurricular to participate in creating a float in our school's homecoming parade. We have bridged the gap between many communities and changed the culture through our relationships. This is evident when the school considered us in the building of the fieldhouse to make sure that FRC tournaments could be hosted there with ease, allowing us to host one in 2019.

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?

We open our shop to the community through camps and open houses. In 2019 we started an annual tradition hosting a Trunk-Or-Treat, exposing over 3.2k people to our program and allowing us to partner with local businesses. Recently, we advocated at the State House to raise awareness of FIRST to Indiana legislators. We work with IndyCar driver Charlie Kimball to spread FIRST through interviews and collaboration. We measure and count the number we impact and document our results at each event.

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 team members continually serve as student ambassadors, emcees, field reset, media, and more at all levels of FIRST competitions. We are one of the go-to teams for FIRST Indiana to ask for volunteers and have created videos for FIN several times. We have also presented at both Purdue and Indiana University FIRST forums since their inception. We encourage all students to serve as mentors for FTC and FLL teams within our school corporation, providing a role model for younger generations.

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

We've set aside \$15,000 to start and support FIRST teams in our community. This goes towards giving teams tools, materials, and funds to start and sustain teams. Through this program, we have bought 3 FLL kits and an FTC laptop. Our alumni have also started FRC teams 5188, 4272, and 7457. We host scrimmages and have an open-door policy for all levels of FIRST for teams to utilize our shop and fields. A majority of our team also mentors other FIRST teams, this helps them acquire a varsity letter.

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?

One of our members created a Girl Scout patch called GEARS (Girls Engineering Awesome Robots Successfully). We welcome Girl Scouts into our shop to introduce them to FIRST programs and earn patches. We have been able to host a demo at the State Museum's grand opening of the Rube Goldberg exhibit. We've also held 4 mall demos around the state, impacting over 3.5k people. In 2020, we provided student leaders and mentors for a STEAM club in our IC, reaching over 200 students each week.

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

Cummins gave us a grant for a CNC router that we share with teams across the state. Similarly, we have a strong relationship with the Center Grove Education Foundation, who has become a sponsor, and ally. We partner with Connections Graphics, who provides us with merchandise, and led them to make apparel at FIN events. Toyota Materials Handling also provided us with a \$20,000 grant to host tournaments alongside other teams. We also partner with a local coffee shop to have our own coffee flavor.

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

Diversity within our team is another critical emphasis, supporting a team with a 32% ethnic minority representation and 18% female population. We developed an inclusion statement, putting an added emphasis on diversity and equality for our team. We emphasize everyone having an equal experience no matter what, and provide scholarships to cover student dues for families in need. We also have specialized meetings for students to talk with mentors to ensure everyone feels safe and included.

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

Since our founding, Red Alert has maintained a 501(c)3 parent organization that can ensure financial stability for our team and our activities. We also have an in-depth risk-management plan, and it now includes how to handle a global pandemic. Recently, we've adapted our tournaments to make them sustainable, flexible, and efficient. We have created a pipeline that flows from pre-K to 12th grade and includes 46 FLL teams, 3 FTC teams, and an FRC team. We also provide student and mentor training.

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

We maintain positive sponsorship relations through mutual support. We annually invite them to our banquet, as well as open houses. We support these relationships through handwritten cards, social media, and corporate STEM nights. We partnered with a local coffee shop to develop our own coffee flavor, Robot Rampage, and are working on an Ella's Frozen Yogurt flavor, bringing robotics to a new demographic. Our anchor sponsor developed a college scholarship for Center Grove robotics students.

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

Our team has made an effort to make our resources more available to other teams and our community. We have begun work on a podcast as an outlet for students and mentors to share their experiences and provide tips for teams on parent organizations, operation branches, and similar topics. We have also been making STEAM buckets for our community. Due to over 70% of our team being rookies, we also have been striving to improve our training through restructuring our mentor-student relationships.

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

Our team is working on establishing a state standard that would allow all FRC teams in Indiana to reward their students with a graduation cord. We also have a goal to bring FIRST to the younger generations in our community. We do this through our Radical Robot summer camp, which invites 1st-5th grade students to explore each letter of STEAM over the course of a week. We also host STEM Nights at elementary schools and libraries to raise awareness of robotics, impacting 500+ community members.

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 have hosted 1 FRC, 10 FTC, and 6 FLL official tournaments over the past 3 years. We are prominent in our school system and offer varsity letters and graduation cords. We have also written 2 children's books, promoting teamwork, safety, diversity, and inclusion. We have an ongoing relationship with a team in Burundi since their rookie year. Currently, we are helping educate their mentors on leadership and hosting skills that will allow them to grow and host their first Global Tournament.

Essay

For the past 17 years, FIRST Team 1741 Red Alert Robotics has laid the foundation for a STEAM-based community in Greenwood, Indiana. Our state motto is "The Crossroads of America" and since our founding, Red Alert has been working to establish ourselves as "The Crossroads of FIRST".

Red Alert Builds a Dynamic Team

To create a strong presence in our community, Red Alert has built a sustainable pipeline, funneling 46 local FLL teams and 3 FTC teams into 1741 over the years. In fact, 60% of our current team members have gone through our pipeline. This laid the foundation for our team, making us stronger every year.

Red Alert is wide-reaching, impacting more than the members of our team. We have a sustainable 501(c)3 parent organization that provides us with financial stability. We inspire our students to continue their STEAM-oriented trajectory after high school. We boast a 100% graduation rate and 83% of our alumni enter STEAM fields. Kettering University recognizes the quality of our students and visited us to discuss college options. We promote skills in various areas, such as graphic design, leadership, and business. Our members partake in both mentor-led and student-led leadership training to prepare our students for the season and their future endeavors. Over 34% of our alumni continue with FIRST through mentoring and volunteering.

An integral part of our community is our sponsors who provide resources and relationships that allow us to thrive. Sponsors like Toyota Material Handling and Endress+Hauser invite us to showcase our team at their facilities. These relationships provide internships, scholarships, and job opportunities to many of our students.

One way Red Alert promotes dedication to our team is by offering varsity letters and graduation cords to team members who meet the requirements. Our standards encourage students to be involved with the community and to mentor FLL and FTC teams as a way to give back to FIRST. We are pursuing a state standard for a graduation cord policy for all teams to give students a way to showcase FIRST as they walk across the stage.

Red Alert Builds Diversity

Red Alert's diversity rate is 32% compared to our community's 9%. We recognize diversity by encouraging our 50 students to take pride in themselves and their team. For us, robotics is more than building a robot □ it is representing STEAM and bringing FIRST to our school, from football to show choir.

Our team has written 2 picture books, impacting new audiences. The first book, "Ryan the Raccoon and the Terrific Tree House", written in 2015, is used at outreach events to highlight the importance of safety in engineering environments. Our second book, "Benji the Brachiosaurus and the Perfect Playground", written this year, teaches the value of diversity, inclusion, and teamwork.

We prioritize inspiring girls to develop an interest in STEAM and take pride in our 18% female representation. Our mentors are 30% female and host monthly all-girl meetings to ensure our members feel comfortable in a male-dominated field. We started a program called GEARS, Girls Engineering Awesome Robots Successfully, for Girl Scouts of Central Indiana, which awards patches for programming EV3 robots and touring our shop.

In 2019, 1741 began an annual tradition of hosting a Trunk-or-Treat. This unique robotics demonstration brings the community together, with Girl Scout troops, National Guard, and local fire departments. Over the past 3 years, we have had over 3,200 people visit this event, growing every year.

We work to make robotics an inclusive place for everyone. Red Alert built a wheelchair ramp to improve visibility to users, and we bring it to competitions we attend. To help special education students at the Center Grove Developmental Preschool with occupational therapy and blind/low vision goals, we modified leg braces, a paint roller, and created a wheel of fortune. During the 2021 season, we designed and built 6 sensory boards for 140+ of these students. This gave our team valuable design and build experience and will impact countless preschoolers in years to come.

Red Alert Builds a Community for Everyone

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In 2015, our school's capacity became a limiting factor to the team's workspace. Our parent organization, alumni, and students came together to advocate the importance of STEAM. The Innovation Center (IC) was born and became a STEAM hub for our community, hosting all K-8 students, countless state meetings, and houses our FRC team and 3 FTC teams. Various school corporations have visited our building and modeled their STEM hubs after our IC. In 2021 we collaborated with a local library to design a STEM hub at their new branch, and in 2022 the Clark Pleasant Library and STEM Hub opened. This new center is highlighting the FIRST programs and hosting Lego robotics classes. In 2016, the school corporation asked for our input on a new multi-purpose facility. This facility was later named the Student Activity Center, allowing us to host an FRC district in 2019 and multiple FTC tournaments over the years.

Our team demos in our community to bring STEAM to a greater audience. We demoed our robot at the State House and the grand opening of the Rube Goldberg Exhibit at the Indiana State Museum. At the State House, we worked with other FRC teams to showcase FIRST to local representatives. We hosted 4 mall demos around the state, reaching over 3,500 people, and multiple demos at elementary schools called "STEM Nights", impacting 500+ families over the years. We also co-hosted a weekly STEM Club at the IC for kids aged K-8.

Red Alert works with many different community organizations. We partnered with a local coffee shop to create a "Robot Rampage" coffee. We also work with our community's Fire Department by fixing their animatronic dog several times, which they use to teach fire safety to children. Similarly, we have had firemen visit our team and teach proper fire safety and first aid techniques.

For the past 7 years, Red Alert has hosted a summer camp for 1st-6th grade students. During this week-long camp, we plan various activities for each day of STEAM, build FLL style robots, and partner with a local company, UPaint Pottery. Even in 2020, we hosted a virtual camp where we arranged activities that kids could complete using materials around their houses. Over the past 3 years, we have had 315 kids attend.

With our evolving Growing Teams Growing Opportunities Program, we bought new FLL kits and FTC equipment for local teams. Red Alert helps to create sustainable teams across all of FIRST by offering training and support to mentors, students, and parents. Despite the challenges COVID posed, we started and maintained this program and continued to support and start FLL, FTC, and FRC teams.

Red Alert is proud of the amount of hosting we do for all levels of FIRST, knowing tournaments are a crucial part of the experience. We hosted at least one FLL tournament every year since 2010, and yearly FTC tournaments from 2014 to 2018. In 2019, we transitioned to hosting league meets and being a league administrator. In the past 3 years, we hosted 17 FIRST tournaments, being recognized for our global impact on the FIRST community.

We work with other teams, demonstrating our Gracious Professionalism through our open-door policy. Red Alert has assisted over 50% of the Indiana FRC teams through the use of our CNC router, assisting with team development and management, and teaching how to start and sustain a parent organization. We also host an annual scrimmage at our shop where teams can use our full-sized field and participate in a chairman's chat. For the 2021 season, we partnered with Toyota Materials Handling to provide \$20,000 for Red Alert, Greenwood, and Columbus robotics programs to host multiple tournaments. Collaborating with these programs allows us to share resources and train volunteers and tournament directors to host future events. This creates opportunities for future community partnerships with local engineering companies and future demos.

Team 1741 emphasizes spreading FIRST on a global scale. We established a lasting connection with a team in Burundi, Africa in 2017. We use video chats and financial support to help them spread FIRST to new regions and start 16 FIRST teams. This year we pursued new means of communication with them via Slack to discuss hosting events. This allows us to help them reach their goal of hosting the first FTC championship in their country. We work hard to establish a global presence through this team and aim to continue our impact on the world.

We make it our mission to build positive relationships that impact the world around us. One example is with prominent IndyCar Driver, and long-time team partner, Charlie Kimball. Charlie has visited our shop and attended various competitions in support of not just 1741, but FIRST as a whole. He also helped Red Alert tackle FIRST's Innovation Challenge last year through the design of an exercise app to help people stay active at home. We continued this project by collaborating with the University of Indianapolis to turn this concept into a reality. The "Challenge Accepted" app is set to launch this summer. These connections engage FIRST audiences on a global scale.

Red Alert Builds the Future

Red Alert makes a conscious effort to help our community now, and in years to come. We are creating a podcast for our students and mentors to share advice with others and are developing community STEAM buckets for those in need, opening FIRST to a diverse audience.

We are the center for STEAM in Greenwood, Indiana. With our outreach, we have spread FIRST throughout our local community and the world. We have established a lasting legacy that will continue on for years to come. This team makes more than robots: We build a team. We build diversity. We build a community. We build the future. FIRST Team 1741 Red Alert Robotics has become the "Crossroads of FIRST".

