

Chairman's Award - Team 4598

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2022 - Team 4598

Team Number

4598

Team Nickname

ICARUS INNOVATED

Team Location

Sandy, Utah - 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.

-100% of Icarus Innovated team members develop lifelong skills including leadership, communication across different technology platforms, teamwork, and collaboration. -97% of team members graduate high school and advance to higher level education or a STEM career. -50% of our team members get scholarships to universities -Approximately 10 of our team members have obtained full ride scholarships to universities. -Four team members have been awarded presidential scholarships in engineering.

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

-We bring our robots to the Ronald McDonald House in our community to give disadvantaged children a chance to experience robotics -Icarus Innovated attends Salt Lake City Capitol Building annually to present our team's work - There is an alarmingly low number of females pursuing STEM in our community. Our female team members have enjoyed reaching out to younger students as a role model and mentor. This can be life-altering for a young girl who otherwise wouldn't be exposed to engineering.

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?

-Icarus Innovated uses our resources to ensure the success of various teams. This includes providing financial support to teams at all levels of *FIRST* and providing teams fundraising methods. -Our team has had the opportunity for the past several years to participate in "Robots on the Rotunda" where we discuss the importance of *FIRST* and STEM with local legislators.

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

Annually, we host a season kickoff event for several teams to come together and find out about this season's competition and collaborate on strategy and design ideas. -Visits to a local middle school to exemplify how much fun robotics can be and to encourage them to join a *FIRST* team. -We provide a workshop to multiple teams in need of a place to manufacture. -In May 2020, we hosted a food drive to help those affected by COVID

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

-Our school is fortunate to have a fully equipped robotics lab, whereas many other schools do not. Therefore, we are able to help Jordan High's team by welcoming them into our shop. -Each year, our team mentors an FRC team composed solely of rookies so they can gain skills and confidence through hands-on experience. -Various team members mentor the Blue Bears on Stairs, a local FLL team that has had considerable success under our guidance.

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?

-Our team hosts annual summer camps for aspiring young individuals ages 6-14 to build FTC size robots and compete in a FIRST-style game -We attend local schools to promote interest in robotics and STEM fields -We host an awards banquet to commemorate all team members and to show future team members who they can become -We invited a group of Girl Scouts to tour our lab, allowing them to explore robotics -We set up equipment and outfitted the Utah STEM Action Center with storage space and supply

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

-Started two FLL teams: Heroes Team and Let the Wookiee Win - Let the Wookiee Win is composed solely of children on the autism spectrum. -Housed 5 FTC teams; ET3, The Boiz, Checkers, Dungeon Masters, and The Mandalorian -We mentor The New Hawks, a rookie team -We house several teams at Alta High School, including Jordan High School's FRC team and Hillcrest High School FTC's team -We collaborate with Alta High's theatre and stage tech departments to build robotic sets for their productions.

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

-We have had many females in STEM leadership roles. -Over 40% of our team members are female or non-binary. -There are no prerequisites to join Alta Robotics. -Everyone who joins Alta Robotics is given the opportunity to learn to design, build, program, and complete business related tasks. -We make sure that all can be part of our team and have the opportunity to come to competitions, regardless of gender, experience, financial or other status.

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

-Alta High School has two FIRST Robotics teams; Icarus Innovated and The New Hawks. The New Hawks was created in 2019 and is an unofficial rookie team; it is only composed of new members to FRC. The following year those members will progress to the veteran team, Icarus Innovated. However, while they are on the rookie team, we mentor them, ensuring that our team will continue to run effectively. -We gain sponsors annually to ensure next year's budget will allow equal opportunities.

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

-We have created multiple social media accounts where we frequently post our team's activities and sponsors. -We work in conjunction with the student government to host the homecoming dance each year. -We show that we, and therefore our sponsors through us, help the community. For example, Icarus Innovated assisted the boy scouts with skills to help them earn their robotics badge in order to become an Eagle scout.

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

-Our team needs to improve on cleanliness and organization. We host other teams in our shop making it busy and frequently messy. Each team needs to keep their area clean. We are growing our ability to stay organized by making it clear where each team keeps their materials and where the shared materials are stored. We also have designated a time to clean up regularly.

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

-Our team's goal is simply to spread FIRST and expose as many young people as we can to its benefits. We believe that the students of FIRST are tomorrow's world-changers. -We built a robot to perform both the groundbreaking and ribbon cutting ceremonies at a local hospital, allowing many to experience robotics in a way they hadn't before. -We strive to give our members a sense of community and support that many of them are lacking in their personal lives.

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.

-Our team provides a way for students to look forward to school. Kids who wouldn't otherwise be here find a home in our lab. -We help students discover future pathways, and help them to follow that path by gaining skills and confidence. -Our school district didn't have an engineering program. Our team showed how much STEM education does for students, so together we built an engineering pathway for students across our district. That program is still housed at our school, in our lab, today.

Essay

"With these wings you shall fly" -the myth of Icarus

--We Are Team 4598. We are Icarus Innovated--

What is a FRC team? Is it building a successful robot and competing on the field? Many might answer "yes" to that question, but for Icarus Innovated, Team 4598, FIRST doesn't end when we finish the build, get off the field, or set down the controller. We do not think of ourselves as just a robotics team; we are working to benefit society. Icarus Innovated is passionate students, improving the world, one robot at a time.

--Community is Our Priority--

We, Icarus Innovated, are focused on hands-on learning and self-improvement while making interaction with our local schools and businesses a priority. We have created a network that will help students not only learn robotics and engineering, but to help them succeed socially and academically. Our network allows us to reach thousands of students and teachers who we help and educate.

Our team changes lives by giving kids the ability to overcome whatever background challenges they may have and graduate high school with flying colors. A team lead said that Icarus Innovated, "gave me a reason to come to school. It helped me become excited about learning in and after high school" (J. Lives 2022).

We are committed to helping our local community, businesses, and non-profit organizations. For example, our team assisted our local Girl Scouts in earning a STEM badge. They toured our lab and spoke with some of our team members who encouraged them to continue exploring robotics and engineering. As a cornerstone of our community, we frequently attend the openings of local businesses. We participated in both the groundbreaking and ribbon-cutting ceremonies for a local Intermountain HealthCare Hospital. Our robot was used to break ground and then cut the ribbon to officially open the new building. We continue to coordinate with local nonprofits so that many of our members can do volunteer work.

In the summer of 2020, Icarus Innovated chose to meet COVID challenges head-on, standing with our community and taking steps to ensure that no person goes hungry during the pandemic. To accomplish this initiative, Icarus Innovated set up, advertised, and manned a curbside donation area at Alta High School, where we are based. Through this effort, we gathered two pallet-sized boxes of food for families in our local communities. We also deferred our funds to provide our community food and aid. However, it was not just the summers that tested us all, going back to school has been a challenge as well. Throughout the year, Icarus Innovated encouraged safety and unity across our school district, creating flyers, handing out candy, and filming a health safety video.

--Powerful Together--

Our team is a machine as complex and robust as the robots we build. We know that a team must stand together or fail, and thus we ensure that everyone on the team is welcome and has a voice. Everyone on Icarus Innovated works for the benefit of the team, whether it be design, business, etc. Team members do what they're best at. If our members don't know what they want from FIRST, we allow them to experience every part until they find something that they enjoy. Icarus Innovated finds a spot for any interested student to join Alta Robotics.

At Icarus Innovated we lift our community, no matter who they are. Over 40% of our team members are female, non-binary, or minority, with many of them holding leadership positions. We work to create diverse engineers and successful business people by encouraging the leaders of the future to experience all that FIRST can offer. For example, our business team captain is female, and many other females find joy in various other roles such as building and programming the robot. We accept all members, regardless of gender, race, experience, financial or other status. We also strongly believe that more minorities should be in STEM fields, and are actively working to bring those members of our community into the all-accepting sanctuary that is FIRST.

--A Better Tomorrow--

Icarus Innovated strongly believes FIRST is the foundation that our members build upon for future success. This base forms from our team members discovering the skills they will need going forward, whatever that path may be. Our success is evident with our 97% high school graduation rate, with most advancing to higher-level education and/or a STEM career. More than 50% of our members receive full or partial scholarships from universities across the country. We've been proud to see many of them in leading roles in their industries. The impact we make today ensures the continuation of the team, with many of our alumni returning to mentor the team once more.

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Icarus Innovated believes in building futures and second chances. No matter who a person is, it is the mission of FIRST and Icarus Innovated that they learn and explore all the amazing opportunities provided. Some members struggle with mental health, social skills, and self confidence, but the passion inspired by this program has helped them find a place in our tight-knit, accepting community, where they fall in love with robotics.

One of our most successful alumni and team captains discovered Icarus Innovated when they felt they had lost all hope. "When I had nowhere else to go, I had FIRST. I had a community and a team to rely on who valued the same things I did" (V. Akerly 2022). Ms. Akerly's words speak for many of our team who find themselves feeling the same way.

--The Future of FIRST--

Icarus Innovated regularly demonstrates the power of robotics to children, including those in less fortunate circumstances, through giving hands-on experience with our robots. Our team annually presents to 800 students at Midvale Elementary and multiple other schools. The team also runs full-capacity annual summer camps that give children a peek into several aspects of engineering from coding to building.

Icarus Innovated does more than inspire those not yet in FIRST; we encourage even the youngest in FIRST to achieve greatness. We help any team, regardless of age. We mentored one of Utah's most successful FIRST Lego League teams: The Blue Bears on Stairs. During their rookie year, they won 3rd place Champions at the state competition. The following year, they took 1st in state, going on to represent Utah in the Virtual Open Invitational in 2021. They continue to compete today and head to regionals in March (2022).

Along with inspiring the future, Icarus Innovated uses our resources to ensure the success of several teams. This includes providing some financial support to all levels of FIRST and providing teams with fundraising methods. We remain steadfastly dedicated to these kids, starting and mentoring the FTC teams 17386, ET^3, and 17387, The Boiz. In total, we started and mentored 5 FTC teams and 4 FLL teams. We also make sure not to leave our fellow FRC teams out. Icarus Innovated gives everyone in need of a space to build their robot access to our tools, material, and shop space. Since 2017, we have hosted a fellow FRC Team: team 6411, the Gravediggers. This has allowed them to continue experiencing FIRST without having to invest tens of thousands of dollars in new equipment. We used our funding and tools to help found team 5159, Bengal Robotics, and team 8609, Salt Lake County Robotics.

We truly value other teams and their 'Coopertition'. Team 4585, Husky Robotics agreed, saying: Icarus Innovated "let us use your shop, gave us spare parts, and even helped mentor our team in different design ideologies. If it wasn't for your team, we wouldn't have been able to participate in AMES." (A pre-season competition for FRC teams).

Icarus Innovated works to ensure that FIRST will always have a place in both our community and Utah as a whole. Our team's home has become FIRST's home. We host the yearly Utah kickoff for the FRC season and have done so since 2018, with many of the FIRST community attending.

--Our Unique Contribution--

We constantly work to aid our local FIRST teams and community. Icarus Innovated has recently noticed a disturbing trend in FRC teams. It appears that the majority of teams not associated with a STEM organization dissolve after roughly two years. Seeing this is a grave problem for the future of FIRST. We have taken action to reverse this trend by advising, funding, and advertising struggling teams. As aforementioned, we have helped various teams reverse their decline. We have given Husky Robotics, the Gravediggers, and Corner Canyon Robotics funding and/or materials to help them stay in the game.

Icarus Innovated strives to help everyone enjoy FRC to the fullest extent. We have created a specific team made up of rookies, the New Hawks. We did this because everyone who experiences FRC goes through a rookie stage, and it's hard to get hands-on in a room full of veterans when you still need to learn the basics. The New Hawks is a permanent addition to our team. Icarus Innovated supports and nurtures them in any way we can by providing funds and guidance to ensure the New Hawk's success. So far this endeavor has proved successful; we have introduced an abundance of students to FIRST, and the New Hawks have seen large amounts of success on the field including taking sixth place at the 2020 Utah Regional Competition.

--Who We Are!--

We are Icarus Innovated, a Utah FRC team that works tirelessly on and off the field. We are Icarus Innovated, a team devoted to improving the lives of our members and all who surround us. We are Icarus Innovated, a team that works tirelessly to expand FIRST and spread our message around the world. We are Icarus Innovated, protectors of our community that stand on the frontline during crises. We are Icarus Innovated, a force for growth and prosperity. We are Team 4598, we are change, we are stronger together, we are the future.

We are Icarus Innovated.