

Chairman's Award - Team 78

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2018 - Team 78

Team Number

78

Team Name, Corporate/University Sponsors

Naval Undersea Warfare Center/DoD STEM/Nordson EFD/CVS Health Foundation/Raytheon/Rite-Solutions/Waters Corporation&Aquidneck Island Robotics 4-H Club

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2017/2018 year and the preceding two to five years

AIR provides a unique pathway to students. Kindergarten students can join AIR and follow the progression of FIRST programs through high school. AIR is open to all students, making it possible for 97 students from 33 schools, including home schools, to participate in FIRST. During this time, students work with industry professionals and gain internships with sponsors. AIR STRIKE continues to support our alumni and all FIRST alumni by assisting with career opportunities.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2017/2018 year and the preceding two to five years

AIR STRIKE increases STEM awareness by attending community events to demonstrate an FRC robot. This year, the robot was demonstrated at the Providence Roller Derby, Middletown Rotary Demo, Pell School STEM Fair, Primrose STEAM Night, STEM Poseidon Camp, RI 4-H Fair, and the Dell Tennis Hall of Fame Tournament. AIR STRIKE partnered with Child & Family services to raise food for 5 families and provided 6 children with holiday gifts. AIR members always giving back to our surrounding community.

Team's innovative or creative method to spread the *FIRST* message

AIR STRIKE attends many local STEM events to promote FIRST and to recruit students from the local area to join a FIRST team. Outside of STEM events, AIR STRIKE has been creative in attending events such as a baseball game, tennis hall of fame tournament, and a roller derby. Furthermore, AIR STRIKE has formed FRC and FTC teams in the surrounding area. AIR STRIKE members are committed supporting FIRST by hosting and volunteering at FIRST events at all levels of FIRST.

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

AIR STRIKE students are committed to spreading the FIRST message of gracious professionalism. Many students volunteer with other local teams to help with mechanical, strategy, and coding aspects of their robots. Students are also involved in the community, with one student using her senior project to promote STEM to middle school girls, and many others volunteering at FIRST and STEM events.

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

During the 2016 season, AIR STRIKE started FRC team 5846, Southcoast Corsairs from Dartmouth, MA and continues to support them. AIR STRIKE mentored rookie FRC team 6234, from Salem, NH by assisting with robot programming and providing over \$1,000 in parts. AIR has supported FRC Team 5112 from Ponaganset, RI for the past two seasons with technical and strategy expertise. AIR STRIKE hosts an annual kickoff event for local teams and offers its workshop for local teams to utilize.

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

In the AIR organization, AIR STRIKE has helped started 1 FTC team, 4 FLL teams, and 3 FLL Jr Teams located across RI. Outside of AIR, Members of AIR STRIKE started, mentored, and supported FTC team 10472 in New Bedford, MA by attending meetings once a week through their build season to ensure their success. Members visit FTC teams in Scituate, RI, to offer programming support.

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

AIR STRIKE has built the complete FIRST pipeline inside our own organization, AIR. This pipeline starts from FLL JR and continues with all the FIRST programs through FRC. Outside of our own organization, after starting FRC team 5846, members of AIR STRIKE also started and mentored FTC team 10472 in New Bedford, MA to help to build a pipeline to FRC team 5846. AIR STRIKE values the entire FIRST program and is committed to growing all levels of FIRST.

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)

AIR STRIKE continues to mentor FRC team 5846 which was started by AIR in 2016. AIR STRIKE has mentored FRC team 6234 by assisting with programming and providing parts. AIR has supported FRC Team 5112 for the past 3 seasons. AIR STRIKE holds an annual kickoff for local teams to participate in strategy discussions. Members support FTC team 1047, which we started, as well as FTC teams in Scituate. AIR STRIKE student members also mentor AIR FTC and FLL teams to inspire younger students about STEM.

Describe your Corporate/University Sponsors

AIR was established as a 501(c) (3) non-profit organization to form partnerships with corporate sponsors. Since our inception our title sponsor has been the Naval Undersea Warfare Center (NUWC) Division Newport. NUWC provides a workspace, engineering mentors, tools, and guidance on internship and career opportunities. Our largest 2017-2018 season sponsors include: NUWC, Department of Defense STEM, Bank Newport, Nordson EFD, Waters Corporation, CVS Health Foundation, Raytheon, and Rite-Solutions

Describe the strength of your partnership with your sponsors with special emphasis on the 2017/2018 year and the preceding two to five years

AIR STRIKE partners students with sponsors for internships, scholarships, and enrichment opportunities. Many of the mentors of AIR STRIKE work at the sponsoring companies which promotes an outstanding relationship with our sponsors. Multiple students have accepted positions with our main sponsor, NUWC, after graduating college. To thank all of our sponsors for their gracious support, AIR STRIKE provides demos and attends STEM sponsor events.

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

The FIRST Robotics competition is a varsity sport for youths interested in science and technology and has been called the "Superbowl of the Mind!" It gives youths hands on experience with concepts that are difficult to describe in school. FIRST recognizes and inspires youths across the globe to enter STEM fields and strive to make the world a better place. FIRST's goal is to spread the word that the youth are the future and that they are needed in science and technology fields.

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

FRC team AIR STRIKE 78, is not only committed to the success of its members but also to spreading the ideals and spirit of FIRST though RI. AIR works hard to support programs and events run by its sponsors and uses these events as opportunities to spread the message of FIRST. Its structure as a 4H organization is an opportunity that AIR has taken advantage of by accepting members from any area or background. AIR Strike is proud of the accomplishments of its members and thankful to its sponsors!

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

Jacob Kimes

Essay

AIR Support

Every structure needs a strong foundation to provide support for the building that will rise above it. AIR STRIKE 78 forms the foundation of Aquidneck Island Robotics (AIR) and provides the support for everything that AIR does. AIR STRIKE has grown from a 4-H Club with a single FIRST Tech Challenge (FTC) team to a non-profit organization which supports the entire family of For Inspiration and Recognition of Science and Technology (FIRST) programs and spreads the message of FIRST throughout the community.

Students

"Teaching through competitive robotics" has been the motto of AIR STRIKE 78 since 2015. AIR is dedicated to teach all students across Rhode Island and Southeastern MA. Since 2017, AIR has provided students access to all FIRST teams from kindergarten through high school. This "pathway" allows students to succeed by fostering leadership and teamwork skills while encouraging a passion for Science, Technology, Engineering, and Mathematics (STEM) careers through competitive robotics.

AIR is open to all students from any school, including home schools. This is a unique policy among FIRST teams, and allows AIR STRIKE to bring the entire student community together instead of restricting it to a portion of students. When AIR first started in 2008, there was a shortage of FIRST programs in local schools, especially programs that would allow students to participate in all FIRST programs. AIR decided to make it possible for students across Rhode Island and Southeastern Massachusetts to participate on a FIRST team during the 2017-2018 season. AIR now has 97 students from 33 different schools, mentored by 29 adult volunteers. In the 2018 season, AIR has offered scholarships to low income students to offset the cost of the program fees. This allows any student to join AIR and receive STEM education, regardless of income.

AIR STRIKE prepares its students for any career path they choose to pursue, both technical and non-technical. By working under the guidance of industry professionals, students are given a unique opportunity to dive into the world of teamwork and engineering. For students seeking education beyond high school, our team partners students with sponsors for internships, scholarships, and enrichment opportunities. Over the past three years, AIR STRIKE has graduated 30 seniors, with 29 pursuing a higher education.

FIRST and Other FIRST teams

AIR STRIKE is committed to supporting and growing FIRST's reach in our community by starting and mentoring other FIRST teams and by hosting and participating in local FIRST events.

In 2018, AIR has grown to support 3 FLL Jr. teams, 4 FLL teams, 1 FTC team, and 1 FRC team, AIR STRIKE 78. Having all of these teams under AIR's umbrella allows AIR STRIKE student members to mentor the younger students on AIR's FLL and FTC teams, which fosters learning between all the levels of FIRST and keeps students motivated through the pathway.

AIR STRIKE extends its support outside of its own organization and spreads the FIRST message to other communities. During the 2016 season, AIR STRIKE started FRC team 5846, Southcoast Corsairs from Dartmouth, MA and continues to support them in their third season. Last season, AIR STRIKE mentored rookie FRC team 6234, the Blue Devils from Salem, NH by assisting with robot programming and providing over \$1,000 in parts. AIR has supported FRC Team 5112, The Gongoliers from Ponaganset, RI for the past three seasons with technical and strategy expertise. AIR STRIKE hosted its fourth FRC game kickoff event, and invited multiple FRC teams to attend. Students broke into groups to talk strategy, field set up, robot rules, scoring and awards.

Members of AIR STRIKE started, mentored, and supported FTC team 10472 in New Bedford, MA by attending meetings once a week through their build season to ensure their success, and help to build a pipeline to FRC team 5846. Team 10472 is a team of students from 2 of the New Bedford middle schools, in a district with a staggering 75% low income percentage and a dismal 65% graduation rate. Members visit FTC teams in Scituate, RI, to offer programming support. In 2016, one AIR STRIKE student helped form robotics programs and classes across all grade levels at his school. His efforts started two robotics teams and added STEM classes in the school's curriculum.

AIR STRIKE members are committed to supporting FIRST by hosting and volunteering at FIRST events. AIR STRIKE is planning and hosting the Rhode Island District Event in Smithfield, RI for the fifth time. Members of AIR STRIKE have served as planning committee members and key volunteers for this event. For the past five years, AIR ran and hosted a RI FLL qualifier in which 10-12 members of AIR STRIKE volunteered. For the first time this year, AIR hosted an FLL Jr exposition which AIR members volunteered at and demonstrated the FRC robot. AIR STRIKE members volunteer as Field Technical Advisors, and work closely with the RI FTC affiliate partners to ensure successful events.

Community

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AIR STRIKE makes itself visible to the community and gives back in a variety of ways. AIR STRIKE is a year-round organization dedicated to giving back to the community and increasing awareness of STEM. In 2018, AIR STRIKE increased STEM awareness by attending community events to demonstrate the FRC robot, such as the Providence Roller Derby, Middletown Rotary Demo, Pell School STEM Fair, Primrose School Math and Science Night, STEM Poseidon Camp, Eastern RI 4-H Fair, and the Dell Technologies Hall of Fame Tennis Tournament. Our most notable event was a demo at the RI State House to demonstrate our robot to governor Gina Raimondo and facebook founder, Mark Zuckerberg.

Not only does AIR STRIKE participate in STEM community events, the organization is dedicated to holding its own events. To include more girls into STEM fields, AIR STRIKE partnered with the Greenlight 4 Girls organization to host an event to expose STEM careers to middle school girls. This event had 20 girls participate in workshops focused on robotics, engineering, and problem solving skills. AIR also hosts open houses to encourage students to come and learn about all robotics programs.

AIR STRIKE 78 also extends its influence outside of STEM events and programs. AIR STRIKE 78 has recently partnered with Child and Family services in their adopt-a-family program. This past Thanksgiving, AIR raised food for five families. This past holiday season, AIR "adopted" 6 children to provide them with holiday gifts. AIR STRIKE 78 members are always looking for an opportunity to give back to our surrounding community.

Sponsors

AIR STRIKE established AIR as a 501(c) (3) non-profit organization to form better and longer lasting partnerships with corporate sponsors. Since our inception, our title sponsor has been NUWC, Division Newport, RI. In 2010, AIR and NUWC signed an Educational Partnership Agreement which allows AIR and NUWC to share resources, including engineers and scientists, workshops, outreach centers, tools, and other technical resources. Multiple students have accepted positions with our main sponsor, NUWC, after graduating college.

Our largest 2017-2018 season sponsors include: NUWC, Department of Defense STEM, Bank Newport, Nordson EFD, Waters Corporation, CVS Health Foundation, Raytheon, and Rite-Solutions. They have donated valuable time, materials, and knowledge. AIR STRIKE values the partnership with all its sponsors. AIR STRIKE provides demos and promotes the team to these sponsors to show our appreciation for their support.

Ourselves

AIR STRIKE 78 is constantly looking for ways to support ourselves to be able to sustain for the future. This past season, AIR has increased its membership from 55 students to 97 students, resulting in a 98 percent growth rate. Furthermore, AIR focused on recruiting females by hosting girls robotics events, recruiting from local female-only schools, and encouraging girls to take an interest in our programs. AIR has increased the percentage of females in our club from 18 percent to 32 percent. AIR STRIKE members visit local schools and high school STEM intern programs to give demos and encourage the students to join FIRST teams. This works to inspire students to join any of AIR's teams and will allow AIR to be able to support itself as students go through our pathway.

In order to support our growth and become sustainable for the future, members of AIR STRIKE assist in fundraising over \$30,000 for AIR each season. This funding supports all programs in AIR as well as our community outreach efforts. AIR STRIKE is committed to the growth and sustainability of all of AIR's programs for future seasons.

AIR STRIKE takes part in a variety of different fundraising events that promote STEM, the team, and FIRST. These events include calendar lottery raffles, vacation raffles, restaurant nights, a bowling night, bake sales, indoor yard sales, and sponsor drives. On average, AIR STRIKE hosts 8 fundraising events year round to help students learn the importance of teamwork and give them a sense of team ownership.

Conclusion

AIR STRIKE provides the foundation that supports all the work done by AIR. Support is at the core of AIR STRIKE, especially when it comes to students being involved in all that FIRST has to offer. AIR STRIKE has made it possible for a student to join FIRST in Kindergarten, participate in all FIRST programs before graduating high school, apply for scholarships and internships, receive career placement assistance, and finally return as a mentor to guide future generations. AIR STRIKE extends its support to the FIRST community by starting and mentoring FIRST teams and ensuring they can be successful at events. AIR STRIKE reaches out to the local community to support STEM education. AIR STRIKE is committed to supporting and growing itself, its community, and its members every day.