

OPERATION P.E.A.C.C.E. ROBOTICS

FRC 3461



BUSINESS PLAN 2022

TABLE OF CONTENTS



TABLE OF CONTENTS	1
EXECUTIVE SUMMARY	2
Mission Statement	
Team History	
Awards	
TEAM STRUCTURE	3
Team Captain(s)	
Mentor(s)	
Committee Chair Meetings	
Committees	
OUTREACH	4
Community Outreach	
STEAM Outreach	
Social Media Marketing	
Competition Marketing	
FINANCIAL PLAN	6
Income Statement	
Budget Breakdown	
Raising Money	
GOALS	7
SWOT Analysis	
Smart Goals	
APPENDIX A: BUDGET	8
APPENDIX B: SPONSORS	9
APPENDIX C: AWARD DOCUMENTATION	10

This document includes confidential information of and regarding Operation PE.A.C.C.E. 3461. This document is provided for informational purposes only. This document is not to be used except for informational purposes, and may not be reproduced in whole or in part. The contents of this document are not to be given or used without the prior written consent of Operation PE.A.C.C.E. 3461. By accepting this document, you agree to be bound by these restrictions and limitations.

EXECUTIVE SUMMARY



MISSION STATEMENT

Our mission at Operation PE.A.C.C.E. Robotics #3461 is to teach students to explore and appreciate STEAM, encourage students to realize their capabilities, and to inspire others to learn and improve skills.

TEAM HISTORY

Operation PE.A.C.C.E. (Practicing Engineering and Cooperative Competitive Excellence) Robotics was established in 2010 to excite students to pursue STEM through competitive robotics within Bristol, Connecticut. Although our main program is open to all students ages 12-18, we hold smaller classes and initiatives to excite people of all ages with the future of engineering. Early in the formation of the team, PE.A.C.C.E. did not have a permanent build space. We rented a storefront, partnered with high schools in the area, then held meetings in a member's garage for a time. After searching for a new location, we found our current main sponsor and our home, The Arthur G. Russell Co., Inc. (AGR) with help from our work with the local Chamber of Commerce.

AWARDS

2011

- Highest Rookie Seed at Northeast Utilities FIRST Connecticut District Event

2014

- Team Spirit Award at Southington District Event
- Quality Award at Pine Tree District Event

2016

- District Event Winner at Hartford District Event
- Dean's List Finalist Award (Johnny Chea) at New England District Championship

2017

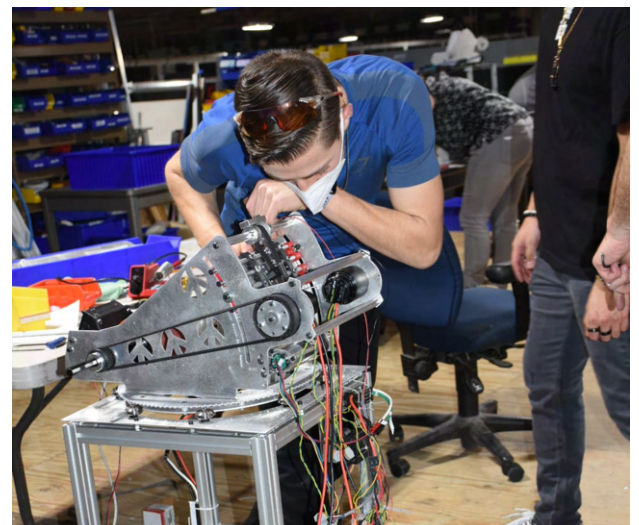
- District Engineering Inspiration Award at SE Mass District Event
- District Event Finalist at Hartford District Event

2018

- District Engineering Inspiration Award at Rhode Island District Event

2019

- District Event Finalist at Western New England District Event



TEAM STRUCTURE



TEAM CAPTAIN(S)

The team captains are typically two students who are elected by students and mentors on the team. The team captains are meant to help keep the team organized and on track during build season and competition season. They are the students leaders of the team who regularly discuss with the mentors the team's goals and how they will achieve them.

MENTOR(S)

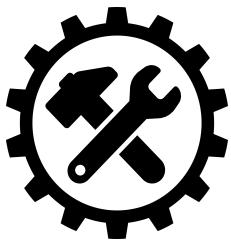
The mentors of Operation P.E.A.C.C.E. oversee decisions that the team captains and committee chairs make, while also managing the team to accomplish their goals. They take care of scheduling and other tasks of the team that does not involve the production of the robot or the team brand.

COMMITTEE CHAIR MEETINGS

Our team is split into multiple committees that have student leads voted upon by students and mentors of the team. Committee Chair meetings are meant to keep team captains on track with current team goals, and address any potential future issues. The meetings occur once a week throughout the FRC build season. Committees are split based on responsibilities of the team: Awards, Finance, Public Relations, Mechanical, Programming & Electrical, and Scouting & Safety.

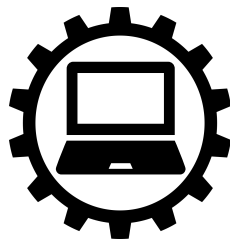
COMMITTEES

MECHANICAL



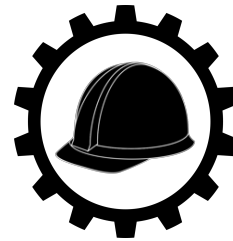
- Drivetrain
- CAD & Design
- Intake
- Traversal
- Climber

PROG & ELEC



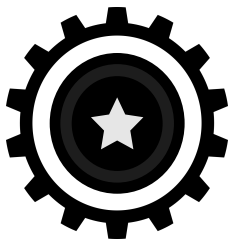
- Wiring
- Vision
 - Limelight
- Autonomus
- Wheel Drive

SCOUT & SAFETY



- Data Collection
- Organization
- Equipment

AWARDS



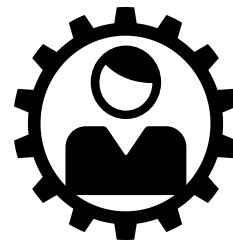
- FIRST Awards
 - Chairman's
 - Imagery
 - Eng. Insp.
- Photography

FINANCE



- Sponsorships
- Grants
- Budget

PUBLIC RELATIONS



- Recruitment
- Social Media
- Marketing
- Comms
- Outreach

OUTREACH



Operation P.E.A.C.C.E. Robotics organizes and runs a few outreach initiatives, and plans to begin the planning of more once the 2022 build and competition seasons are over. These outreach initiatives allow Operation P.E.A.C.C.E. to create a stronger presence in the community and educate people on STEAM and FIRST.

COMMUNITY OUTREACH

Harwinton Fair - We've attended the Harwinton Fair for the past 7 years. We run a booth where we demonstrate our robot and encourage children to drive it as well as operate a striker game where kids have an opportunity to win an inflatable alien. We also sell an assortment of taffy. We often help with fair preparation by painting buildings and signs and cleaning up the fairgrounds.

Bristol Mum Festival - We've attended the Bristol Mum Festival for the past 5 years. We run a booth where we demonstrate our robot and encourage children to drive it as well as operate a striker game where kids have an opportunity to win an inflatable alien. We also sell an assortment of taffy.

4-H Fair - We've attended the 4-H Fair for the past 8 years. We run a booth where we demonstrate our robot and encourage children to drive it as well as operate a striker game where kids have an opportunity to win an inflatable alien. We also sell an assortment of taffy. We help by doing tasks such as keeping the bathrooms tidy and stocked, preparing meals, and arranging the dinner hall with chairs and tables.



Harwinton Fair - 2020



Bristol Farmer's Market - 2021

STEAM OUTREACH

Bristol Boys and Girls Club - In 2016, we created a STEM curriculum for the Bristol Boys and Girls Club. It was the first of its kind to be introduced into any Boys and Girls Club in Connecticut and other clubs have since used our program as a model to create their own.

Java Programming Class - This class has been run every summer since 2017. The class usually hosts about 15 students and they are given multiple challenges to complete in order to help teach them Java programming. One of these challenges is usually to write a program to control the past season's robot.



Java Programming Class - 2019

OUTREACH



New Britain Boys and Girls Club - Operation PE.A.C.C.E. Robotics established a STEM Curriculum at the Bristol Boys and Girls Club for their after school program. This was the first of its kind to be introduced in any Boys and Girls Club in Connecticut, other clubs have since used our program as a model to create their own. The classes included at the Bristol Boys and Girls Club were basic coding, game design, CAD using Inventor and 3D printing, Vex IQ, and an FLL team, geared towards 3rd to 5th graders as a stepping stone into technology.

Operation Innovation - Operation Innovation is a new initiative that will be started once the 2022 build and competition seasons are completed. It will have two types of classes- Project Classes and Workshop Classes. With these classes, we hope to reach kids aged 6 through 18, and around 15 kids per class. The goals of our initiative is to teach kids STEAM skills and how to be innovative while problem-solving.



Robotics Collaboration with 178 - 2019

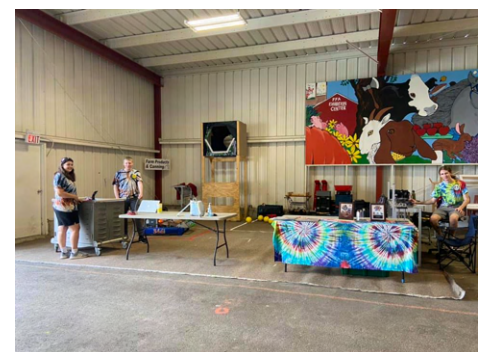


Bristol Mum Festival - 2018

SOCIAL MEDIA MARKETING

By using social media, we hope to promote FIRST programs and STEAM to kids all over Connecticut and beyond. This is also a great way to get kids in Connecticut interested in joining our team while also updating sponsors frequently on our progress. The following are some examples of social media and our blogs we use frequently.

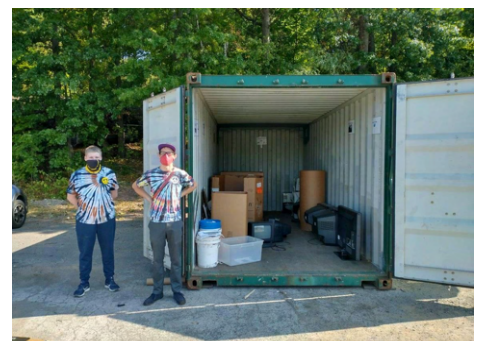
- Operation PE.A.C.C.E. Facebook Page
- Operation PE.A.C.C.E. Website
- Twitter (@FRCteam3461)
- Instagram (peacce3461)
- Newsletters
- Blogs



Litchfield 4-H Fair - 2021

COMPETITION MARKETING

While at competitions, we like to market our team to judges, parents, and other students of FIRST. We accomplish this by handing out various flyers, handouts, and buttons to promote our team and the values and goals we represent.



Electronics Recycling - 2021

FINANCIAL PLAN



INCOME STATEMENT

The Operation P.E.A.C.C.E. fiscal year begins on January 1 and ends on December 31. Over the course of the year, the team keeps track of purchases on a google sheet to manage allocation of money. Our budget for the 2022 season is attached to the back. In order to ensure the stability of FRC-3461, we must identify our areas of purchase to distribute accordingly.

BUDGET BREAKDOWN

Mechanical Budget - The Mechanical Budget of the year consists of the team's ever changing needs for items for the technological aspect of students. This takes up more of the needs for purchases, and must constantly be monitored to ensure the team won't overspend. This area of budget covers team costs for robot assembly, replacement parts, electrical needs, and programming assistance.

Business Budget - Alike the Mechanical Budget, Business also has a substantial budget for team needs. It takes care of the non mechanical part of purchases, such as funding the team brand with apparel. The business budget may also make purchases to improve the team brand

FIRST Budget - Finally, the FIRST part of the budget covers the team's costs annually for competing. This area of the budget is the most expensive, with the basic \$5000 fee making up the biggest chunk. The FIRST part also covers travel costs, and items such as the Kit of Parts, a kit that assists the team in building the chassis of the robot. This may also cover the team's venture to the New England District if the team qualifies.

RAISING MONEY

Sponsors - In order to make our annual journey successful, the team needs support from the community on several different levels. One of the most effective ways to support the Operation P.E.A.C.C.E. Robotics Team is to gather supportive sponsors. By contributing monetary support, the team can purchase necessary materials and tools to construct the robot and compete in area events; in return, we offer several benefits such as representing them at competitions and outreach, hand-written thank you letters, and shout-outs at events. We also receive in-kind support through product donations and discounts allow us to stretch our financial resources even farther. (See Appendix B for a list of current sponsors)

Fundraisers- Operation P.E.A.C.C.E. holds an annual taffy fundraiser to help field costs for the season. At the start of every season, the team places orders for over twenty different flavors of taffy, and sells it across different outreach events.. Alongside our Taffy, we also host a fun mini game for people of all ages to compete, and potentially win a 3461 inflatable alien. The costs for both fundraisers has earned us over \$1000 to help with purchasing robot materials, parts, and travel expenses.

GOALS



SWOT ANALYSIS

Currently, this SWOT analysis has been abbreviated to show an understanding of our team. A full SWOT analysis can be found within our appendix.

STRENGTHS

- Strong partnership with AGR
- Communication between committees
- Dedicated mentors/students
- Great communication between Drive Team and Scouting
- Excellent and diverse recruitment
- Usage of technical skills

WEAKNESSES

- Communication throughout the entire team
- Organization
- Community and STEAM Outreach
- Obtaining new members
- Transportation of robot
- Meeting deadlines and creating schedules

OPPORTUNITIES

- Partner with sponsorships
- Recruitment through outreach
- Reaching out to students unable to participate in robotics programs

THREATS

- Lack of interest in a robotics program
- Disagreements within the team
- Losing membership

SMART GOALS

To improve our team, our committee chairs have identified SMART goals that can be accomplished. SMART stands for Specific, Measurable, Achievable, Realistic, and Timely, and they look at goals that can be achieved with identification, realistic steps, and all within a timely manner.

SMART Goal #1 - Improve Financial Stability - Operation PE.A.C.C.E. Robotics' financial stability is sufficient to continue the team for future years. However, we would like to improve this financial stability to guarantee success within our team. Our first part of achieving this is to obtain 3 new sponsors who will annually support the team. By doing this, it'll give us more money for materials and other supplies we may need, and may increase our total income. To measure the team's financial stability to see improvement, we will evaluate our revenue, expenses, and income in the summer of 2022 to see if our income has increased, and to see if our goal of new sponsors has been achieved.

SMART Goal #2 - Achieve One of the 5 Engineering Awards in 2022 Competition Season - Many of the members of our team want to improve and earn at least one of the five engineering awards in the 2022 competition season. To accomplish this, members will start improving and honing skills correlating to robot performance, and keep a written record of the robot to improve assembly and knowledge for the pit. We'll know if we achieved our goal by the end of the 2022 season through the awards we won.



SMART Goal #3 - Improve Community Outreach - Currently, Operation P.E.A.C.C.E. Robotics doesn't reach many kids through our outreach initiatives. To improve our community outreach, we want to reach a total of 500 people through our outreach initiatives, including the new Operation Innovation initiative. This will help us in our recruitment efforts as well as help to spread the mission of FIRST. Measuring this goal's success will involve the performance of our Operation P.E.A.C.C.E. initiative, and our attendance at numerous events we attend such as the 4-H faire. Members will start to count how many people we have reached through all of our outreach initiatives. This includes all outreach we attend over the year, and our annual programming workshops. By January 2023, we hope to have an accurate count of how many people we reach per initiative on a spreadsheet accessible to the team.

SMART Goal #4 - Qualify for DCMP through robot performance - Operation P.E.A.C.C.E. Robotics has qualified for the District Championship (DCMP) several times since its foundation in 2011. However, this year, Operation P.E.A.C.C.E. would like to qualify for DCMP and continue to do so for future years. Alongside this, we would like to receive our invite to DCMP this year by becoming an alliance captain or the first pick robot on an alliance at both of our competitions. This goal will be founded upon the achievement of SMART Goal #2, through not only our performance at annual events, but also by our students educating new members of the team to further the skills they develop every year. We will know we have qualified for DCMP by its start on April 13, 2022.

SMART Goal #5 - Recruit More Team Members - Currently, Operation P.E.A.C.C.E. has a total of 5 team members. We would like to expand this number, considering the many recruitment opportunities we receive. To achieve this goal, we will improve our recruitment members and take advantage of any recruitment opportunities we may have. Completing this goal will help us to expand our team and increase performance. By providing more information about joining our team at outreach, and by making the induction process easier upon our members, we'll know our success at the start of the 2023 build season by making a tally chart of new members and returning members to measure our achievement.

APPENDIX A: BUDGET



REVENUE	
Contributions/grants recieved	\$21,000
Investment Income (e.g. Interest)	\$11.66
Fundraising event income	\$1,447
Gross income from sales (e.g. candy, bake sale)	\$1,483
Revenue Total	\$23,941.66

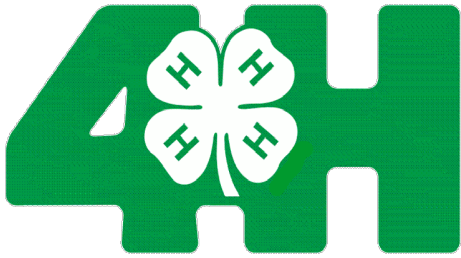
EXPENSES	
Bank Fee	\$35
Cost of items sold (e.g. candy, t-shirts)	\$640
Postage, printing, office supplies	\$195.40
Project supplies	\$6,453.87
Club t-shirts	\$610.61
Refreshments	\$250
Other (lodging, registration fees)	\$7,484
Total Expenses	\$15,668.88

TOTAL INCOME	
Year End Balance - Checking	\$2,942.93
Year End Balance - Savings	\$14,987

APPENDIX B: SPONSORS



The Arthur G. Russell Co., Inc. (AGR) is a world leader in custom assembly machinery, with a focus in the medical device and diagnostics industry. They provide us our build space, access to their shop tools and machines, and contributes financial aid. We have a close working relationship with the engineers and machinists, providing guidance and advice on our designs



Our team has sustained a relationship with our 501(c)3 sponsor, 4-H, since our inception. They help us maintain independence from any schools, thus giving us the unique ability to recruit students from any high school that doesn't have a FIRST team as well as homeschoolers, who otherwise wouldn't be able to access FIRST's programs.



Lockheed Martin is an aerospace, information security, and technology company. Founded in 1995, their mission is to keep people safe through innovative technology they create. As a new sponsor this year, we are excited to create a flourishing partnership for years to come!



Ohlheiser
Since 1960



**Automation
Associates, Inc.**



Medtronic

FRIENDS AND FAMILY OF P.E.A.C.C.E.
AEROSPACE ALLOYS INC.
HAR-CONN CHROME CO.
RADCLIFF WIRE INC.
DACRUS
FESTO
DYMEX
NASA

APPENDIX B: SPONSORS

SPONSORSHIP TIERS

DOLLAR AMOUNT	SPONSOR LEVEL	LOGO SIZE	SHIRTS	ROBOT	BANNER
\$25	Bronze	Text	---		
\$100	Silver	Business Card	---	1" square	2" square
\$1000	Gold	Small	3" square	4" square	6" square
\$3000	Platnium	Medium	3" x 8" rectangle	2" x 7" rectangle	10" square / 6" x 16" rectangle
\$5000	Title	Large	4" x 9" rectangle	4" x 9" rectangle	12" square / 8" x 18" rectangle

APPENDIX C: AWARDS



CHAIRMAN'S 2021 ESSAY

Operation PE.A.C.C.E. Robotics (FRC#3461) is a 4-H FIRST Robotics team with a mission to inspire STEAM for all, giving everyone the opportunity to do so and become the next generation of leaders within our community. To accomplish this goal, we aim to create our goals to hit every letter within our team acronym: PEACCE (Practicing Engineering and Competitive Cooperative Excellence).

Practicing - We provide opportunities for students to learn and fail through classes and clubs our team provides for everyone.

Engineering - We implement real-life engineering practices to create opportunities to develop important workforce skills.

Competitive - We strive for excellence while also following the FIRST key-skills: Gracious Professionalism and Co-opertition.

Cooperative - We work alongside those who share our mission is a key point in what we do, in order to provide STEAM for everyone.

Excellence - We utilize the skills we learn within our team to make a difference within our community.

Practicing

In order to create STEAM leaders, we provide opportunity for their skills to develop in a safe space. We do this by running several Java and SolidWorks classes every summer. Since 2017, challenges for classes included building a functional Tic-Tac-Toe game and writing a program to control our most recent robot. This allows for an environment where students understand their mistakes and how to correct them. These classes average about 15 students ages 11 and above.

We try to not only create opportunities within our own build space, but within organizations around us. One of these organizations is the Bristol Boys and Girls Club. Since 2016, we established a strong STEAM curriculum for their after school program. We included several classes for students of all ages to learn basic coding, game design, CAD Design (Inventor) and 3D printing. Not only that, but we have created a VEX IQ and FLL Team, geared towards 3rd to 5th graders, as a stepping stone into technology. It's been a huge success, reaching over 300 students and even receiving monetary support to continue this initiative. Raising over \$30,000, this allowed the club to create a permanent paid position to head the "Tech Room." One of our former members, Johnny Chea, was a Dean's List Finalist for his outstanding volunteer work with this program. This program was the first of its kind to be introduced in any Boys and Girls Club in Connecticut, and other clubs around the state have since used our program as a model to create their own, including in the New Britain Boys and Girls club where they asked us to create an additional VEX GO team for ages 10 and up. In 2017, we partnered with the New Haven Islamic Center and their leaders to continue spreading the spirit of FIRST throughout the state. Through this partnership, three teams were formed: FTC-14035, The Gear Shakers; FLL-Royal Engineers and FLL Firewall Breakers. This partnership was conceived by five former members of our FLL teams that had been commuting 50 miles before the creation of these teams.

Engineering

To provide students with the best opportunity to succeed in the workforce, we utilize real-life workforce practices and machines to maximize a student's STEAM literacy.

Our technique has shown, and has caught the eyes of local businesses. Recently, our team was approached by a few local groups with a request to design and produce different automated machines personalized to their needs. One project we are currently working on involves an automation system that scans collecting cards, enters them into a database, determines the value of the card,

APPENDIX C: AWARDS



and sorted them into specific piles. Currently, we are in the process of mocking-up and creating designs within Inventor, and testing out material to create maximum benefits for the clients.

Within our community, there is a high demand for a public opportunity to provide more kids with opportunities to learn valuable STEAM skills through hands-on approaches. We've noticed this demand, and started to create plans for a program called Operation Innovation. This will not only cater to the demand of our community, but also allow our students to teach what they have learned to the students of our community. Our goal for this new initiative is to provide new learning experiences for children ages 6 to 18 through the utilization of two class formats: Project Classes and Workshop Classes. Project Classes are aimed towards our younger participants, 6-12. Our curricula will have children make simple projects and experiments such as Homemade Bouncy Balls, Elephant Toothpaste, and Slime Making. These experiments will help children to learn basic innovative skills such as problem-solving and how to use simple tools. Our Workshop Classes aim to cater to ages 13-18. These classes will teach students how to use tools, make simple build projects, and come up with innovative solutions to problems. Some of these workshops will include: How to Solder, Basics of Power Tools, and Basics of Programming. We look to launch these classes every month within the future when the safety of our state will allow in-person meetings to further plans. Currently, we are finalizing the curricula for these classes, and finalizing the budgets for the materials needed to create these classes at home and in person.

Competitive & Cooperative

In the spirit of FIRST, we frequently practice the key philosophies that define this organization: Gracious Professionalism and Co-optertition. The spirit of competition does not mean our opponents are necessarily just that, but also members of our huge FIRST community. We treat everyone we come across as members of one big family, and frequently promote this ideology through becoming a prominent figure within the Connecticut FIRST community. When volunteering at NE-FIRST's Waterbury competition in 2020, our whole team offered to help our neighboring robotics team FRC-4055 (NRG). By the end of the first day, we were able to help get their robot running into competition, and encourage the members to go the distance during their last match that day. In October 2019, we lent out our robot to FRC-4420, Swarm Storm, a 2020 rookie team in need of a robot to participate in Bash at the Beach, an offseason competition in Old Lyme, Connecticut. Members of Operation PEACCE volunteer at Where is Wolcott Invitational, an offseason event run and hosted by Team MAX 1071 of Wolcott, Connecticut, a team we often work closely with. At the competition, we run the machine shop, help judge the events, and help out with field reset. We also help run the machine shop at the Waterbury District Event. We frequently take pit calls and send members of our team to provide advice to those who ask. But our reach doesn't stop within New England. In the summer of 2018, Missouri Team FRC-7662, Buzzbots, was looking for guidance in starting up their own team. We offered the needed help and instruction and showed one of their new mentors around our shop when she came to see what our program was like. Our endeavors have led us to become well-known within our community to be kind, competitive, and one of the friendliest teams within our region.

In order to sustain our mission, we find organizations that share our vision and passion. One of these ways is by connecting with sponsors and creating an equally-providing relationship. We have 8 consistent sponsors who give us financial support. Our most notable sponsor, the Arthur G. Russell Company, provides us our build space, gives us complete access to their shop tools and machines, and contributes financial aid. Our students have a close working relationship with the engineers and machinists, they provide guidance and advice on our designs. Our team has sustained a relationship with our 501(c)3 sponsor, 4-H, since our inception. They help us maintain independence from any schools, thus giving us the unique ability to recruit students from any high

APPENDIX C: AWARDS



Technologies Corporation has also been sponsoring us since 2012. As a thanks to our sponsors, we keep them updated on what our team is doing, and provide opportunities to connect with us. We host two open houses where sponsors can come into our build space, and see our progress in real-time while meeting the students they help. We thank our sponsors every year for their involvement with our program.

Excellence

Excellence is far beyond STEAM, to be the best for yourself and your community. We show this through our community outreach, we've taken part in multiple fairs since our foundation. We aim to run a booth with hands-on robot demonstrations, such as driving. For nine years, we provided help at the Harwinton Fair and Litchfield 4-H Fair with preparation. This includes painting buildings and signs, moving equipment, preparing meals, arranging the dinner hall, and cleaning up the fairgrounds. Additionally, we have run an informational and fundraising booth at the Bristol Mum Festival for the past 5 years.

We also participate in fairs and electronic waste collections within our community to increase sustainability. We have worked with Take 2, a company that specializes in the recycling of electronic waste (e-waste), to collect e-waste that's dropped off at specified locations for us to collect. We provided this service 6 times in the past two years at the Bristol Farmers Market, and plan to continue this for the future. So far, we have collected a total of 10,500 pounds of e-waste, and hope to collect more to help clean our community.

PEACCE

Operation PEACCE Robotics continues to power the future by inspiring the people on our team, the people in our community, and the organizations we interact with. By furthering our mission by creating PEACCE in everyone we meet, we can provide better opportunities for the students in our community to be the best versions of themselves.

APPENDIX C: AWARDS



CHAIRMAN'S EXECUTIVE SUMMARIES 2021

1. 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 STEAM careers, and in FIRST programs as mentors/sponsors.

Through FIRST, our students have the opportunity to learn mechanical and technological skills through a hands-on approach that expands the understanding of engineering while working cooperatively. Because of this, several of our alumni are provided with jobs in real STEAM fields, and come back every year to mentor and pass down these skills to the next generation. This opportunity also reaches out to homeschoolers, getting an equal chance to students within a school-system.

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

In 2016, we created a STEAM Curriculum at the Bristol Boys and Girls Club, which was the first of its kind in any Boys and Girls Club in CT. Other clubs have used our program as a model to create more. Classes include basic coding, game design, CAD, 3D printing, Vex IQ, and an FLL team. We have also heard from our community for more accessible opportunities for STEAM of all ages, leading us to begin plans for STEAM classes called Operation Innovation.

3. 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 attend fairs and events throughout the summer where we have the opportunity to demonstrate our robot and fundraise. Our intent at fairs is to raise money with toys, demonstrate to the community our robot, recruit, inspire, and get kids interested and involved in STEAM. We reach out to the community by distributing our open house fliers and pamphlets on the FIRST program. We measure our success by seeing retention rates from potential students, mentors and sponsors.

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

In 2020 we met team 4055 at the Waterbury event we volunteered at. Students were struggling to repair their robot, and were in need of assistance. Several members stepped in with tools, materials, and advice to get them up and running. We have also done this another time with FRC#1729 in 2018, stepping in when they were lacking mentors. Our team members also volunteer at various FIRST events. You will often see our tie dye in other pits as students and mentors alike assist many pit calls.

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

In the summer of 2018 the CEO of our sponsor AGR was so excited by our team that he helped facilitate the sponsorship from DT Engineering to the Lebanon school board in Missouri for their own FRC team. One of their mentors flew here to check out our build space and talk to our mentors and students about our program. They needed advice and guidance in the process of starting up their own team Buzzbot 7662.

APPENDIX C: AWARDS



6. 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?

We've made several FLL teams, the Protectors of PEACCE, Minions of PEACCE, and the Bristol Boys and Girls Club team. We initially funded them and many of our students and mentors volunteered there. Our efforts have inspired an FTC team in New Haven, Gearshakers, which in turn spawned 2 more FLL teams, Royal Engineers and the Firewall Breakers. Previous members of our FLL teams wanted to continue FIRST in their own community and now some members of this FTC team are returning to Operation PEACCE.

7. 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.

We have a strong partnership with the Bristol Boys and Girls Club, creating after-school robotics programs for their students. Since our partnership, they've been able to apply for new grants raising over \$30,000 and added one paid position for our team. This inspired the New Britain branch to emulate our model for their students. We also partner with FRC#1071 to help run the Where In Wolcott Invitational every year.

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

As a 4-H team, our attendance doesn't take from one specific town. We have representation from towns such as Ansonia, Newington, Southington, and Bristol. We also have a wide variety of mentors whose skills vary from public relations, building, machining, to programming. Our commitment to volunteering and mentoring shows through all of our community programs. We are a very enthusiastic, fun team and we like to share it with the world.

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

We have created three FLL teams since our beginning in 2010. To start more programs, we have approached a number of local community centers, libraries and the like, to get the word out and about the FIRST programs that we are starting in the area. We have settled down in our main sponsor's building and are working on expanding to create an FTC team and work more intimately with our FLL teams.

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

We've maintained and gained sponsors every year since 2015. By mailing out thank you letters to sponsors to show appreciation, as well as emailing newsletters to keep them up to date on our progress, we keep our sponsors engaged with the team. In addition, we strengthen our relationship with sponsors by inviting them to our annual open house and holding a mid build-season demonstration event strictly for sponsors so they can see in person just what our team does for kids.

APPENDIX C: AWARDS



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

Our team struggles with reaching out into underprivileged communities to further accessible STEAM within their area. We strongly believe STEAM should be accessible to everyone, and not behind a wall. To do this, we are planning on reaching out to school systems and non-profit centers targeted in these communities to provide an outlet for students to try. This would help us spread FIRST to more people, retain our students, and overall benefit the state of Connecticut as a whole.

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

Students of the team have begun discussing the start of a new initiative, a program called Operation Innovation. The goal of this program is to provide new learning experiences for children ages 6 to 18. We will be hosting Project Classes and Workshop Classes. These projects and experiments will help children learn basic skills such as using certain tools and how to come up with innovative solutions to problems. This gets us closer to our goal of getting more kids interested in STEAM.

13. 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 most notable sponsor, the Arthur G. Russell Company, provides us our build space, gives us complete access to their shop tools and machines, and contributes financial aid. Our students have a close working relationship with the engineers and machinists, they provide guidance and advice on our designs. Our team has sustained a relationship with our 501(c)3 sponsor, 4-H, since our inception. They help us maintain independence from any schools.

