

Chairman's Award - Team 1902

Team Number

1902

Team Name, Corporate/University Sponsors

Lockheed Martin/Magnus Hi-Tech/BAE Systems/Comcast NBC Universal/Electronic Arts/Disney VoluntEARS/Stage Equipment and Lighting/Central Florida Chapter Fluid Power Society/Castle Ventures/Firehouse Subs of Clermont Florida/Elise Cronin-Hurley Web & Graphic Design&Orange County 4-H, Florida

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2016/2017 year and the preceding two to five years

-EB grows students into leaders in their communities -Our alumni stay involved with 1902 or become influences in FIRST -50% of current EB students participated in FLL/FTC in the previous years -Problem-solving scenarios, teamwork, public speaking, a healthy academic environment & guidance from professional mentors directly correlate to 100% of all EB students moving on to a higher education -FIRST inspires our students to spread STEM in the community through outreach

Describe the impact of the *FIRST* program on your community with special emphasis on the 2016/2017 year and the preceding two to five years

-Enduring relationships with Orlando partners such as the Science Center, Library, Fair, Maker Faire & Kennedy Space Center & lasting impact on community -EB has transformed our culture into one that appreciates STEM through summer camps, Spark, Dreamflight, Otronicon & FIRST events -FIRST in FL, Blue Ribbon Showcase Award 2013-17 -EB helped the Central Florida Fair at the 2016 STEAM Pavilion, giving us the opportunity to promote FIRST teams -3,000+ hours at 100+ demos 2014-17

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

-EB is target marketing small businesses, tech startups & organizations such as Ed-Tech, Lady Developers & Orlando Tech Association -We bring science experiments to outreach events to engage children & adults alike -1624 Facebook fans in 42 countries -2017 postcard campaign encouraged local businesses to learn more about EB & FIRST -Spark spreads the message of FIRST internationally by laying the groundwork for future FIRST teams

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

-Our FLAG campaign gives young girls positive role models in STEM fields to encourage them to pursue their interests - At World Champs, Regionals, Offseasons & kickoffs, we host workshops in Robots, Awards, & NEMO to help other teams gain insight -We mentor teams via social media & assist them in their outreach endeavors -Veteran students lead new students on the team through structured subsystems & one-on-one mentoring -EB volunteers at FLL & FLL Jr events

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

-EB focuses on helping other teams develop & remain sustainable in the FIRST community after their rookie year -We mentor FRC 5412 from the Netherlands helping them overcome obstacles & achieve their goals of developing a stronger FIRST presence in Europe -We also mentor team 6527 & assist 5926 & 6473, a local Boys & Girls Club rookie team -We present 4-H as strong foundational partner to help teams form -EB focuses on sustaining other FRC teams via our marketing workshop

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

-EB is working with Winter Park High School to start 2 FTC Teams this fall -We are working with the Orlando Library to start an FLL Jr team -UCF Teachers Demo shares FIRST program with teachers in training -Utilizing team members' extensive knowledge with FLL & FLL Jr, EB increases new student, parent, & teacher interest in FIRST in our community -Our annual STEM summer camps, at which FRC members guide campers in the creation of LEGO Mindstorm robots, result in new FLL members

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

-We keep younger students interested in FIRST by presenting our robot at FLL Jr, FLL & FTC competitions thus providing a view into the next level of FIRST -Local FLL teams are invited to present their projects to our FRC team for practice -As a result of our participation in the local FIRST community, almost 50% of our members progressed to FRC from other levels of FIRST -We volunteer as judges & referees at FLL & FLL Jr events to inspire younger FIRST students to progress through 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)

-Our marketing workshop has been presented 17 times to FIRST teams to help improve sustainability through fundraising & recruitment, leading us to team up with Behind the Lines, an FRC YouTube show -Online library of resources, free for any team to access -Five of our students mentor FLL teams -Host online calls & interviews with FRC teams 2415, 4468 & 5926 -We hosted our largest kickoff ever, at which we ran a number of workshops that covered topics like chairman's, robot design & strategy

Describe your Corporate/University Sponsors

-Lockheed Martin, Comcast NBCUniversal, BAE Systems, Disney Volunteers, NASA, Magnus Hi-Tech, Oakley Signs & Graphics, Castle Ventures, Cannon Law, State of Florida Grant, 4-H/University of Florida Funding, Intellectual Properties Law Firm, Stage & Equipment Lighting, Firehouse Subs, Elise Cronin-Hurley, Fluid Power Society, FACC, Host Inc, Zembowers Auto Repair, Unither Therapeutics -We were awarded the UnitherFIRST grant for \$6,000 due to our excellence in community outreach & imagery

Describe the strength of your partnership with your sponsors with special emphasis on the 2016/2017 year and the preceding two to five years

-We support our sponsors STEM advocacy efforts by demonstrating at company-sponsored events -Recognize sponsors on our team shirts, robot, pit, website & sponsor dinner -To thank our sponsors, we continually send updates & host an annual sponsor dinner -Lockheed Martin has been supporting us for 12 years. We support them at events such as Otronicon & their FLL competitions -Magnus Hi-Tech, one of our In-Kind sponsors, has donated powder-coated robot parts for 6 years

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

-FIRST Robotics is the most unorthodox method of teaching a student how to make an impact in the world. Engineering principles are taught in a fun, time-intensive and creative way. Building a robot in 6 weeks is no easy task, but inspiring an entire generation of thinkers is exponentially more impactful. FIRST Robotics somehow manages to be different than any other program encouraging students to gain confidence to pursue any future profession with the support of a second family. -FUN!!

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

-Partner with other teams internationally with FLAG videos and translation of Spark kits -Strategic planning meetings sets goals for our team; this year we achieved our first practice robot -EB creates an atmosphere where girls are encouraged & are active on all subteams shown through FLAG campaign -Nearly a 30% girl to boy ratio -Strong female role models through EB & in the community with a 50% female board Lady Developers & Girls Who Code partners

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

Ruhika Lankalapalli

Essay

4-H Exploding Bacon (EB) Team 1902 is a rocket of inspiration blasting off to new heights. Our diverse crew of students from 12 schools in 5 counties, plus homeschoolers, covers an area over 1200 sq miles. Uniting to accomplish our mission, EB aspires to change the culture by providing resources for FIRST teams, forging partnerships in our community & inspiring the next generation. With our far-reaching initiatives, FIRST Like a Girl & Spark, we continue to change the world into one that celebrates Science, Technology, Engineering, & Math.

4-H

4-H is a crucial member of our launch team. As an international youth development organization, 4-H teams provide students without access to robotics with the ability to participate in FIRST; half of EB students are homeschooled & the other half come from schools without an FRC team. Our partnership with 4-H has given us the opportunity to encourage & support the development of 4-H FIRST teams. Acting as a bridge between FIRST & 4-H, EB spoke with national 4-H officials, promoted robotics at a 2016 4-H roundtable discussion, & showed how 4-H prepares students for the future at the 2016 FL State Fair. 4-H featured us in a promotional video because they recognize EB as an outstanding example of

a FL 4-H FRC team. To better integrate our 2 organizations, we modified 4-H's standard project books for each level of FIRST, giving students the opportunity to compete for 4-H awards & scholarships. The books are currently available to Orange County 4-H teams & are being approved for statewide distribution. As a result, 13 EB students have earned 4-H awards in the past 2 years.

Students & Alumni

EB members forge strong relationships together & continue to bond at team beach days, ice skating, bowling, game nights, & our end of year banquet. As a crucial part of our crew, alumni exemplify the impact FIRST & EB has made on their lives. Alumni who move away from EB continue to make an impact in the FIRST community by volunteering at FIRST events & assisting other teams in their area. Influenced by their EB experiences, 100% of our alumni pursue higher education. EB alumni have founded FIRST clubs at UCF, ERAU, & UF.

Imagery

People recognize EB at events & our memorable image has consistently brought us new students, mentors, & sponsors. Our experience creating a strong image led to the development of our Big Bacon Theory of Image & Marketing (BBTIM) workshop, which helps other teams create a solid brand of their own. BBTIM has reached hundreds of teams through 6 workshops at Championships & countless others at regionals & events. We strive to help other teams maximize their resources & create sustainable FIRST teams. Captivated by BBTIM, FRC Behind the Lines asked EB to appear on their YouTube show about marketing & branding & host a Q&A.

Social Media

Along with our image, EB has cultivated a diverse & engaged audience across 42 countries by using numerous social media platforms to spread the message of FIRST with 1624 Facebook fans, 2942 Twitter followers, & 1803 Instagram followers & our 20993 YouTube views, as well as Pinterest, LinkedIn & Snapchat. We captivate our digital community through consistent posts & our iconic #OinkOinkBoom hashtag. Our media excellence attracted the attention of sponsors such as Comcast NBC Universal & has given us the opportunity to collaborate with FIRST teams.

FIRST Relationships

In 2016, we launched our FIRST Like a Girl (FLAG) video campaign to inspire girls to pursue their passion & to join all levels of FIRST. #FIRSTLikeAGirl has captured the attention of thousands across social media. So far, we have produced 11 videos of female role models sharing their FIRST story in the hope of instilling confidence in young women. FIRST in FL invited EB to the Microsoft Store where we shared our FLAG program with FIRST teams. At Roboticon, we taped 17 videos of students, mentors, & alumni from other teams. Team 2212 was inspired to film & post their own FLAG video in Israel as well as a promo to encourage other Israeli teams to participate in FLAG.

EB strives to share knowledge with FIRST teams around the globe. We currently mentor teams 5412 & 6527 & assist 5926 & 6473, a local Boys & Girls Club rookie team. We hosted online calls & interviews with FRC teams 2415, 4468, & 5926. EB regularly shares robot, marketing, social media, strategy, awards, fundraising, & programming resources with teams at competitions, offseason events, webinars & on our website. This year we hosted our largest kickoff event ever at the Orlando Science Center with 21 teams & 250 people in attendance, where EB students ran informative workshops.

EB's ongoing mission is to inspire younger generations to pursue STEM. EB has started 13 FLL teams over the past 4 years & is currently working with Winter Park HS to start 2 new FTC teams this fall. We stay active in the FLL community by hosting a pre-qualifier tournament every year where our students act as judges & referees. We volunteered at the Florida State FLL Competition, the Regional FLL Championship, & FLL tournaments with Lockheed & FLL #8265. In April, we are hosting an FLL Jr. Expo to help the Orlando Library start their own team. At FIRST events, we showcase our robots to encourage young students to progress through FIRST. In recognition of our efforts, EB has been awarded the Outstanding Supporter Award at the Florida FLL State Championship for 3 years in a row. EB demonstrates the progression of students through FIRST programs with 51% of our students having participated in FLL & FTC, & 5 of our students having mentored FLL teams.

Sustainability

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EB holds an annual strategic planning meeting where we set goals to sustain our team for the coming year. This year's focus was to expand our sponsor base by revamping our sponsor letter, reaching out to local & international companies, creating a postcard campaign, & reaching out to Central Florida Tech communities such as the Orlando Tech Association, EdTech, & Lady Developers. Through these endeavors, we have been able to better spread the mission of FIRST as well as create a stronger foundation for EB's future.

Our involvement in the Central FL High Tech Corridor allows our students to work closely with professionals from Disney, Lockheed Martin (LM), & Comcast NBC Universal. We show our commitment to our sponsors by sending updates, supporting their outreach endeavors, & hosting an annual dinner to thank them for their support. LM frequently requests our assistance at events such as Otronicon & their FLL tournaments. Our commitment results in high sponsor retention & builds strong mutual relationships.

Outreach

Since 2014, our students have logged 3000+ volunteer hours at 100+ outreach events, increasing STEM appreciation & FIRST participation in our communities. EB has impacted local schools by presenting to Winter Park HS Faculty &

Seminole HS Girls Who Code club. For 4 years, we have demoed our robot at NASA's Dreamflight event, where we shared our robot & simple science experiments with hundreds of terminally ill & disabled children from the UK. EB has multiple enduring relationships with partners such as the Orlando Science Center, the Melrose Center, the Central FL Fair, Orlando Maker Faire, & Kennedy Space Center. We have maintained our presence with these organizations while expanding our boundaries.

EB developed a hands-on program called Exploding Science (ES), which teaches basic principles of science & engineering to elementary & middle school students through fun experiments & activities. We share our program with students at annual summer camps & have published it on our website to help other FIRST teams run similar events. In 2015, we gave ES books to all Championship teams & to teams new to Champs in 2016. In addition to ES experiments, campers at our student-run summer camps build & program their own Lego Mindstorm robots for an informal competition. EB students develop career skills, become leaders, & serve as role models during summer camps.

To take ES to the next level, EB created Spark to help the world access hands-on STEM education. Spark's goal is to send reusable science kits around the world to children with few resources to make changes in their communities. So far, we have sent 12 kits to 8 countries & have 10 more committed. A missionary in Haiti said that teachers were "incredibly grateful to have hands-on material to help students relate to textbook learning & promote interest in the study of science & technology." Another teacher from Uganda said Spark kits stimulated their students' interests in learning & gave the students a better understanding of the concepts when it came time for exams. In 2016, we were awarded a \$1000 grant from St. Margaret Mary Catholic Church to fund 30 new kits. Spark impacts not only children around the world, but our own students as well. EB students see the direct impact of their efforts as they test experiments, raise funds, build kits, actively seek new places to send kits, & hear feedback from those that Spark has impacted. In addition, students collect items for Christmas Bags for Haiti to expand our international reach. Our success empowers us to continue to refine Spark & build connections for future endeavors around the world.

Since 2006, Exploding Bacon has been a constant beacon of inspiration within our community, expanding our scope while staying true to the ideals & values of FIRST. We spread our message by volunteering thousands of hours & maintaining an engaging environment. We partner with our sponsors & community to ignite a passion for STEM & FIRST all around the globe. EB changes the world by providing resources for FIRST teams, forging partnerships in our community, & inspiring the next generation to build upon our progress & fly further & higher than ever before.