

Chairman's Award - Team 1902

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2016 - Team 1902

Team Number

1902

Team Name, Corporate/University Sponsors

Lockheed Martin / Magnus Hi-Tech / NASA / Electronic Arts / BAE Systems / Comcast NBC Universal / Disney VoluntEARS / Stage Equipment and Lighting / Castle Ventures / Central Florida Chapter Fluid Power Society / 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 2015/2016 year and the preceding two to five years

Exploding Bacon (EB) emphasizes the growth of its students into leaders in their communities. The development of EB students through problem-solving scenarios, teamwork, public speaking, a healthy academic environment, and guidance from professional mentors directly correlates to 100% of all EB students moving on to a higher education. Additionally, a large majority of EB alumni stay involved with the team or move away and become influences in new *FIRST* communities.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2015/2016 year and the preceding two to five years

Our efforts to integrate *FIRST* into the community of Central Florida have made their mark. Our numerous outreach events have portrayed our image as the face of *FIRST* in Central Florida. As a result, the Central Florida Fair contacted us to help them with their STEAM Pavilion, giving us space to promote *FIRST* and local teams at the fair. We are also working with the Orlando Science Center on creating a *FIRST* exhibit for young visiting students who might become interested in joining a team.

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

2016 EB is focusing on small businesses in our growing community of tech start ups. Ed-Tech, a local STEM meetup group, contacted us for a demo. They introduced us to the Orlando Tech Association who we partnered with in an Hour of Code at a local middle school. In February we will expose their 3800+ members to EB & *FIRST* when we present at their meeting and invite them to attend the Orlando Regional. As the next generation of tech companies grow, EB & *FIRST* will grow with them.

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

Personal growth is the driving force on EB allowing students to grow and develop skills they will take into the workplace as advocates of *FIRST* and STEM. Logging over 2000 volunteer hours in the past 2 years alone, EB students become eloquent public speakers and are often complimented in the community. Our students are passionate about seeking out opportunities to talk about *FIRST*, volunteer with FLL students, and have fun getting together with other FRC teams at our *FIRST* Beach Day.

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

EB focuses on helping other teams thrive in the *FIRST* community. This year we welcomed a new team, FRC 5816, into our local community, and assisted them at our satellite kickoff event by providing workshops in a variety of robot and image focused areas, including a career panel featuring mentors from Lockheed, Disney, and Universal. We also mentored an FRC team from the Netherlands 5412 helping them to overcome obstacles and achieve their goals of developing a stronger *FIRST* presence in Europe.

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

Utilizing team members' extensive knowledge with FLL and FLL Jr., EB increases new student, parent, & teacher interests in *FIRST* in our community. Our annual STEM summer camps, at which FRC members guide campers in the creation of LEGO Mindstorm robots, resulted in new FLL members. These efforts increase new youth members in *FIRST* where we encourage and assist new teams. We invite those teams to come visit EB & at the local regional we assist to show them what their future in *FIRST* could be.

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, FLL Jr and FTC competitions thus providing a view into the next level of FIRST. Local FLL teams are also invited to come present their projects to our FRC team for practice. In addition we host summer camps to create generations of STEM lovers for years to come. As a result of our participation in the local FIRST community, more than one third of our members progressed to FRC from other 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)

Our ongoing Imagery & Marketing workshop, Big Bacon Theory of Imagery & Marketing, has been presented 15 times to FIRST teams to help improve sustainability through fundraising and recruitment. In 2015, EB mentors seized an opportunity to team up with Behind the Lines, a FRC YouTube show to share information about branding and marketing. The online interview covered FIRST team marketing tips and questions from the FIRST community. In addition, we have an online library of resources.

Describe your Corporate/University Sponsors

A wide range of corporate sponsorship keeps our team well rounded, and allows FIRST to reach new avenues. Companies such as Lockheed Martin, Comcast NBCUniversal, BAE Systems, Disney, NASA, & Magnus Hi-Tech consistently provide us with mentors, guidance, and funds. In return, we support their STEM advocacy efforts by demonstrating at company-sponsored events, along with recognizing them on our team shirts, website, and at our annual sponsor dinner.

Describe the strength of your partnership with your sponsors with special emphasis on the 2015/2016 year and the preceding two to five years

Sponsor relationships are important to any FIRST team. Our budding relationship with our sponsor Comcast NBCUniversal allowed us to present robots & the wide variety of interpersonal & technical skills involved in a successful FIRST team, exposing over 200 influential employees to various aspects of FIRST. Through this event, we gained 11 committed mentors, who come by the build space & assist with video production, fundraising & mechanical design.

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

We train all our students to be able to quickly explain FIRST in terms anyone can understand, from professionals to children. An example is, "FIRST, For Inspiration and Recognition of Science and Technology, is an international organization that hosts exciting robotic competitions for children aged 6-18. These competitions promote STEM education in a fun & effective manner to inspire students to learn more about science & technology, preparing them to be innovative future leaders in STEM."

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

Because we are a 4-H team, we are able to pull students from 1120 sq miles. Those who make the effort to travel to meetings are motivated in part by EB's loving family atmosphere. Nearly 20 families have had multiple students participate in EB over the years and there are still many younger siblings anxiously awaiting their turn to be a part of the team. The passion for STEM shared amongst the students on EB allow them to form bonds that will last them a lifetime.

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

Jordan Godwin

Essay

4-H Exploding Bacon Team 1902 is an engine of inspiration, with students hailing from 10 schools in 5 counties, plus homeschooleders, encompassing an area of over 1120 square miles. Our booming impact can be seen & felt through our work running STEM summer camps & proactive outreach, while sending inspiration to underprivileged children around the world one Spark kit at a time. We've partnered with companies ranging from local restaurants to Fortune 500, triggering a long lasting shift in STEM-appreciating culture. Blasting off to new heights, we continue to project our image through traditional & social media to change our world into one that celebrates Science, Technology, Engineering, & Math.

Exploding Bacon (EB) has cultivated a diverse & engaged audience across 39 countries on Facebook, Twitter, YouTube, Pinterest, LinkedIn, & Instagram, spreading the message of FIRST with our 1412 Facebook fans, 2440 Twitter followers & through our 14463 YouTube views. We captivate our digital community through consistent posts & our iconic #OinkOinkBoom hashtag. Our media excellence has also grabbed the attention of Comcast NBC Universal, who now funds & mentors EB.

With our media & imagery experience, along with our well spoken students, we have developed a workshop to give

imagery guidance to other FIRST teams, entitled Big Bacon Theory of Imagery & Marketing (BBTIM). In addition, we directly help launch other teams to the next level by answering their imagery, recruitment, fundraising, & award questions. One such team, Impossible Robotics, FRC 5412 from the Netherlands, first met us when they competed at a FLL World Invitational Open & later began mentoring their team via email & Skype. Due to our experience presenting BBTIM 15 times since 2011, FIRST advised FRC Behind the Lines to contact EB to star in their YouTube show to present about marketing & branding & host a Q&A discussion for the FIRST community.

Our association with 4-H gives us the opportunity to expose a traditionally agricultural audience to robotics & helps prepare today's youth for the future. To better integrate our 2 organizations, we modified 4-H's standard project books for each level of FIRST to provide students with the opportunity to compete for 4-H awards & scholarships. These books are currently available to Orange County 4-H teams & are being approved for statewide application. At their request, EB represented 4-H at the 2016 State Fair, where we displayed the emphasis 4-H places on preparing its students for the future. This past year these books helped 8 FIRST students win 4-H awards.

Our access to the Central FL High Tech Corridor allows our students to work closely with professionals from Disney, Lockheed Martin (LM), Comcast NBC Universal, & EA Sports. We show our commitment by sending quarterly newsletters, build season updates, & hosting an annual dinner to thank them for their support. This results in high sponsor retention & produces strong relationships that yield respective benefits for our team & sponsors such as tours, demonstrations, & internships. This year at EA's quarterly meeting, EB gave a presentation introducing FIRST to over 950 employees. In addition, LM frequently requests our assistance in igniting interest in STEM at many events such as Otronicon, an annual event at the Orlando Science Center that celebrates technology, & at the 2014 FL Capitol's STEM Day, where we worked in tandem with LM to promote STEM & FIRST to state officials.

Most of our sponsors support us with mentor guidance & with funds. One example is our lead Universal mentor, Matthew Miller. Miller was featured in this year's FIRST kickoff video, & in August 2015 he coordinated a showcase in which 200 employees had the chance to drive 2 of our robots & learn more about EB & FIRST at 10 tables that covered subjects like outreach, business, imagery, robotics, & programming. This event eventually led to an article in Universal's company newspaper & encouraged employees to volunteer with FIRST. Through our efforts at the Universal demo, we gained 11 new Universal mentors.

Because of our proximity to the 2nd largest convention center in the US, which attracts large STEM conferences such as IITSEC, ECC, Emerson Global Users Exchange, & Maisie Learning, FIRST in FL regularly asks us to demonstrate our robot to global attendees. In recognition of our efforts at sharing the message of FIRST, FIRST in FL honored us as a Showcase Team 3 years in a row. These demos have allowed us to share FIRST with more than 10000 professionals & their families. A student ambassador spoke to educators across FL about the benefits of FIRST at the Orlando Maker Faire, an event FIRST in FL consistently asks us to attend.

EB has developed a collaborative relationship with the Orlando Library & their technology center: the Melrose Center for Technology, Innovation, & Creativity. We demonstrated our robots at their grand opening & subsequent anniversaries, exhibited at Robotics Day, presented a Tech Talk, & judged their LEGO Contests 3 years in a row. Additionally, we demo our robot at community events such as The Family & Children's Expo, the Interlachen Country Club's Science Night, local STEM classes, a STEM fair, farmers' markets, bookstores, a movie premiere, & many more events.

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Not only do we make an impact in our community, we also make an impact on our students & alumni. Our alumni demonstrate the prolonged effects of working in the EB/FIRST environment. As a critical part of our family, they help enrich the FIRST experience while guiding the team on our mission to success. One of our alumni, now a college advisor & EB board member, developed a series of off-season classes & created a mock FRC game to prepare students for build season. Another mentor continues to assist our students with writing & social media from more than 800 miles away. Alumni that move away from EB still continue to make an impact in the FIRST community by volunteering at FIRST events & assisting other teams. 100% of our alumni are motivated by their EB experiences & go on to pursue higher education. One of our EB alumni, Jamison Go, achieved his aspiration to attend MIT & participated in ABC's Battlebots this past season.

EB's continuing mission is to inspire the next generation of students in STEM by facilitating their introduction into FIRST, encouraging us to start 13 FLL teams over 3 years. EB is involved in several FLL & FLL Jr. events, running & hosting tournaments, assisting a Regional FLL Championship, & hosting a FLL Jr. Expo. We display our robot to encourage FLL students to stay involved in FIRST. In recognition of our efforts, EB has been presented with The Outstanding Supporter Award at the Florida FLL State Championship for the past 3 years.

To ignite an excitement for STEM in elementary & middle schoolers, EB developed Exploding Science (ES), a series of hands-on science experiments & activities that our students compiled into a book with directions, explanations, diagrams, & real world applications. At the Championship in 2015, EB passed out 620 ES Resource Books to FIRST teams. These books allow teams to set up similar programs to advocate for STEM & provide summer camp fundraising

opportunities. In addition, these books are available on our website to help all FIRST teams.

We use ES at community & 4-H events & at our annual summer camps. After a robot demo for a local school's Cub Scout Troop, the principal was so impressed that he asked us to run a STEM camp. Our students have run this camp for the past 4 years teaching science, engineering, & programming concepts. These camps allow us to promote a STEM appreciating culture in our communities & refine our ES experiments.

After seeing the impact ES had on our local community, we worked towards our aspiration to establish a global program that expands the FIRST mission, & Spark was born. EB created Spark to help pave an avenue for access to STEM education. Spark's goal is to send reusable science kits around the world to inspire underprivileged children to make differences in their communities. So far, we have sent 10 kits to 6 countries in 4 continents. One missionary in Haiti said that the teachers were "incredibly grateful to have hands-on material to help students relate to textbook learning & to promote interest in the study of science & technology." Spark impacts not only children around the world, but our own students as well. EB students grow as they test experiments, raise funds, & seek out new places to send kits. Our success empowers us to continue to refine Spark & build connections for future endeavors around the world.

In 2014-15, our students logged over 2000 volunteer hours. Over the past 3 years, EB has completed 100 outreach efforts, increasing STEM appreciation & FIRST participation in our communities. Our efforts to boost our communities' appreciation of STEM has attracted several newspapers & tech magazines.

EB is a sustained program that successfully shares our explosive passion for STEM & FIRST with our local, state, & global communities. To help with this, EB hosts an annual strategic planning meeting, where we develop goals for the coming year. We have already rocketed past some of our goals for this year, such as signing a 3 year lease on a build space, creating dedicated spaces for non-engineering areas, & launching our 10th Spark kit.

Exploding Bacon has been a constant beacon of inspiration in our community since our founding 10 years ago. We expand our horizons while staying true to our ideals & values. We spread our message through volunteering countless hours while maintaining an energetic environment. We partner with our sponsors, government, & citizens to spread the Spark of STEM to our neighbors down the street, & across oceans. Over the years we have kept this rocket of inspiration going, & together we've made pigs fly.

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