



2019 Chairman's Essay Submission

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Submitted at the Palmetto Regional

*Recipient of the Palmetto Regional Chairman's Award and the
2019 Championship Chairman's Award, Houston*

One Mission

4-H Exploding Bacon (EB) Team 1902 was created in 2006 to provide an opportunity for any student without access to a robotics team. Our mission has always been about building robots & helping people. We start each year with a goal to design & build a season-ready robot, but it transforms into so much more as we guide our students to be the next generation of STEM leaders, build an inclusive family, forge valuable relationships with our local & global communities & create a platform for FIRST sustainability. By staying true to the values of FIRST, we work towards our One Mission of magnifying the impact of FIRST teams into one powerful force for global change.

The Team

In 2014 we were working out of a mentor's house, overwhelmed by an increasing demand for outreach. Our original aim to be strong advocates for FIRST in our community led to our determination to have a deliberate & sustainable approach to changing the culture. Realizing that our resources were limited, we focused on finding ways to multiply the impact each team member could have by initiating strategic planning. This annual meeting serves as a launchpad for our endeavors, enabling us to set & accomplish goals such as funding a practice robot or revitalizing our team leadership. With our organizational partner 4-H, local & corporate sponsors, active college mentors & strong family atmosphere, we've overcome our struggles of acquiring a build space & instilling a sense of community despite our vast differences & distances.

Whether it's through writing grants, representing our sponsors at demos, or organizing a thank-you brunch, our students fiercely advocate for increased FIRST support through sponsorships. We started the team with one student in mind, but now we span an area of 1,275 sq miles serving 39 homeschool & traditional students across 4 Central FL counties, providing opportunities for many without direct access to a team.

Local Outreach

It all started with a few science experiments, a robot & some kids with orange sleeves partnering with a local restaurant & elementary school. Over time our students have laid a foundation for our reputation & spread our passion for STEM & FIRST. Demonstrated by the 6000+ student volunteer hours garnered since 2014, EB students sustain our outreach legacy with a strong community presence geared towards anyone & everyone whether it's a farmer at the 4-H FL Fair or a 4 yr-old at the Orlando Science Center.

Since then, we've forged connections with those who could help amplify our impact such as local tech groups, NBCUniversal Media-Tech's Hackathon & AT Makers' Adaptathon. Beyond our work with the Boys & Girls Club, NASA's Dreamflight & Maker Faire, we've initiated new govt outreach by collaborating with our State Senator & Representative to continue their support for a FL Bill that funds FRC registrations.

After an amazing experience presenting with Don Bossi at the 2017 CXO Summit & Dean Kamen at the 2017 Defense Manufacturing Conference, FIRST leveraged our experience & invited us again to present with Mr. Bossi to Fortune 500 CEOs at the Material Handling Institute Global Conference. With students dedicated to engaging others in STEM & a desire to make a sustained impact, EB has built a tangible enthusiasm for FIRST in our community.

After moving through 10 build spaces, we're back at our roots: down the street from the same restaurant & Cheney Elementary.

Image

Establishing a memorable presence in a city like Orlando was challenging but necessary to improve recruitment & retention of students, sponsors & mentors. From the moment our iconic pig on a rocket was drawn on a napkin & the infectious Oink Oink Boom was first cheered, we learned what an approachable image is capable of communicating. We're honored to see our passion recognized through Regional & World Champs Imagery Awards, leading us to do what we do best: help others. With our Big Bacon Theory of Image & Marketing (BBTIM) workshop, we've created resources for teams to further promote the values of FIRST & multiply their impact. We started by helping rookie teams define their unique image & now after presenting 26 times (8 at Worlds), BBTIM has evolved for all levels of FIRST to promote sustainability & increase support for FIRST everywhere.

Spark

After starting our annual NXT Summer Camps in 2012 & distributing hundreds of Exploding Science Resource Books at World Champs, we discovered a limitation: we could only travel so far. Our aspiration to do more transformed into 133 Spark kits impacting countless kids in 43 countries. The shoebox-sized science kits maximize simple reusable resources to teach the principles of STEM with hands-on activities, an extension & culmination of our local outreach work. Whether it was through a pilot program with Tulane University that led to our first major U.S. school integration, a partnership with FIRST Global Competition teams resulting in a 150% growth in countries, or a student-led service trip to India giving EB a deeper understanding of the direct impact on each child, we've always worked to make sure Spark was fulfilling its initial mission & intended impact: providing opportunity.

Spark isn't just an opportunity for children worldwide to learn problem-solving skills; it's transformed FIRST communities by providing a sustainable & replicable program where teams can jumpstart their own outreach. In addition to taking kits back home, several FIRST teams have translated the instruction manuals into 5 languages. We are assisting teams from 4 countries with mass offsite Spark creation projects. Countless letters, pictures & videos from the kids & educators impacted by Spark motivate our students to continue fundraising & building kits to inspire the next STEM leaders.

#FIRSTLikeAGirl

In 2016, we created the #FIRSTLikeAGirl movement to improve STEM culture by sharing the stories of relatable role models in FIRST. We started with our local community, targeting FLL events to combat the significant drop in female STEM participation during middle school. It started as a simple picture with a hashtag, but now it's 1M+ impressions on thousands of photos with girls & their inspiring mentors. It began as 1 team trying to disrupt the culture, but now it's 1,092 teams of all levels from 57 countries making it loud. It was 1 button on a backpack, but now it's 20,000+ buttons, tattoos & signs distributed everywhere from Texas to Japan. It was just a Youtube video explaining one Bacon girl's journey through robotics, but now it's 70+ videos & a recognized project of the broader FIRST community.

The long nights of pressing pins & designing graphics have translated into support from Fortune 500 CEOs & #FIRSTLikeAGirl Workshops. Through our World Champs #FIRSTLikeAGirl Panels led by FIRST Diversity & Inclusion, new blog interviews & collaborative impact research, the humbling feedback we've received has revealed the power of the girls who identify with & embrace our community overcoming social stigmas. Beyond an article for Amy Poehler's SMART Girls & support from FIRST itself, the formidable, heartwarming comments from girls around the world have broadened our idea about the true definition of an inclusive community & what it takes to make it better.

FIRSTAlliances

To grow our programs, we collaborated with other teams & through our conversations, we realized the need for more direct recognition of FIRST team-created programs. This dialogue inspired EB to create FIRSTAlliances, a platform for all levels of FIRST regardless of age, skill level, or location, fostering connections by highlighting their strengths, promoting their initiatives & creating a hub for collaboration. The site benefits FLL as it provides the only web presence for 41% of the teams registered & supports FIRST as a whole by unifying our global impact. With 162 teams from 13 countries listing 53 programs, FIRSTAlliances has challenged our students to improve real-world skills through its strategic planning, Python coding & social media management developing today's STEM innovators.

FIRST Relationships

EB was born from the collaboration of FL FIRST alumni. Since then, it has been our mission to support the same FIRST community that gave so much to us. Beyond sharing a wide variety of resources, hosting Official FRC Kickoffs with wksps & hosting FLL/FLL Jr. events, EB co-created & launched our inaugural offseason 2018 Pre-Season Expo. Working together towards a stronger, more unified FIRST in FL, teams presented wksps & promoted the progression of programs to elevate the sustainability & impact of local teams.

We realized that the strength of the FIRST community translates beyond barriers & borders. When our Dutch friends travel to Orlando, we share our homes & build space, help fabricate parts & have dinner together. Whether it's scheduling rookie help time at events, bringing batteries for our Israeli friends, or even having an EB student translate for Chinese teams & judges, teams across the globe know us as a supportive member of the FIRST network.

To strengthen our inclusive programs like #FIRSTLikeAGirl, Spark & FIRSTAlliances, we rely on the collaborative network of FIRST teams & strongly advocate for the direct progression of FIRST programs to build a stronger FIRST destined to fulfill our One Mission.

#TogetherWeInspire

The ultimate resources in FIRST are the participants who inspire everyday. Our Mission to combine these efforts allows us to magnify our impact into a powerful force for cultural change. Spark provides opportunities for hands-on exploration, #FIRSTLikeAGirl enables us to empower females & FIRSTAlliances unifies efforts of teams around the world.

Exploding Bacon works tirelessly to make a direct impact that is amplified through our programs, rippling out to leave a legacy of global collaboration, opportunity & inspiration. Alone we aspire, but alongside FIRSTers everywhere #TogetherWeInspire.

2019 Executive Summaries

1) Briefly describe the impact of the *FIRST* program on team participants within the last five years.

- 100% of EB students develop diverse skills (grant writing, communication, leadership, technical) & pursue higher education & jobs at companies like Lockheed, Disney, Microsoft & Apple
- Creates supportive network as members explore new opportunities: presenting at CXO Executive Summit & winning SOLIDWorks National Design Challenge
- Long-lasting, tight-knit bonds developed through family dinners, game nights, & post-high school support
- 65% of current EB students compete in/mentor FTC & FLL teams

2) Describe the impact of the *FIRST* program on your community within the last five years.

- New govt. advocacy with State Senator & Representative to sustain FIRST funding
- Supporting FIRST inspiration in our community through sustained relations with STEM & Agriculture youth orgs
- EB's enduring partnership with 4-H created a K-12 pipeline of FIRST teams for FL youth
- 6000+ EB student volunteer hours through 200+ demos since 2014 to attract new audiences to FIRST and pay forward their opportunities
- EB alumni have established FIRST Alumni Clubs at 3 FL universities: UCF, UF, & ERAU

3) Describe the team's methods for spreading the *FIRST* message in ways that are effective, scalable, sustainable, & creative

- Created a replicable & scalable outreach program for other FIRST teams by creating & sending 133 reusable Spark science kits to underserved kids in 43 countries
- Capture the attention of local & international audiences with our unique pig on a rocket brand
- #MakItLoud with millions of impressions with 5 websites, 12 social medias, industry magazine articles, NBCUniversal Hack-a-thons & local TV segments
- Spread FIRST with new global audiences with our 75 #FIRSTLikeAGirl videos & media campaign

4) Describe examples of how your team members act as role models & inspire other *FIRST* team members to emulate.

EB Students:

- Created #FIRSTLikeAGirl, a platform to showcase FIRST relatable role models; 12 EB members made videos, empowering girls to be confident
- Volunteer 1000s of hours: assist, mentor, & start 102 FIRST teams & volunteer at FIRST events
- Innovate tools for the FIRST community: official FTC Robot Inspection app, FRC simulator, Chief Delphi Logo, & FIRSTAlliances Directory
- Create Robot, Awards, & NEMO resources for FIRST teams through workshops & support: online, in-person & at events

5) Team's initiatives to help start or form other FIRST Robotics Competition teams.

- Taught sustainability techniques to 200+ teams who attended our 26 Imagery & Marketing workshops, 8 of which were held at World Champs
- Supplied Exploding Science books to ~1000 teams (many rookies) sharing entrepreneurial techniques & summer camp plans
- EB provides a team model by partnering with 4-H, a 501c3 youth-serving org, & bridging them with FIRST-specific project books
- Partner with FIRST reps at demos to start & connect more local teams
- Started FRC 7592, first FIRST team in St. Kitts

6) Describe the team's initiatives to help start or form other FIRST teams (including FIRST LEGO League Jr, FIRST LEGO League, & FIRST Tech Challenge).

- Shared FIRST at UCF Teachers Demo, inspiring them to start new FIRST teams
- Equipped EB Members to form 4 FLL, 1 FTC, & 1 FRC teams
- Shared our Imagery & Marketing workshop at the FLL Coaches Conference, promoting sustainability
- Host annual EV3 summer camps for 8-12 yr olds, prompting many to join/create FLL teams
- Our website FIRSTAlliances promotes communication within FIRST & has specifically been utilized to connect people in the community looking to start new teams with those who can help

7) Describe the team's initiatives on assisting other FIRST teams (including FIRST LEGO League Jr, FIRST LEGO League, & FIRST Tech Challenge) with progressing through the FIRST program.

- This year, we assisted 43 FRC, 3 FTC, 2 FLL, & 2 FLL Jr. teams & mentored 3 FRC, 5 FTC, & 5 FLL teams
- We promote the progression of FIRST programs by hosting, running, & volunteering at FRC kickoffs, FLL Events, & FLL Jr. Expos
- EB students developed FIRST Alliances to be a website for all levels of FIRST that connects FIRST teams with experienced teams by displaying resources, collaborating on programs, & providing guidance
- Preparing for our 2019 Offseason Comp. to sustain FIRST in FL

8) Describe how your team works with other FIRST teams to serve as mentors to younger or less experienced FIRST teams (including FIRST LEGO League Jr, FIRST LEGO League, & FIRST Tech Challenge).

- Mentor via video calls, emails, & Behind the Lines, an FRC YouTube show to share knowledge & experience
- New #FIRSTLikeAGirl Ambassador program with 18 teams from 7 countries diffuses campaign, encouraging FIRST teams to make an impact everywhere for younger levels of FIRST
- Created & hosted new 2018 pre-season expo with FRC 5816, providing opportunity for teams to present 16 workshops; partnered with teams of all levels to present unified FIRST in FL to media, potential sponsors, & community

9) Describe your Corporate/University Sponsors.

- Maintain long term sponsors like Lockheed Martin, Comcast NBCUniversal, & BAE Systems, & actively forge new ties with companies like Best Buy, Leidos, MHI, & Solidworks
- Beyond pursuing corporate, local, & family partnerships, we explore new endeavors: grant writing, professional conferences, & 10k grand prize award through xDesign Challenge
- 4-H is a strong foundation for EB connecting a traditionally agricultural youth development program to robotics, exposing new audiences to FIRST & STEM

10) Describe the strength of your partnership with your sponsors within the last five.

- Team sustainability requires a diverse sponsor base. Our partnerships consist of in-kind donations & monetary funding, fueling our team
- We continually send updates, host an annual sponsor brunch, & represent sponsors on our team shirts, robot, pit, & website
- EB attends numerous corporate & professional conf. through our sponsors to represent both them & FIRST
- EB exposure turns sponsors into FIRST advocates as they host events such as FLL competitions, expanding the reach of FIRST beyond EB

11) For FIRST Robotics Competition teams older than 5 years, briefly describe your team's broader impact from its inception.

- Our 14 years of strong imagery & outreach legacy developed roots in our local community, providing a foundation to grow our enduring partnerships & promote FIRST
- Our core of inclusion unites all levels of FIRST beyond team boundaries & country borders towards One Mission of inspiration
- Providing outreach opportunities for other teams: partnering with 24 international FIRST teams to distribute Spark kits & building an inclusive community with FIRSTLikeAGirl where every voice can make an impact

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

- FIRST is the most unorthodox method of teaching a student how to make an impact in the world. Engineering principles are taught in a fun, inclusive, time-intensive, & creative way. Building a robot in 6 weeks is no easy task but inspiring an entire generation of innovators is significantly more difficult & impactful. FIRST 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!!!

13) Briefly describe other matters of interest to the FIRST Judges, if any Other Considerations.

- Annual Strategic Planning enables reevaluation of team, SWOT, mission statement, & goals
- Connect with organizations & teams from 57 countries through #FIRSTLikeAGirl
- 86% female BOD
- Supported 2017 & 2018 FIRST Global Competition events, sharing 100s of #FIRSTLikeAGirl buttons & 45 Spark kits
- Successfully built first robot mechanism for off-season competition to prepare rookies for 2019
- Honored to see FIRST support for #FIRSTLikeAGirl expand to 2019 FTC Game Animation & FIRST Champs Panels