

Chairman's Award - Team 1885

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2016 - Team 1885

Team Number

1885

Team Name, Corporate/University Sponsors

US STEM Foundation / NetApp / Lockheed Martin / Macedon Technologies / DataSync Technologies / ASCO / A-1 Flood Tech / Prince William County Schools & Battlefield High

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

The greatest impact of FIRST on ILITE is seen post graduation. Students have received internships with leading STEM agencies including NASA, and participated in fields such as manufacturing and cyber defense. 100% of our graduates pursue higher education, many at top schools such as Stanford, Cornell, Yale, and Carnegie Mellon. Our students have earned professional positions at Lockheed Martin, ESPN, the US House of Representatives, and more because of their FIRST skills.

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

ILITE is a key component of our community. We expose our community to FIRST by hosting public events such as FIRST competitions and summer camps. ILITE advocates FIRST in local politics and our school division. We also present FIRST at community events ranging from annual fall festivals to a STEM Expo which brings together over 800 community members annually. ILITE has been featured in local media on multiple occasions as recognition for our efforts in the community.

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

Through seminars between team members and schools, businesses, and organizations our FIRST Campaign has impacted over 8,000 students and 150 businesses. We reach out to groups who might otherwise not be exposed to FIRST, which is why ILITE provides robotics camps for home school students, Boy Scouts, senior citizens, and more. Our efforts led to the State Department picking ILITE as a poster child for a successful STEM program which was featured in every United States embassy around the world.

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

ILITE's ability to be a role model in the FIRST community has been recognized by four Chairman's and four Engineering Inspiration awards. ILITE inspires FIRST teams with our extensive outreach and events. We host 11 different summer camps in diverse subjects across the STEM spectrum, support FLL competitions, host FTC and FRC competitions, and assist FIRST teams in all aspects of FIRST competitions from Engineering Inspiration and public speaking to programming and strategizing.

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

Our ILITE Robotics Offseason Challenge exposes people to FRC, and those interested are then talked to and provided with more information. ILITE partners directly with schools who lack robotics to form new FRC teams. We have worked with a local private school through the process of registering and acquiring resources and mentors for an FRC team. ILITE also trains teachers and potential future mentors to guarantee continued sustainability in the FRC teams we form.

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

ILITE uses its nonprofit the US STEM Foundation to provide grants to numerous FIRST teams whom would not form without said financial support. We actively mentor a new team through our ILITE Jr. program that pulls advanced students out of our summer camps onto a newly developed FTC team. We have started sending FLL kits and mentoring videos to Malaysia and Haitian orphans. Also, by integrating FTC into the classroom we continue to mentor new FTC teams as the class popularity grows.

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

ILITE developed the ILITE Jr. program to transition advanced FLL students into FTC at an accelerated pace, which has

had great success. ILITE has also coordinated efforts to create the National Capital Robotics Alliance, which connects FIRST teams across the DC, Maryland, and Virginia region. Teams involved in this alliance come together to expand FIRST and increase the number of students who progress through the FIRST program, starting with FLL Jr and graduating with FRC.

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)

In a traditional sense, ILITE has mentored 9 FTC teams and 60 FLL teams over the last five years. We also provide assistance to teams with digital resources, ILITE invested 200+ hours towards the creation of an educational robotics website which has tutorials on every aspect of FIRST. Over 20 additional FIRST teams contributed towards making the website. We open up our facilities to FIRST teams to use our 3D printer lab and FTC Field, and are always available for questions any team has.

Describe your Corporate/University Sponsors

ILITE receives university mentorship from George Mason University, Virginia Tech, James Madison University, and Cornell University. ILITE currently receives corporate sponsorship from Lockheed Martin, Google, Aurora Flight Sciences, Microsoft, Leidos, Micron, Progeny Systems, Macedon Technologies, and Amazon. Additionally, ILITE has expanded our sponsorships through enlisting the expertise of the FBI and DHS.

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

ILITE creates long lasting sponsorships by integrating sponsors into the life of ILITE year round. During our events sponsors are invited to be speakers and exhibitors. Similarly, our sponsors have invited ILITE to participate in beta tests for developing programs, provided internships, and have sent their corporate executives to ILITE facilities to maintain face to face relationships. By maintaining this reciprocated relationship, ILITE keeps associations with sponsors strong and long-lasting.

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

FIRST is a non-profit that brings breathtaking achievements and goals to life. Founded to promote STEM, FIRST provides age-specific robotics challenges to students in over 50 countries. These programs inspire today's youth to pursue strong leadership, teamwork, effective communication, and essential problem-solving skills. FIRST programs culminate in competitions where students demonstrate their hard work by facing other teams in a challenge to qualify for awards and advancements.

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

Thanks to US FIRST, all students and mentors involved with ILITE have been inspired in STEM. Our coach, Professor Drake, says she is delighted to be a part of a movement that gives kids the opportunities they only have through FIRST. ILITE is made up of many students who wouldn't have become so passionate about STEM without the FIRST Robotics experience. As put by one member, FIRST has "made us into who we are today", helping prepare us for the future, bright with STEM opportunities.

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

Hana Komine

Essay

People everywhere rejoiced as technological advancements spread like magic. Lives were forever changed due to wonderful advancements in STEM as people became more connected and advancements in every field progressed more rapidly. Sadly, with these great advancements came a great plague. Throughout all of the land, the STEM industry saw a massive influx of demand for education and workers as technology became ingrained into every aspect of life. For every two available STEM positions there is merely one qualified worker to fill the positions. This lack of qualified workers stagnated the land. In the midst of this terror, a wizard, Dean Kamen, sent out a call for kingdoms to forge knowledge with the intention of inspiring great leaders in STEM. The Kingdom of ILITE answered Dean's call and was formed with the purpose of Inspiring Leaders in Technology and Engineering. Since the Kingdom of ILITE's founding, times have changed. ILITE has inspired interest and progress in STEM at the local, regional, national, and international levels since its founding and continues to do so every day.

Locally, ILITE inspires its community to get involved in the world of STEM. ILITE hosts 11 STEM camps each summer in cyber, general STEM, Girls in STEM, FLL, and programming. These camps teach students--from pre-kindergarten to high school--fundamental lessons necessary to progress in this changing world. STEM camps led to the development of the ILITE Jr. Program, a group of middle school students who are able to compete in FTC competitions and explore the STEM field. ILITE also takes part in annual hometown events, including Haymarket Day and Pumpkin Pandemonium, where we display our robot to raise awareness of FIRST and STEM education.

In addition to promoting awareness and education, ILITE strives to give back to our community through charitable endeavors and sustainability efforts. ILITE does this for the development of our members and also to become an integral force in the community. ILITE raised \$10,000 for STEM Hunger, which helps provide food-insecure students with meals during the weekend when they do not have access to school-prepared meals. Through the program Ramps for USA, ILITE helps the handicapped by building ramps for wheelchair users. ILITE also assists families in need of shelter when their homes are destroyed by natural disasters with the ForKid organization. ILITE included other FIRST teams in our charitable actions by inviting them to participate in donating to the "Toys for Tots" foundation at ILITE hosted events, including ILITE's off-season competition IROC. In addition, ILITE helps our furry friends by participating in walks to raise awareness and funds to provide shelter for homeless animals living in Alexandria, Virginia.

ILITE also takes initiative in helping maintain our environment by dedicating to sustainability. In the past, our members took part in cleanups for a conservatory and implemented a reusable water bottle program. To promote FIRST and to continue the support of sustainability, ILITE sold FIRST E-Watt light bulbs and conducted a school-wide energy audit with analyses and adjustments for its base school, effectively leading to positive changes in energy usage at all schools in the district. Along with sustaining the physical environment, ILITE works to protect cyberspace through its cyber defense program, where students learn how to secure a computer and protect it from cyber threats. The program has extended into a classroom curriculum as well as 15 extracurricular teams, including an award-winning all-female team. Working to foster enthusiasm and interest for STEM and FIRST, ILITE integrates FRC and FTC into classrooms for grades 6-12, resulting in furthered education for over 1,200 students in engineering. ILITE members have also started and continue to mentor outstanding FTC teams who have won FTC state championships two years in a row and the FTC World Championship in 2012.

ILITE hosts competitions annually across all levels of FIRST, including the FLL Regional Qualifier, the FTC Regional Qualifier, an FRC District Event, and IROC, our own off-season FRC event. All of these events are made possible by the US STEM Foundation, a 501c3 non-profit created by ILITE which is focused on spreading STEM as well as providing FIRST alumni with scholarship and employment opportunities. In addition to these competitions, ILITE promotes FIRST and STEM in its annual Haymaker STEM Expo, where we feature STEM-focused movies including Dean Kamen's documentary, Slingshot. The event offers family-friendly STEM activities and a chance for participants to learn about local businesses, universities, and organizations that promote STEM in the community. This year's STEM Expo drew over 1,000 attendees. Additionally, ILITE has built a strong relationship with the Udvar-Hazy Air & Space Museum over several years in an effort to spread STEM to audiences whom would otherwise be unreachable by participating in their Air & Scare festival, Be-a-Pilot Day, and Helicopter Day.

ILITE works diligently to cultivate a love of FIRST and STEM that extends beyond high school graduation by preserving deep relationships with its alumni. ILITE alumni continue to give to their communities and show their love of FIRST by judging FIRST events, assisting FIRST teams, and creating FIRST alumni groups. The work of ILITE alumni contributed to George Mason University's decision to host regional competitions in FRC and FLL, and created the FIRST Alumni Group so that FIRST alumni throughout the university could have a forum to meet and network. In addition to local FIRST outreach activities, ILITE alumni have carried the spirit of FIRST all the way from Haymarket, Virginia, to Rochester, New York by joining the board of a FIRST Robotics club at RIT.

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ILITE also spends countless resources and hours working with other FIRST teams in the spirit of Coopertition to create a better FIRST experience for everyone. ILITE has done this in two major ways by founding the National Capital Robotics Alliance and through the creation of an educational website. The National Capital Robotics Alliance, or the NCRA, was established by ILITE to encourage regional FRC teams in the DC metro area to work together in anticipation of the FIRST switch to the district model to ensure teams from the region remain competitive. ILITE also spent over 200 hours creating an educational robotics website in conjunction with over 20 local FRC teams to provide published resources for other FIRST teams. To make the site better known, ILITE hosted classes to teach mentors how all the teams can benefit from the site.

ILITE has been so moved by our community's response to FIRST that we have assisted spreading FIRST abroad by sending FLL kits to a Haitian orphanage through Helping Haitian Angels and to students in Malaysia. ILITE also participates in a pen pal program with students in Ethiopia in the spirit of the "more than robots" ideal of FIRST. Efforts like these are part of what make ILITE unique, and why politicians at the local, state, and federal level open their doors to ILITE. This access has allowed ILITE to influence the policymaking process regarding STEM education in both houses of the United States Congress. ILITE also represented FIRST interests at an appropriations subcommittee on Science, Commerce, and Justice to discuss federal budget negotiations. Additionally, ILITE spoke about FIRST to the Department of Commerce, the CTE Caucus, and at AFCEA's Naval IT Day. AFCEA was so impressed by what they heard about the way STEM educational programs positively impact local schools and universities that they generously provided ILITE with a grant of \$1,500 to continue our efforts to spread STEM.

All of these efforts culminated with ILITE being recognized on an international level by the U.S. State Department and Rosen Publishing. The U.S. State Department chose ILITE as their "poster child" for a successful STEM-based program

in a poster campaign that brought ILITE into each of the 294 U.S. embassies worldwide. ILITE also inspired Rosen Publishing to create a book series aimed at middle school students which focuses on FIRST Robotics. ILITE worked with writers and publishers to provide interviews, photographs, and access into the world of FIRST for this well-regarded educational series.

Since its kingdom's founding, ILITE has worked tirelessly to share the inspiration we gain from FIRST with the citizens of their kingdom and beyond. The knights and ladies of this precious kingdom have created a home for STEM in their hearts and their community by their constant and steadfast efforts to inspire people to pursue the magic of STEM. We have answered Dean's call with grace and have been triumphant by becoming an inspirational beacon for STEM that is so well known that people far and wide reach out for advice, resources, and assistance. It is for all of these reasons that we at the Kingdom of ILITE believe you should consider FIRST Team 1885 for the 2016 Chairman's Award.

2016 - Team 1885

Picture 1



2016 - Team 1885

Picture 2