



Chairman's Executive Summaries

Executive Summary Question 1

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the current season and the preceding two to five years

Our Alumni most accurately demonstrate the impact FIRST has had on us. 100% of The Highlander's (HR) Alums are pursuing STEM majors in college. One alum has judged at 3 World Championships and 1 regional, another has started an FLL program in his AR college town, impacting all the town's 5th graders, with hopes to start an FTC for the junior high in the next few years. Members and alums have had STEM internships in 4 separate engineering companies, encompassing a total of 21 internships.

Executive Summary Question 2

Describe the impact of the FIRST program on your community with special emphasis on the current season and the preceding two to five years. (same)

We have done 27 demos at events and schools, varying from Spanish-speaking STEAM events to Boys and Girls Clubs across the county, with 5 specifically in underprivileged/ impoverished populations. We also participated in 3 parades, a halftime show and 15 expos. Children's books, costumed robots, running kid's triathlons, packing McKinley backpacks, aiding the flood relief, and toy drives all allow us to reach out to our community. Overall, we have impacted approx. 28,000 people in our community.

Executive Summary Question 3

Describe the team's innovative or creative method to spread the FIRST message

Due to our spider-bot being a hit, HR created a dragon-bot for our 2nd Annual Robot Disguise Day. This bot went trick or treating and participated at 2 events, exposing approx. 1500 people to FIRST, which is 10x last year. HR participated in the local 4th of July Parade for two years, showing approx. 5000 people what FIRST is. HR wrote, illustrated and published 2 robot themed story books that were read to kindergarten classes. HR made activity and coloring books, and passed out about 600 books.

Executive Summary Question 4

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

When we assist and mentor FLL Jr., FLL, and FTC students we focus on core values. In our demos, we talk about the difficulties we experience and how we use the Engineering model to solve problems. We hand out Rookie Survival Kits at our competitions and check in to see if they have any questions or issues. HR assists teams to put their best on the field. For example, when a snowstorm delayed team 1138 to the 2016 CO Regional, we worked with 2 of their alums to prep their robot for inspection.

Executive Summary Question 5

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

HR assisted in writing rookie grants for 3 FRC Teams to pay for registration, donated parts/supplies to various FRC rookie teams, and has helped train teams, and offered resources. We have held various carbon fiber demos, CNC classes, and have an open-door policy on our workshop. HR helped fund the High Five's rookie trip to the Championships, and has given significant assistance to 12 other FRC teams through the years. HR helped 1619 file to become a non-profit company to sustain their team.

Executive Summary Question 6

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

HR started 11 teams: 1 FLL Jr., 9 FLL and 1 FTC. We provided the FLL Jr. team materials, location, registration, and leadership. We helped FLL teams by registering, funding, and donating tables to them. Three of these teams were in underprivileged communities. We provided advice and input on judging, core values and gracious professionalism for all the teams. We are planning to advance the FLL community in India by starting FLL teams and an FLL summer camp in the upcoming year.

Executive Summary Question 7

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

HR directs students to their next step in the FIRST program by helping them join a team under our non-profit umbrella. Kids from the FLL Jr. and FLL camps joined their respective programs shortly after the camp ended. We have had kids join our team who have been in our Lego Robotics Summer Camp. Just this year, the 3 members of an FTC team we assisted last year joined HR. We also have had students that were in both FTC and FRC to ease the transition between the programs.

Executive Summary Question 8

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)

HR has mentored 1 FLL Jr., 10 FLL, 1 FTC, and 1 FRC team. In addition, we have assisted 4 FLL teams, 4 FTC teams, and 12 FRC teams. We worked with FRC Team 159 to assist in running an FLL Jr. Expo and worked with other levels of FIRST teams to create an interactive demo for participants. We taught carbon fiber, CNC metal skills and CAN sequencing to FRC teams 159 and 4388, helping 159 get their CNC mill running as well as donating materials for them to build a practice robot for the 2017 season.

Executive Summary Question 9

Describe your Corporate/University sponsors

Our corporate sponsors include Neaera Consulting, Solid Works, HSM Works, Lockheed Martin, Trihydro, SheetCam, Peak Resources, Front Range Powder Coating (FRPC), Constant Contact, US Engineering and Metal Distributors. In our first four years we also had grants from NASA, PTC, Micron, OtterCares, Pleasing Software, Micron, Fleetwood-GoldCo-Wyard, Home State Bank, MazTech, Wolf Robotics, ENCORP, and Xilinx.

Executive Summary Question 10

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

We work with each of our local sponsors to arrange demos of our robot; this is especially rewarding with FRPC, as they love to see the end product of all the random pieces they graciously powder coat for us over the build season. Our primary sponsor, Neaera Consulting, hires team members and alums as interns; a portion of the profits Neaera Consulting earns from their work goes straight to HR, generating approx. \$48,000 of financial support over the past 4 summers.

Executive Summary Question 11

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

Executive Summary Question 12

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

FIRST stands for *For Inspiration and Recognition of Science and Technology*. This program provides real-world experience and is the hardest fun you will ever have. It allows for learning in a fun environment while working with professionals and teammates to build STEM and communication skills, becoming family along the way. FIRST encourages Gracious Professionalism and Coopertition: to compete to the best of your ability and help other teams do the same, no matter who wins in the process.

Executive Summary Question 13

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

HR is a unique community-based team composed of students all around Colorado, with a total of 9 schools. HR is more of a family than a team – having meals together during build season and meeting year-round as a team and as friends. Once joining the HR family, you are always a part of it. Over 60% of HR alumni return to mentor, to train (in machining, programming, and business), and to volunteer in HR FLL, FLL Jr. and Water Robotics summer camps.