



LiveWire Robotics
FIRST Team 3562
Pocatello, Idaho



After his first team meeting as a member of LiveWire 3562, Seth - Class of 2030 - was exploring the shop that would become his home away from home for the next six weeks. Something in the corner caught his eye: a dusty old potato wearing a green cape.

“Who are you?” Seth inquired.

“I am OneByte the Flat Potato.”

Seth had read in the newspaper about OneByte’s adventures traveling the world, writing children’s stories, and spreading *FIRST* to all ages.

“But how could one potato have done so much?” Seth asked the elderly spud.

OneByte drew a deep breath, “Let me start from the beginning...”

“The year was 2010 and a new FRC team was born, LiveWire 3456. We started building our robot and learning the ropes of *FIRST*. Since our beginning, we’ve been putting *FIRST* Things First: Building a team. Building a Community. For all Ages.”

“Wait, did you say your number was 3456? I’m confused. That’s not LiveWire’s number.”

OneByte replied, “In 2013, LiveWire was presented with some challenging circumstances. Late in September, we were unexpectedly informed that the school district was no longer sanctioning our team. We were required to donate all of our equipment, robots, and money to another team. After careful evaluation, the team elected to continue and pursue veteran status under a new number, 3562. In the midst of this upheaval, we were given the fantastic opportunity to partner with 4H and Idaho State University (ISU) Robotics Club. Under new sponsorship, the team stuck together adhering to the core values of *FIRST*. They seized this opportunity and brought *FIRST* to all ages. They’re the same team, embracing not only the task of building an innovative and competitive robot, but also spreading the message of *FIRST* around the globe, discovering that, ‘In the middle of difficulty lies opportunity’ (Albert Einstein).

“LiveWire 3562 was able to provide 4411 hours of community service, start 11 *FIRST* teams across 2 continents, host 37 robot showcases, write 4 unique children’s books and in 2014 triple their membership. We made it our mission to give *FIRST* to every age through an expansive literacy platform, FLL, FTC, and FRC involvement, and college and adult STEM involvement. We believed that every age should have the opportunity to love *FIRST* just as much as we did.”

Seth was curious. “How did you do it?” he inquired.

OneByte smiled. “We taught the younger generation about *FIRST* through our vast literacy platform. Each year, LiveWire wrote a new book about the previous year’s game. When I was a young tuber, we had 3 student-written children’s books about robots and *FIRST* with a 4th book being illustrated. Our traveling story time platform, Reading Robots ROCK! taught kids about *FIRST*, STEM, and robots through multiple stories, robot demos, and creative discussion. Our books were heard by over 1,000 children at the state fair, hospital, elementary schools, libraries, parks, and tournaments across Idaho and distributed to 9 international teams. We even Skyped a story time with students in the UAE. These unique books have all been translated to Spanish and one to Arabic so children across the globe could enjoy reading robot stories that emphasize *FIRST* core values.

“We created a robot Little Free Library-STEM Edition, a free mobile community library where people can borrow or donate books about science, technology, engineering, and math.”

Seth was impressed, but he still had questions. “What about older kids? Did you do something for them?”

OneByte excitedly continued. “LiveWire conducts 3 week long summer day camps annually with team written curriculums (2 LEGO NXT & 1 VEX) to introduce students ages 7 to 16 to the world of *FIRST*. They took this outreach across the state and kids of all experience levels participated in a series of challenges and competed at the end of the week in a tournament using our own unique game that integrates programming, gracious professionalism, teamwork, and coopertition. From camp or by attending our merit badge workshop, 36 boys have earned their BSA robotics merit badge.

“The team was very involved with FLL by providing adult coaching workshops, written and presented by team members that have resulted in 8 new FLL teams across Idaho. LiveWire now includes team members who were on the FLL teams it once mentored! To date they have actively mentored 20 teams, helping them with building, programming, presentation skills, and outreach. They annually co-host a kickoff event with ISU and hosted a practice tournament for 11 teams to simulate an FLL event, providing invaluable experience for the many rookie FLL teams. They annually volunteer at a tournament 150 miles away and co-host the local tournament, providing the majority of volunteers, from the emcee and head referee to the judge advisor.

“But our outreach wasn’t limited to the FLL season, it continued to grow. In 2012, we started 2 rural FRC teams that we actively mentored alongside another rookie we discovered

during the season. We assisted with frequent phone calls, emails, weekly video conferencing, and text messages, and for one team an all-school Pep Rally (doubling their membership). We continued to stay in contact and mentored these teams in 2013 and 2014. Our Mobile Machine Shop at the Utah Regional in 2012 and 2013 helped our rookies and many other teams with last minute robot adjustments. We even annually provide the game announcer for the Utah FTC Championships. Through helping our rookies and other teams, we learned the meaning of coopertition and created close friendships with other FRC & FTC teams.

“On kickoff day, we invite our former rookie teams to join us in a day of brainstorming and game strategy. In the last week of the build season, LiveWire annually hosted a week zero event to help local FRC teams prepare for the competition. When it came time for competition, we enjoyed holding a Swing Dance social, where teams could come to unwind and have a fun night of dance lessons to help relieve competition stress. This year, we will host a post-season “WireRAMA” showcasing our program alongside ISU Robotics to educate our community about *FIRST* and celebrate a great season.

“In 2014, LiveWire started our revolutionary apprentice program. Five 7th and 8th grade students from our summer camps, BSA workshops, and local FLL teams were invited to become Apprentice LiveWire Members. This program not only allowed team members to mentor and teach younger students, it also provided an opportunity for students too young for FRC to gain hands on experience of what it’s like to be on an FRC team and gain valuable knowledge about *FIRST*.”

By now, Seth’s eyes were wide with excitement. “What about adults?” he inquired, “Did they get to learn about *FIRST*?”

“Absolutely!” replied OneByte, “Working with ISU gave us a chance to reach the adult population. We had 2 College of Technology instructors and 2 college students mentor our team. One of our college mentors was even a former Dean’s List Finalist; he mentors us remotely from MIT. This affiliation convinced ISU officials to create three \$1000 *FIRST* scholarships to be available to *FIRST* students for any field of study. Our Mayor even proclaimed an official Week of *FIRST*, a week dedicated to spreading the message of *FIRST* through presentations and service projects in the community. For 3 years, our community has enjoyed team updates and education about *FIRST* with weekly team written articles published in the local newspaper during build season. We gave 37 showcases to our community in diverse venues such as elementary, middle, and high school classrooms, our local mall, ISU, 4H events, science camps, service groups, and at

the annual local Environmental Fair. We even partnered with 4H to showcase our robot at the Eastern Idaho State Fair.

“For the elderly population, we hosted a 5-month series of technology classes alongside one of our FLL teams, providing seniors with workshops to help them understand how to set up and use modern technology. We further helped our community by providing 4H camp counselors and volunteering at a community-wide build of an all access playground and at the local marathon. At each of these events, PipSqueek, our 6½ ton armored truck, made an appearance, drawing attention with its bright green paint and purple flames.

Seth thought everything that LiveWire had done in their community was simply spud-tacular. “But OneByte,” Seth asked, “Did LiveWire ever reach out anywhere besides Idaho?”

“We sure did,” OneByte said with a smile, “My greatest adventure was when I traveled across the globe to help our rookie team in the UAE. For the first time, LiveWire was able to spread the message of *FIRST* not just to our community or the state of Idaho, but to the other side of the world. UAE students virtually shadowed LiveWire for the 2013 season and in 2014 officially became the 1st *FIRST* team on the entire Arabian Peninsula. Throughout their journey, we helped the Arabian Knights 4928 through email, text, and biweekly Skype calls. We created YouTube videos in a series on proper tool usage to assist them. I traveled there with a former LiveWire captain and current college mentor to work with their team for two weeks and teach them what they needed to know about building, programming, and how *FIRST* works. LiveWire was thrilled to introduce them to the culture of *FIRST* as we learned about their culture!”

Seth couldn’t believe it. OneByte and LiveWire had done so much to spread the message and spirit of *FIRST*. ALL ages had been able to learn about robotics and *FIRST* through books, camps, workshops, and robot demos thanks to LiveWire 3562. They’d even taken *FIRST* to the other side of the world!

“Wow,” he admired, “LiveWire really has done so much.”

“What can I say,” OneByte replied, “We’ve built our team. We’ve built our community, and we’ve given *FIRST* to every age. We seized the opportunity. We believed and lived the values of *FIRST*.”

“Well Seth,” OneByte sighed, “That’s my story. I guess that’s LiveWire OUT!”