

FIRST Impact Award - Team 6358

2025 - Team 6358

Team Number

6358

Team Nickname

The Buhlean Operators

Team Location

Buhl, ID - USA

Describe the impact of the *FIRST* program on team participants within the last 3 years. Think about percentages of those graduating high school, attending college, in STEM careers, leadership skills, and serving as mentors/sponsors in *FIRST* programs.

Over the past 3 years, The Buhlean Operators has included 39 students with 12 seniors graduating in that timeframe. At a high school where 1 in 6 students drop out, our seniors have all graduated. This year, all 6 of our graduating seniors have firm college plans with 4 intending to join the ranks of our graduates working toward STEM careers including pathways in computer science and physical sciences. Buhlean Operators shape the future by impacting one individual at a time. #EngineerTheChange

Describe your community along with its unique opportunities and circumstances. Think about your geographic region, diversity of town/school, language barriers, socioeconomic barriers, and cultural expectations.

Buhl is a close-knit, rural community whose members are presented with more agrarian opportunities than technological ones. For 8 years, we have vigorously introduced avenues to STEM to our low-income community with the intent of making new opportunities for ourselves and others. With BOT Camps, STEM days, 3D printing workshops, robot showcases, and FIRST events - our small town setting allows us to have a profound impact throughout our school district, community and beyond. #EngineerTheChange

Describe the team's methods, with emphasis on the past 3 years, for spreading the *FIRST* Mission in ways that are effective, scalable, sustainable, and creative.

We actively spread FIRST's message through our volunteer support of FIRST events and recruiting others to volunteer alongside us. In the past 3 years team members have volunteered in 88 roles and recruited 53 people, and helped staff 20 FIRST Events. We recognize and thank those who donate their time with our 3D printed FIRST logo earrings and have personally delivered over 500 pairs, challenging dozens of our peers on FRC teams to volunteer as well! #EngineerTheChange

Describe your team's goals and the progress you have made towards them to fulfill *FIRST's* Vision.

We work to #EngineerTheChange for our communities. Sharing our successes and delivering equitable STEM opportunities welcomes diverse participation in programs otherwise unavailable within our local area. We create a dedicated culture of event volunteering that celebrates every student's success and promotes the growth of the FIRST community. Mentoring and starting Idaho teams passes on the mindset that strong teams build strong teams, creating a future for subsequent FIRST participants.

What impact has your team seen from your efforts described in the above question? How does your team measure impact?

We have shared FIRST in 49 showcases and accrued 30 local sponsors. We deliver classroom visits and hands-on STEM activities to all grade levels in Buhl Schools. Filling and recruiting for 167 FIRST event volunteer positions across 20 events, starting 14 FLL teams and assisting additional teams (7 FRC and 20 FLL) has had a profound effect on our FIRST community. Ultimately, seeing teams we mentored become sustainable and able to mentor others is the true measure of our impact. #EngineerTheChange

Please provide specific examples of how your team and team members act as role models within the *FIRST* community with emphasis on the past 3 years. How do you share these best practices with other teams?

Buhlean Operators cultivate an environment in which every student can seize their own ability to take action by forming personal relationships and directly building into other FIRST teams. Ben helped coach rookie FLL team 69417. Max, a Dean's List Finalist, has helped 6 FRC teams learn to code. Everyone on our team is involved in STEM outreach. Nearly all (88%) team members have volunteered at an official FIRST event and Ace has volunteered at 5 FIRST Events just this season. #EngineerTheChange

Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.

In the past 3 seasons, we have mentored 7 FLL teams, started 14 FLL teams and assisted 17 others, including payment of \$3710 in FLL registration fees. Through Idaho STEM Action Center's i-STEM Summer Institutes, we have delivered three 4-day FLL trainings and put LEGO SPIKE kits in classrooms of 34 Idaho educators. We reach out to Idaho rookies, forming friendships that allow us to assist or mentor FRC teams 8756, 8839, 9243, 9314, 9726, 9737 and 10448 in their rookie seasons. #EngineerTheChange

What other initiatives have you created, grown, sustained, or participated in (*FIRST* or otherwise) to help inspire young people to be science and technology leaders and innovators? What outcomes have you seen from your efforts in the past 3 years?

Over three summers, we have held six Buhlean Operator Training (BOT) Camps, introducing robotics for 112 elementary-aged participants via FRC-flavored games for LEGO robots. Camps highlight FIRST Core Values and teach participants tangible work ethic and invite them into the FIRST progression; 23 alumni have joined FLL teams. Moreover, with our new STEM space at Buhl Middle School, students can develop skills and passions by exploring boundless avenues of STEM. #EngineerTheChange

Describe the partnerships and relationships that you've created with other organizations (teams, sponsors, educational institutions, government, philanthropic entities, etc.) and what you have accomplished together, with emphasis on the past 3 years.

A Buhl School District partnership gives us a district-wide presence and impacts 1200 students. Partnership with GEAR-UP, a federally funded higher education readiness program, has provided hands-on STEM activities to all elementary classrooms and enabled dozens of our peers to facilitate. Partnership with ISAC (state-wide STEM agency) provided FLL curriculum, LEGO SPIKE kits, and professional development to 34 Idaho educators that helped start an unbelievable 14+9 FLL teams. #EngineerTheChange

Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.

Delivering access to STEM opportunities is vital for a community removed from the tech sector. In our district, 56% of students live in low-income households and half of 6358 members would be unable to participate if a cost was associated with the team. Through the Buhlean Operators, FRC is available to all students of Buhl High School at no cost. Establishing this opportunity allows all members to cultivate lifelong skill sets and instills the dream of becoming a STEM leader. #EngineerTheChange

Explain how you ensure your team and the initiatives you have created will be sustainable.	
Buhlean Operators believe in playing the long game. By targeting STEM opportunities for youth, we're building interest in STEM, and when coupled with our active support for FLL teams through coach training, funding assistance, programming workshops, and a long history of event support, we are fostering a supportive STEM environment. Team friendships across programs and our promotion of networking between teams helps build strong teams and creates a model of sustainable growth. #EngineerTheChange	
Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.	
We want our FLL teams to become independent and sustainable. Previously, grants have allowed us to assist with registration fees but do not provide a permanent or self-sustaining solution. Buhlean Operators see a need for a funding platform for FLL teams we start or assist. We are piloting selling 3D printed cookie cutters with 6 FLL teams. We provided an initial inventory, access to all STL files and guidelines that teams will be able to use autonomously. #EngineerTheChange	
Briefly describe other matters of interest to the <i>FIRST</i> Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique, particularly noteworthy, or had a large impact.	
For the Buhlean Operators, STEM outreach is ingrained in our team's ethos. When we #EngineerTheChange we create the change we wish to see in the world, making STEM opportunities happen for ourselves and others. We are thriving in a public school setting. By choosing not to require previous experience or holding academic requirements for team participation we have built an inclusive environment that breaks down barriers and is helping our community's youth discover the opportunities they deserve.	
Judge Feedback	
	From an outside perspective, what outreach avenues in our rural community are we missing? Is there an aspect of our outreach that we are underrepresenting? An area the team has an opportunity to improve. Something that really impressed the judges.
Essay	
As FIRST's vision is to transform the culture to one with greater respect for science and technology, our team's goal is to engineer that cultural transformation. Buhlean Operators work to #EngineerTheChange in three ways: encouraging leadership and success, delivering STEM opportunities, and creating a community across the spectrum of FIRST. Our passion as Buhlean Operators is to spread the magic of FIRST throughout our community. In rural southern Idaho, Buhl is considered the "Trout Capital of the World," farming over twenty million pounds of rainbow trout per year. A two-stoplight town with a population of 4,764 people, 25% are under the age of 18 and 56% of Buhl School District students live in low-income households. In this setting, Team 6358, composed of 13 students, two coaches, and three mentors, is positioned to have an exponential impact. Our youth-focused efforts have brought new STEM opportunities, engineering a change in culture that fosters greater appreciation for science and technology within our schools and the community at large. Rural teams such as ours are often expected to be challenged by limited opportunities or hindered by distance from the tech sector. Instead, we have seen our team reap the benefits of a supportive small town. Snake River Design's founder Bruce Whipple is a local artist who typically uses his waterjet for custom signs and has mentored our team since our rookie year in 2017. Bruce's mentorship of team members in CAD software has enhanced our robots and now extends to several area FTC teams we have introduced to him. The vast majority of our sponsors over the past 3 years are local and like Snake River Design, are not classically STEM, ranging from trucking to tanning they include 30 local businesses. The Buhlean	

Operators have been able to use sponsorships as an avenue to promote FIRST within our small town and enhance our team's stability. After having the lone tank drive in eliminations at the 2024 Idaho Regional, we knew it was time to pursue funding for swerve modules. For financing, we again approached local businesses, sharing about our desired upgrades, and found 4 businesses each willing to sponsor a corner. However, in purchasing the modules, a conversation with West Coast Products representative led to a completely unexpected offer of additional sponsorship, upgrading our motors to top of the line Krakens and an invite to #TeamWCP. This community of support inspires us to give back and further promote FIRST and STEM. Over the past 3 years, 6358 has participated in 49 showcases throughout Twin Falls County, bringing robotics and the vision of FIRST to events at all three of our district's schools and an abundance of community affairs. Our one-of-a-kind Buhlean Experiences introduce kids to STEM. Over our three-day BOT (Buhlean Operator Training) Camp, participants learn how to build and program robots using LEGO kits and implement crucial teamwork skills as they work in groups to compete in our team-designed challenges. Last summer's game, Fortissimo, required teams to collect orange TPU "notes" from the playing field and deposit them into a hand-constructed "speaker." BOT Camps introduce kids to FIRST and foster a passion for STEM at a young age. Shorter experiences, such as Buhlean Explorers: Rockets highlight a single STEM concept. Among our 134 participants from the past three years, 24 have since joined an FLL team. Although these experiences are our primary team fundraisers, we scholarship about half of our participants to remove financial barriers. A life in STEM is a promising one and providing access to this promise is absolutely vital to the success of students who reside in a low-socioeconomic small town. Over the past two years, we increased our district's number of student-accessible 3D printers from 1 to 7, now logging hundreds of hours in student-designed prints. To broaden the impact, we've done 3D printing workshops at Popplewell Elementary and the Buhl Public Library, spreading awareness throughout our community. By tailoring activities to meet the needs of classroom teachers, we've been able to deliver 3D design and printing experiences to hundreds of kids from kindergarten to middle school. A \$5,000 grant from ISEE STEM provided the funds to renovate Buhl Middle School's in-school suspension room into a STEM Space complete with a LEGO Lab, 3D Printing, Maker Space and more. Members of Buhlean Operators were responsible for all efforts and every member of the team pitched in to help. Now, any middle school class can make use of this work space, meaning more students are incorporating hands-on STEM skills into their school days. We maintain a highly visible presence at school events, participating in the last three homecoming parades and 8th grade registration fairs to share our open-enrollment robotics elective. Outside of school, we annually participate in Buhl's 4th of July Sagebrush Days festivities, a massive outreach event that connects the Magic Valley, as well as robot demonstrations for local organizations such as Rotary and the West End Men's Association. Spreading STEM to our fellow Buhleans increases team awareness and equips our community members, both young and old, with skills, confidence, and the resilience to engineer the change. Partnerships have dramatically amplified our community impact. By partnering with Idaho STEM Action Center, Buhlean Operators' introductory FLL curriculum has been shared through i-STEM Summer Institutes for Idaho educators. This provided over 1000 contact hours for 34 educators across 27 schools in 17 districts, sharing FIRST and has been instrumental in starting 13 FLL teams and an additional 9 FLL Explore teams that will compete in April. By partnering with GEAR UP and classroom teachers we have delivered STEM days for grades 3rd, 4th, and 5th at Popplewell Elementary, giving kids hands-on STEM experiences and bringing more than 30 members of our junior and senior classes in to facilitate. By forming these partnerships, we are better connected with our community and have ensured a sustainable program that can last. Buhlean Operators are dedicated to the full spectrum of FIRST, investing our time to help teams and support FIRST events. We have consistently assisted, mentored, and started FLL teams since our rookie year, including weekly coaching for 4 teams. For the past five months, over 30 kids gathered weekly in our STEM Space. Over the past 2 seasons we have sourced LEGO SPIKE Kits for 16 teams, provided coaching curriculum for 30, paid over \$3,700 in registration fees on behalf of 13 teams, hosted 2 scrimmages and organized a third. Our long history of supporting FLL in Idaho is central to our team culture. This year, 1 in 3 Buhlean Operators are FLL alumni and half the team have family members who have been on an FLL team. In March of 2022, we hosted the FIRST Tech Challenge Idaho Championship at Buhl High School, bringing the 36-team event to southern Idaho for the first time. In hosting the event, Buhlean Operators volunteered and heavily recruited volunteers, including parents and school board members. Hosting that event led our team to prioritize event volunteering as part of our team culture. Members of 6358 have gone on to volunteer at 16 more FIRST events. In total, Buhlean Operators have filled an impressive 88 event volunteer roles and recruited 53 individuals to volunteer alongside us, filling an additional 79 positions at FLL,

FTC, and FRC events across Idaho. The Buhlean Operators are passionate about supporting our fellow FRC teams, especially the rookies of our state. We view Kickoff as an annual Meet-and-Greet at which we trade our contact information with teams and then communicate throughout Build Season. In addition to forging deeper friendships with our local FIRST teams, this has allowed us to assist or mentor 8756, 8839, 9243, 9314, 9726, 9737 and 10448 in each of their rookie seasons. This season has included demoing our robots in December at Jerome High School to advertise their new team, loaning better drive motors, helping students build their chassis in our shop on a Saturday, weekly text messages, troubleshooting 5-digit OpenMesh radio limitations and more. From programming help to building bumpers together, assisting rookies spreads the culture that established teams should go out of their way to support other teams. Overall, Buhlean Operators are heavily involved with FIRST events and teams throughout Idaho, and we aim to start conversations and create bonds with every team we can. Volunteers in orange shirts are a regular event fixture, but our support of FIRST is not limited to event volunteering. When Boise was hit with a snowstorm the night before the 2024 FLL South State Championship, 6358 was instrumental in emergency preparations for the hybrid event in Twin Falls. For years, we have brought our modified children's safety glasses to all of our FRC Regional Events. We have also recognized over 500 FIRST event volunteers with our handcrafted, 3D printed earrings, stylized after the FIRST logo. These sustained efforts are how we help spread the mission of FIRST and meet our goal to Engineer the Change. The Buhlean Operators have built a sustainable vision for our successors, beginning with introducing our youth to STEM topics and sparking early interest. By preparing them for FIRST through BOT Camps, we encourage young innovators to see their potential to succeed. As they age into FIRST, 6358 is part of the mentorship that supports and advises them as they learn how to perform high quality work, emphasize the value of others, and respect individuals in the spirit of Gracious Professionalism. Throughout FIRST they will have further opportunities to succeed and contribute to the success of others as they volunteer and give back. Buhlean Operators have created a platform to foster a meaningful difference in our community and, undeniably, Engineer the Change.;

