

FIRST Impact Award - Team 2080

2024 - Team 2080
Team Number
2080
Team Nickname
Torbotics
Team Location
Hammond, LA - USA
Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in <i>FIRST</i> programs as mentors/sponsors.
In the last 3 years, Team 2080 has seen significant impact from the FIRST program. We've maintained a 100% graduation rate among team members, with 92% pursuing STEM careers, a 418% growth increase in our region. Additionally, 71% of alumni mentor or volunteer with FIRST, demonstrating the program's influence in shaping future STEM leaders & advocates. 63% of students transferring to Hammond High's magnet programs site FRC 2080 & our engineering program as motivation.
Describe your community along with how your team addresses its unique opportunities and circumstances.
68.8% of youth live @ or below poverty in our area. STEM education faces challenges due to funding. 2080 addresses this by raising ~ \$50,000 annually to ensure team participation is free. W/ only 46% of students on level for literacy & math, we actively support initiatives like Northshore STEM's Brain Food Trucks & TPSS STREAMliner to enhance accessibility to our rural area. 87% of our outreach is free. We seek donors for supplies & work to adjust event locations to accommodate transportation.
Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?
2080 engages in collaborations to benefit & highlight each program thru local school boards, LA STEM, CTE Summit & LSTA/LATM. 2080 spearheaded the Hammond Magnet Tax Renewal, w/ billboards, articles, interviews & social media. We measure impact through increased community engagement, voter support, & interest in creating additional teams. We utilize various metrics (ex: name recognition, increased participation in STEM programs, feedback from stakeholders, & sustainability of teams).
Please provide specific examples of how your team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years.
Over the past 3 yrs, we've started & directly mentored 2 FLL Explore, 6 FLL Challenge, 5 FTC, & 2 FRC teams, assisting 249 others. We host FLL & FTC Jump Starts & Qualifiers, & FRC Impact Exchanges. 10 out of 13 of our subgroups are led by women, showcasing our commitment to gender diversity &

empowerment within FIRST. Furthermore, our team's focus on diversity, equity, & inclusion & resilience in FIRST has resulted in a shift in gender ratios within our team, w/ a 142% increase observed.

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 yrs, we've started 7 teams, directly mentored 15 & assisted 249 across all programs. In our shop, we weekly host 5 community FLL teams. We donated 30 refurbished NXT kits & old field sets to beginner FLL teams. As these teams get off the ground, we ensure continued assistance through Zoom meetings & in-person visits. We host an annual FLL & FTC Jump Start, FTC Qualifier & FLL Explore Festival & hosted an Impact exchange at Bayou Regional for FRC teams in 2022 & 2023.

Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?

In addition to starting teams, 2080 has implemented various initiatives to inspire young people to become STEM pioneers. We've hosted Valentine's STEM nites, STEM Cafes, robotics villages at regional airshows, & represented FIRST at places like the Superdome, various parades & political forums. We spearheaded STEM-on-the-Go kits to reach most vulnerable youth. Our collaboration w/ NASA has resulted in 63 additional ASTRO CAMPS over 3 yrs (31 schools, 6 libraries, & 26 FRC)

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

In the past 3 yrs, 2080 has partnered w/ schools & parish governments to implement STEM programs, benefiting 300+ students. With NorthshoreSTEM Coalition, we've enhanced educational opportunities across rural Louisiana. Our work w/ CureSMA has enabled us to further support individuals w/ spinal muscular atrophy, fostering empowerment within this community. We secured a long-term sponsor this yr to aid in the replacement of all aging machines, totaling ~17,000 to date.

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

We've achieved a 142% increase in gender diversity w/in our team, w/ 10 of 13 subgroup leads being girls. Moreover, our outreach efforts focus on reaching students from various backgrounds 2 promote diversity in STEM. With projects like STEM-on-the-Go kits we have been able to bring STEM into non-traditional spaces. We refurbish LEGO kits & other necessary items to help teams in need overcome financial barriers. We strive to create a welcoming & supportive environment reflective of our community

Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future

To ensure long-term effectiveness, 2080 implements strategic planning & a succession process. We document our methods, mistakes, & best practices for continuity. We actively mentor younger team members to prepare them for leadership & have them review previous strategic plans for reference. Our collaborations with educational institutions & community organizations foster sustainability by embedding our work into the fabric of our community.

Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the

past 3 years

2080 employs innovative strategies regarding sponsors. We cultivate long-term relationships by providing sponsors with marketing perks, branding & ad space. We involve sponsors in our outreach, showcasing their support to all, & highlight them at our annual robot reveals & end of year banquet. We communicate through quarterly updates & personalized appreciation notes to demonstrate the impact of their contribution. Our founding sponsor, HRocker, is still w/ us today.

Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.

Our team is actively working to improve diversity within leadership roles. To address this, we've implemented recruitment efforts and leadership training to empower members from underrepresented groups to take on leadership. Additionally, we provide mentorship and support to ensure team members have equal opportunities for growth and development. Through these initiatives, we aim to create a more inclusive and diverse leadership team that reflects the demographics of our community.

Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.

Our team's goals align with the mission of FIRST to inspire young people in STEM. We've made great progress by assisting many FLL, FTC, and FRC teams, 249 in all. Additionally, our initiatives to promote diversity, equity, and inclusion have resulted in a 142% increase in gender diversity on our team. Moreover, our partnerships with groups like NASA and Cure SMA have widened access to STEM opportunities & resources, furthering our mission to inspire future innovators and leaders in STEM.

Briefly describe other matters of interest to the *FIRST* 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 or particularly noteworthy.

Our team's unique aspects include successful advocacy for STEM education through media campaigns & community outreach, as showcased w/ Hammond Magnet Tax & Resilience in FIRST campaigns. Additionally, our work w/ NASA has led to more ASTRO CAMPS, & our partnership w/ CureSMA to bring Makenzie's harness to more people in need, shows a lasting impact beyond our rural area. 2080s commitment to inclusivity is evident in the DEI subgroup & efforts to increase diversity in all team initiatives.

Judge Feedback

Who/When

Feedback

How can we take our team farther than it is right now, in terms of the sustainability of our program?
An area the team has an opportunity to improve.
Something that really impressed the judges.

Essay

What does it look like to take STEM by sTORM, collaborating w/ others to inspire a region to invest in STEM integration? How do you begin to make the future you want, influencing future generations to put STEM FIRST? When 2080 began nearly 2 decades ago, we had a formidable task: cultivate a

transformative regional interest in STEM. At the time, our team noted a general lack of STEM curiosity & opportunities in our area. We made it our mission to cultivate this interest into a robust sustainable program thru community outreach, strategic lobbying, & media campaigns. It wasn't an immediate transformation, but similar to an exponential function, it recently hit a turning point. 2080's tangible exposure w/in our school, area, & FIRST community has been augmented. From certifying students to motivating taxpayers' dedication to STEM, we shot for the moon & reached the stars. 2080 has been #CollaboraTORSinFIRST since 2006, working w/ others to sustain & grow FIRST regionally. Early on, we worked w/ our school & Tangipahoa Parish School System (TPSS) to offer engineering as an extracurricular; a vocational option for students. We leveraged that collaboration to implement a 4-yr IB & LSU engineering pathway w/ 2 teachers & 300+ students eligible for dual enrollment, certifications, & vocational skills. We shared this blueprint w/ other FRC teams to aid in solidifying their programs; further tasked 2 yrs ago to help create similar programs @ 2 more district schools. In Dec 2023, we shared our experiences & metrics w/ Bogalusa High School w/ hope of sparking greater support of the city's rookie FRC team as a way to help youth transcend entrenched racial divides. When our school's magnet program faced elimination due to a needed tax renewal Nov 2023, 2080 was called on by TPSS to become the face of mass ad campaigns & outreach events to showcase our program's significant impact. Touted as a positive portrayal of the tangible benefits of STEM education, Torbotics was relied on to project the value of magnet programs for Hammond's public schools; w/ 2080 credited in starting FIRST teams &/or STEM curriculum @ each school. The city of Hammond agreed w/ overwhelming support at the polls despite our region's historical opposition to any tax. 2080 works w/ our school system & other STEM-related groups to promote awareness of FIRST & the need for quality STEM education in our region. As co-founders of the Tangi STEM Coalition in 2017 (now the Northshore STEM Coalition), Torbotics has directly impacted 300,000+ youth & families & participated in 400+ outreach events, ranging recently from running local STEM Cafes, & hosting an airshow robotics village to representing FIRST @ the Superdome. Over the past 3 yrs, we've started &/or directly mentored 2 FLL Explore, 6 FLL Challenge, 5 FTC, & 2 FRC teams, assisting 249 others. One of our most prolific partnerships is w/ NASA. This partnership has transformed our team's trajectory. In our 8-yr collaboration hosting NASA HEO ASTRO CAMPS, we've inspired young minds & accelerated a broader movement in STEM integration. By sharing our experiences & resources directly & thru social media, we've connected other FRC teams resulting in 26 new ASTRO CAMPS in 2023. This partnership has garnered recognition from our parish, who continued to task us w/ incorporating lessons gained from ASTRO CAMPS into classroom resources. Our lessons & activities have been used in 97 elementary, 85 middle school, & 16 high school classrooms in the past 3yrs. They've also been used outside our parish & in homeschool settings via LA STEM & LMAST. We provide materials & loan tools to classrooms in our area to further alleviate cost barriers. This initiative represents a notable milestone in our journey to integrate STEM regionally into formal education settings. To promote equitable interest & involvement in FIRST, 2080 has worked to be #integraTORS, purposefully reaching out to students from various backgrounds & socioeconomic statuses. Thru popularizing involvement in FIRST, we also ensure all youth encounter someone who represents them. Our team has recently observed a seismic shift in gender distribution (142% increase), along w/other measures of diversity (135% increase). 10 of our 13 subgroups are led by women, showing women can take active leadership roles on our team. This year, we added a DEI subgroup, primarily focused to ensure the team is a safe, inclusive place. 2080 being 15% more diverse than our school, we strive to use FIRST & its core values to sustain our inclusivity. We've created anonymous reporting forms & a form to recognize peers. 2080 regularly initiates physical & mental health safety trng & safety checks. Our shop also has a quiet space that's open to team members during school & team mtgs. A consistent issue recognized among members is the financial hurdle of funding competition travel. Every out-of-state regional costs approx \$500-\$600 per member. This can greatly

impact efforts to ensure inclusivity, recognizing 68.8% of the 1,592 students at Hammond High live at or below the poverty line. To accommodate the ability of all members, we've been committed to raising the money for all travel costs, including student meals for the past 4 competition seasons. Members pay for their team apparel, if able. After all, access to STEM shouldn't have a price tag. Using FIRST as a tool, 2080 is able to equip young people w/ the skills necessary to become #SculpTORSofTomorrow. In response to Torbotics championing STEM education in our region, there's been a measurable increased interest in STEM from both a higher-education & vocational perspective. We've cultivated true enthusiasm in our community. Since 2006, 2080 has maintained a 100% graduation rate, w/ 92% of graduates pursuing a STEM-related career. This is an increase of 418% in STEM-related pursuits & an increased potential for higher-paying jobs in our rural, economically challenged area. In response to Torbotics' successful presentation at the forefront of the magnet tax renewal campaign last fall, Hammond now has 10 more yrs of Magnet schools & the International Baccalaureate program. In less than 2 short decades we've gone from being a school-based club to a state recognized sports team, regionally revered, community heroes. Introducing students to STEM at an early age sculpts their long-term interests, competence, & the upward trajectory of our region. Our alumni consist of teachers, curriculum developers, NASA engineers, Disney Imagineers, doctors, professors, all level of engineers & computer scientists. Currently, 71% of our alumni go on to mentor other teams or volunteer w/ FIRST in some way. In order to inspire young minds in an impoverished region to envision a future in STEM, it's imperative to begin early. 2080 has started 23 FLL Explore teams in the past 5 years, serving as the host of our state's FLL Explore Festival for the past 4 yrs. We facilitate a well-attended annual FLL Challenge Jump Start, & are key volunteers for the FLL Challenge State Championship. In an effort to further sculpt our region's ability to grow FIRST, we also provide direct, often bimonthly support to 17 regional FLL Challenge teams. We were the 1st program to offer a STEM-based summer camp for youth 6-14 yrs old 13 yrs ago in our area & now serve as special guests for countless other camps & special events in our region. #PutSTEMFIRST is more than a motto to Torbotics; it's a promise to be a role model thru the FIRST core values. In the past 17 yrs, Torbotics has started over 30 teams. During 2023, we made a meaningful, collaborative contact w/ 18 FRC teams; 1 being 6,860 miles away in Azerbaijan. We aim to keep spreading our message beyond our rural area. After launching our #ResilienceinFIRST campaign last yr, we've grown considerably in social media presence & online interconnectedness in FIRST. By creating bonds w/ other teams thru this commitment, we're able to shine a light on the resilient experiences of others worldwide. Our special projects from last yr continue to make a meaningful impact. Our LUAW sign, or memory-aid LED safety solution for New Orleans International Airport, received provisional approval thru the FAA & will soon be implemented in airports around the state. After 14 months, countless hrs of design & prototyping, 3 full iterations, 5 roles of filament, & 1 very dedicated 2080 crew, MacKenzie - a 5yr old girl with Type 1 Spinal Muscular Atrophy, had the chance to test & bring home her 1st fully functional set of "robot arms" 7/13/23! The team's one 3D printer literally ran 24/7 in order to print all parts in time. For 2 whole hrs, MacKenzie was seated with her therapist, using her arms without fatigue! We helped her achieve that! Regrettably, MacKenzie passed away 1/4/24 due to SMA complications. W/ the permission of her family, 2080 will honor MacKenzie thru continuation of her project to further improve the lives of others. We've begun work with CureSMA to receive additional feedback & will be presenters at the national SMA conference in TX in June. Following this presentation, we plan to make our CADs for the supportive harness open sourced so anyone in need can access them, further securing MacKenzie's legacy. We plan to be available to families to modify the harness design if they don't have other means. The change 2080 has brought to Hammond & our larger region the past 17 yrs is evident. Torbotics has shown the value of STEM education to Louisiana, locally & nationally, & we don't plan to stop anytime soon. Our impact is measurable, & our possibilities are limitless. 2080 has acted as #IntegraTORS, weaving the FIRST core values into our community. As seen

thru our Purple Print, we don't want to just focus on the present. We aim to be #SculpTORSoftheFuture. Torbotics needs help from other #CollaboraTORSinFIRST to do this, other innovators & leaders to aid in our mission to #PutSTEMFIRST. Will you rise to the occasion?;

