

Introduction

64 students. 27 mentors. Four rooms. One team. We learn, create, and inspire together. We grow—*together*. We engage young minds to be the future of STEM and *FIRST*. We work towards an inclusive, diverse, and positive setting where members are able to share new perspectives, leading to personal growth. With safety as our top priority, we achieve this every year, even in a pandemic. We are the leaders of tomorrow. Together, we become a team with our mission “to provide an inspiring learning environment that fosters growth and appreciation of STEM and business knowledge, and to teach students skills vital to success in the real world through a strong relationship between students, mentors and sponsors.” We are the AdamBots.

COVID Impact

Every year we’re presented with challenges, but the last 12 months were unprecedented: canceled competitions, closed schools, and halted activities. Putting robotics on pause would’ve been an easy option, however, we used our innovative strategies to continue the normalcy of robotics.

We competed in this year’s OCCRA virtual design challenge, meeting online and maintaining our collaborative spirit. We created a competitive design, winning the Implementation and Demonstration Award, bringing back the joy of robotics.

With the pandemic, we adapted to hosting part of the annual rookie workshops virtually until it was safe for in-person learning. In a short timeframe, students grasped valued skills such as communication, collaboration, and time management in addition to technical skills like using CAD software and power tools.

We have always had a strong presence in the community and continued our impact this year. Every member still completed their 5 required outreach activities through donating winter coats, board games, and food; writing thank you cards to government officials for the MDE grant; holiday cards for the elderly; and other virtual opportunities. Several members of the team created an FRC online support group on Discord which now has members from around the world, giving an opportunity for FRC members to connect.

We continued several of our regular activities. Our subteams continued to host meetings via Zoom, GroupMe, and other platforms, keeping our members engaged through the fall. We kept our sponsors updated on our progress through our monthly newsletter, weekly blog posts, and sending thank you holiday cards. We continued to host our Saturday calls with 11 FRC teams internationally to share ideas and provide support.

As a strong team continuously working towards being a role model, we chose to take on the Game Design Challenge, At Home judged awards, and Skills Competitions. We are also collaborating with Team 5436 to participate in the Innovation Challenge.

The AdamBots took the pandemic as a learning lesson to take advantage of our opportunities and adapt to uncertain situations. Though the pandemic was out of the ordinary, AdamBots' spirit allowed us to continue to thrive and grow.

FLL Jr. and FLL

As AdamBots, we inspire the next generation of leaders and innovators. Our efforts within the FIRST progression impact the youth, exciting them about the STEM environment by helping them start teams and providing ready support at all times.

Within elementary schools, we provide guidance and mentoring to many FLL Jr. and FLL teams, inspiring them to progress towards later FIRST programs. Over the last 3 years, we supported funding for __ teams in our district, helping start __ FLL Jr. teams and __ FLL teams. Through our efforts, we have assisted in bringing ___ elementary students into the FIRST program.

We hosted and assisted in running a mock FLL Jr./FLL event to allow teams to get an idea of how a real competition runs. This event encompasses the FLL Jr./FLL teams which we support. With this practice event, students are slowly introduced to the competitive side of FIRST, rather than being thrown into a stressful competition at once.

We worked with a FIM board member to mentor an FLL team of lower socioeconomic class at Will Rogers Elementary school in Pontiac in order to give them a better FIRST experience. We worked with this team weekly helping them with building and programming aspects as needed.

Our team members guide children to the fundamental concepts of STEM and expose them to the robotics team environment. We start teams, we mentor teams, and we run and host events. This ultimately sets them up to become the leaders of the future.

FTC

Two years ago, we hosted and ran the first-ever FTC League Meet in Michigan. This was the pilot event for OCCRA: the first meet of four in the OCCRA middle school program. The

event allowed 18 teams, rookie and veteran, to compete in a community of middle school robotics teams. With the incredible growth of FIRST teams at all levels throughout Michigan, increasing the number of events is critical to ensure access to learning opportunities.

Last year, we further developed our impact on FTC by running and hosting a qualifier event for 34 teams. Once again, this allowed for a greater number of teams to compete and increased learning opportunities. We were prepared to run this event again this year; however, it was canceled.

We also started FTC Team 17181 last year at one of our feeder middle schools, providing them with funding, mentorship, and access to our build space. This year, we started Team 18954 but because of the virus and school shutdown, we were not able to provide them mentorship and build space. Instead, we helped them through funding and ordering parts for them which they used at home. Through this, we were able to get students involved in the FIRST program.

FRC

To support our global FRC community, we form relationships with teams from all over the world. We collaborate with and assist existing FIRST teams as well as form new ones and introduce others to STEM. Additionally, our resources are available on our website for all teams to use.

We openly share knowledge by inviting 9 other teams throughout Michigan and Mexico to our weekly video calls, some of these teams being from underprivileged communities. We collaborate with these teams to give one another engineering support; discussing strategy, rules, design, and scouting.

To aid in FIRST team sustainability, we proudly share our business planning experience with other teams on our website. This has led to helping over nine teams write their business plans in the past through emails and video calls. Two summers ago, we also assisted with a business planning conference with Team 4384 where we gave advice on sustainability, strategic planning, and award submission. Additionally, we wrote two resources, “Writing a Business Plan” and “Entrepreneurship Award Guide,” to enable more support. “Writing a Business Plan” is a model for business planning throughout the FRC community, including being translated into Chinese which was shared with 100% of Chinese rookies two years ago.

Traveling to Upper Peninsula district events have been a tradition for our team in the past. We used this as an opportunity to purposefully help other teams. In 2018, at Escanaba, we provided programming, mechanical, electrical, Chairman’s, and scouting support to over 55% of

the participating teams. One of the teams, Team 3617, asked us to create presentations on Chairman's, business planning, programming, and design and build that were presented at the Upper Peninsula Robotics Conference. In 2019, at Kingsford, we continued our assistance by helping a majority of the teams in the pits and even extended our support by having close to 50% of our attending team members volunteer on the field.

Part of our tradition is to have a student-led team. Our robot is primarily built, designed, and coded by students. With this kind of exposure, students are able to develop strong leadership, communication, and confidence in the field of STEM.

Furthermore, Kettering University invited us to present on business planning for their FIRST Mentor Day event for the last two years. Recently, The LamBots, Team 3478 asked us to create presentations on business planning and Chairman's which we presented virtually to several other Mexico teams.

Our Community

In order to give back to the community, we volunteer at all levels. Every year, we raise money for the American Cancer Society by participating in Relay for Life, totaling \$110,000+ so far. We volunteer to load trucks to deliver supplies to underprivileged schools for the Assistance League. We even started the Hunger Walk as an event to raise money for Rochester Neighborhood House where we invited other *FIRST* teams, raising \$1000+. We supported Girls of the Crescent, a nonprofit started by two of our students to support Muslim representation in literature by raising \$300 and donating 40 books. Each of these activities expands our impact beyond the *FIRST* community.

We started the Ambassador Program, where students traveling abroad spread STEM concepts. Their presentations include EV3 robot demonstrations and information on local *FIRST* STEM opportunities. Our Ambassadors brought *FIRST* values to England, Haiti, Mexico, Australia, and Japan. After our Japan presentation, we formed connections with the Japanese FRC teams where we continue to provide ongoing mechanical and non-technical assistance. In 2018, we connected Team 6909 to one of our sponsors for financial support, making their trip to the Championship in Detroit possible.

Conclusion

When AdamBots depart as seniors, they are much different people than when they arrived for the first time. Our retention of passionate mentors for over 20 years continues this cycle. Being on

the AdamBots grows confidence, enhances skills, and creates a family. We watch as our nearly 300 graduates turn into STEM leaders and professionals. We have a constant impact on our community through our activities in *FIRST* or our outreach events. We continued our team's spirit even through the global pandemic. We grow and inspire. We are the AdamBots.