

Introduction

The AdamBots are much more than our 551 square foot build space at Rochester Adams High School. Through a fun working environment, we provide strong educational opportunities in STEAM and business that allow for personal growth. Our team structure models an apprenticeship with various sub-teams led by students and supported by mentors. As a model *FIRST* team, our goal is to inspire others with a competitive robot and passionate students. We believe in giving back to our community through several service projects and outreach programs. We also mentor FLL, FTC, and FRC teams, and teach after school science-based classes to spark interest in robotics causing children to proceed through the levels of *FIRST*.

Team Culture

As a team of 72 students and 42 mentors, the AdamBots are a family. Our mentors are dedicated professionals that love the team, and enjoy coming back every year, as shown by our 95% retention rate. They give up much of their time to help us, and we could not be more thankful. We have over one mentor for every two students, 25 mentors without students on the team, and five AdamBots alumni who have returned as mentors. These figures illustrate our mentors' passion for *FIRST* and for the AdamBots.

For incoming freshmen, we hold engineering and safety workshops in the fall the next year that fully prepare students for the *FIRST* season. For example, the past two years we have conducted our AdamBots team building event focused on our core values. Our yearly event and other enjoyable team building exercises help develop internal team relationships.

Our structure includes nine engineering and five business sub-teams in which student leaders work alongside mentors to develop their skills and accomplish team goals. This set-up ensures that each member finds his/her personal niche. For freshmen members, we have a buddy system that helps them navigate the team and meet current students.

Most of our graduates go to college and pursue STEAM degrees. In 2016, and in most recent years, all of our seniors went to college or received trade internships. Being an AdamBot lays the foundation for alumni who attend schools such as Harvard, UC Berkeley, MIT, Michigan State, Michigan Tech, Kettering University, and the University of Michigan. AdamBots college graduates are employed at places like NASA, Apple, and the Army Robotics Command. Each year, alumni return to visit us, volunteer at competitions, and even mentor the team. Many say being an AdamBot was the best experience they had in high school.

Spreading the Message of *FIRST*

The AdamBots prioritize activities that spread the message of *FIRST*. For example, our team posts weekly videos and updates via social media such as Twitter (over 1,250 followers), Facebook (over 650 likes), Instagram (about 400 followers), Snapchat (over 50 followers) and YouTube (over 100 subscribers). We supply resources for other *FIRST* teams on our website, such as our Executive Summary, Business Plan, programming examples, and safety resources. The message of *FIRST* is also shown through our personal demonstrations of *Gracious Professionalism*[™] and *Coopertition*[™] and our team's custom shirts worn in and out of robotics.

Every year we host the "Meet the AdamBots" event, an open house for our sponsors, parents, other *FIRST* teams, school administration, and the community to promote and spread awareness of our team and the *FIRST* program. During this event, students prepare and give presentations explaining our organization and the benefits of being involved in *FIRST*. We give tours of our build space and subteams in action as well as demonstrate our past robots.

Our team also has interactive demonstrations of past robots at four school science fairs and four sponsor events. Seeing students' faces light up in excitement never gets old, and we look forward to these science fairs all year round. We have also promoted *FIRST* at Rochester Community Schools' Council STEAM Career Exploration Fair.

Mentors on our team were asked to work with the Rochester Community Schools Career and Technical Education (CTE) Advisory Committee last year and continue to do so. They help review and develop STEAM and business-based curriculum in our school district. Since starting this collaboration two years ago, the school has added robotics and programming classes, and has purchased VEX kits specifically to enhance STEAM based education.

Giving Back

The AdamBots have a huge impact on our community, supporting a variety of causes and providing over 2,250 hours of total community outreach and service annually. We participate in service projects for our local community such as the Hunger Walk for Rochester Neighborhood House to support those in need of food, and the Halloween Hoot Cleanup, to raise money for a local nature preserve. We also walk with robots in the televised Rochester Hometown Christmas Parade, which is viewed by over 80,000 people. During the holiday season, we purchased gifts for the Rochester Neighborhood House Gift Tree and baked cookies for homebound seniors living at a local low-income, assisted living facility. The national causes we contribute to are the Make a Wish Foundation by providing assistance at an annual Rubber Ducky Race, and Relay for Life for the American Cancer Society by fundraising, as cancer has afflicted several of our team members. At Relay for Life, our team has been awarded the top team fundraiser trophy by the American Cancer Society for the past two years and we've raised over \$80,000 overall. We have had such a notable impact on our community that our mayor

awarded us the Community First Award for making, “a notable effort to improve the quality of life of those around” us (rochesterhills.org).

Through our “Art and Apples” Parking Lot Business, community service, demonstrations, open houses, sponsor presentations, and assemblies, we strive to reach and enrich the lives of everyone in our community.

Sponsor Relations

We maintain strong partnerships with all of our sponsors. They include General Motors, the FCA Foundation, DoDSTEM, ThyssenKrupp, Valeo, R&G Drummer, Magna, TEK PRO, Rochester Advanced Dentistry, families, and the State of Michigan. Our sponsors contribute to the growth of our engineering and business sub-teams by their support and financial aid. Many of our alumni have received jobs and/or internships with our sponsors. In recent years, we have gone to General Motors, Valeo, and the FCA Foundation’s SAE program to exhibit our robot. To show our appreciation for our sponsors, we invite them to competitions so they can see our robot and team, and we send monthly newsletters to update and thank them for their continuous support.

In 2010, General Motors requested us to help a rookie team, 3478 Team LamBot, with their design. We have since developed a strong relationship with Team LamBot and we continue to collaborate with them through weekly video chats as well as ongoing Facebook chats. They won the Rookie All-Star Award their first year and the Engineering Inspiration Award multiple times since then, including at the World Championship. Due to our success, General Motors has asked us to help Team 3096 East English Village Bulldogs in Detroit. We continue to be dedicated mentors for both teams to date.

Partnerships Within *FIRST*

Our team assists *FIRST* teams because we want to spread our enthusiasm for STEAM and the *FIRST* program with children of all ages. We currently mentor and have provided financial support to one FLL team, the RoboGeeks. A group of eight AdamBots meet for 10 weeks to teach them. We send students to help two FTC teams (the Blades of Thunder, and the E-Bots). We use technology to mentor and connect with FRC teams: East English Village Preparatory Academy Robotics, and the LamBots, from San Luis Potosí, Mexico, through weekly video chats.

After years of campaigning, we created the CyberCats, at our sister school, Stoney Creek High School last year. We assisted them financially and provided them with build space, tools, supplies, and business and engineering workshops. We have now reached our goal of helping them become an independent team and maintain a strong partnership between both teams.

Members on the AdamBots have also supported *FIRST* in Michigan by helping with their website, merit badge program, and competitions and events, even those we do not attend.

Additional information

During the off season, 13 veterans of our 72 member team participate in OCCRA, the Oakland County Competitive Robotics Association. Since OCCRA robots are built without mentor involvement, only AdamBot veterans can participate..

Each September, we operate a parking lot business at the Rochester Community Schools building during the local arts festival, Art & Apples. We do so to supplement team funds, develop entrepreneurial skills, and increase the AdamBots' visibility in the community.

Conclusion

The AdamBots strive to spread the culture of *FIRST* within our team, community, sponsors, and other teams. We keep our partnerships strong with ongoing support through our mentors and sponsors. Our mission is to endorse the message of *FIRST* locally, nationally, and internationally, inspiring communities around the globe.