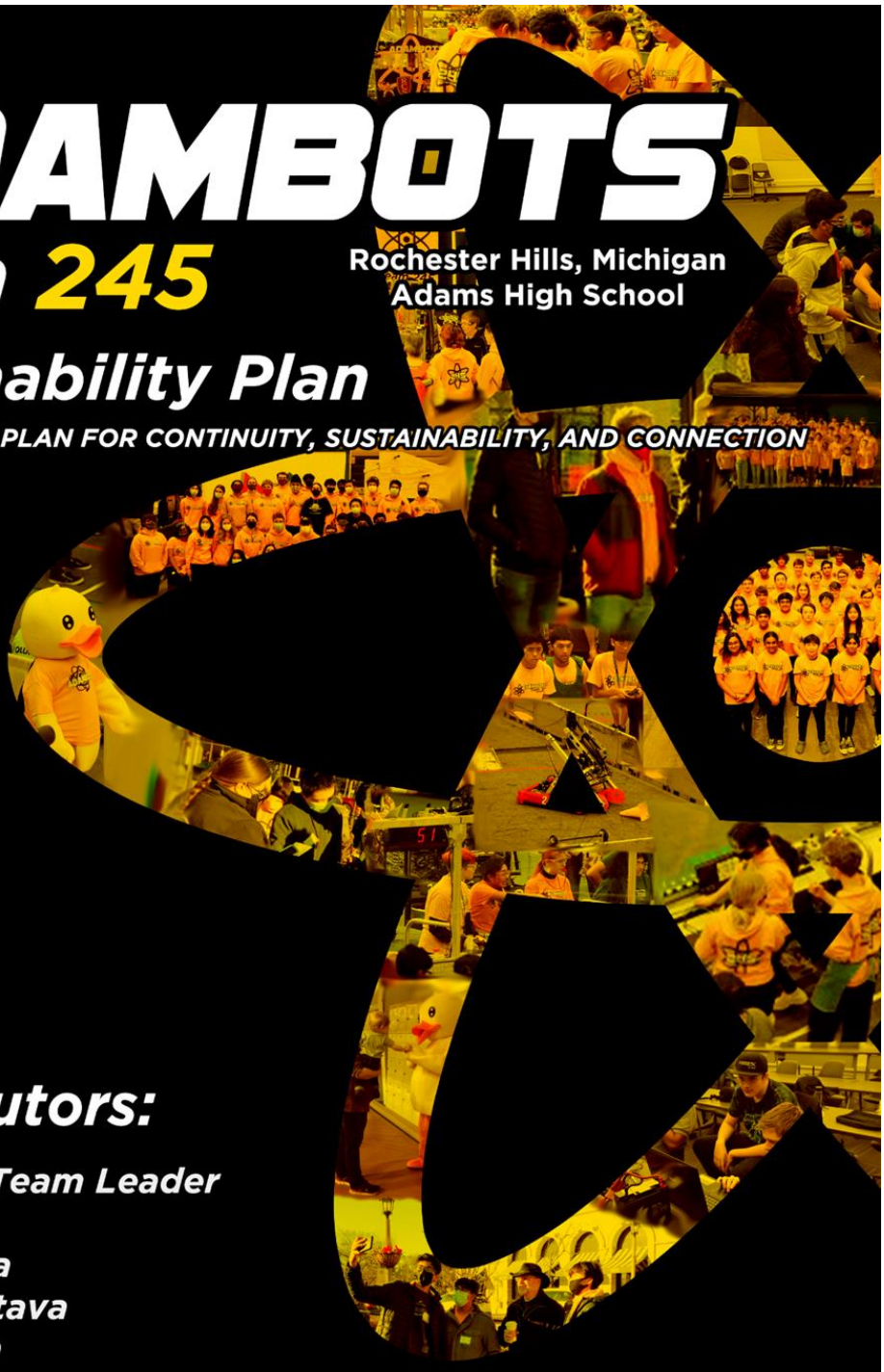
ADAMBOTS

Team 245

Rochester Hills, Michigan
Adams High School

Sustainability Plan

COMPREHENSIVE PLAN FOR CONTINUITY, SUSTAINABILITY, AND CONNECTION



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1.0 Executive Summary

1.1 Team Mission Statement

“To provide a sustainable 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.”

At the nucleus of our mission, student and mentor team members collaborate to inspire interest, knowledge and application of STEM, business, and leadership skills. *FIRST* values such as Gracious Professionalism™ and Coopertition™ serve to bond our members-- students and mentors alike-- and provide a focus for all that we do. Orbiting the nucleus are our Core Values which further energize us to sustainable team success and contribute to the goal of spreading the word of *FIRST.*

1.2 Why a Sustainability Plan?

Our Sustainability Plan has been created to document the team’s approach to achieving our mission in a sustainable manner. The AdamBots radiate our positive charge in a way that attracts, enthuses, and empowers future team members as well as other *FIRST* teams both in our area and around the world.

1.3 Team Summary

Based at Rochester Adams High School in Rochester Hills, Michigan, the AdamBots began in 1999 with a small team of 10 and now have grown steadily with 76 students and 21 mentors. We design, build, and program our robots in the Adams build room, engineering room, dedicated robotics room, and two classrooms. The AdamBots are heavily involved in the local and global STEM communities, including supporting *FIRST* at all levels. We have 15 sponsors, including corporate, government and friends and family that together fund almost half of our team expenses, our largest sponsor being General Motors. Each fall we raise over $3,530 through our successful parking lot business. Community outreach is integral to our team culture and the AdamBots provide over 2,100 hours of community service and outreach each year. Our team has fundraised for the American Cancer Society's Relay for Life for over 17 years in our area, raising more than $120,000 over the years. The Mayor of Rochester Hills awarded us the Community First Award for making "a notable effort to improve the quality of life for those around" us.

1.4 AdamBots Core Values

GRACIOUS PROFESSIONALISM

"Gracious Professionalism is part of pursuing a meaningful life. One can add to society and enjoy the satisfaction of knowing one has acted with integrity and sensitivity." – WOODIE FLOWERS

FUN

Being a member of the robotics team should be a fun and enjoyable experience for all members. We believe that school work, robotics team responsibilities, and life should be integrated in a way that being a member of the team is a rich and rewarding experience.

TEAMWORK

Each member has a role to play on the team. Our best solutions come from when we work together with students, mentors, sponsors, and school administration. Effective teamwork demands strong respect, relationships, and communication.

RESPECT

We accept each other and the unique talents and experiences we bring to the team. We behave in spirit of honoring each other as members of the family. We will listen to the opinions and observations of others. We will give respect in order to receive respect.

COMMITMENT, COOPERATION AND COMMUNICATION

We believe that all members of the team should demonstrate commitment to the team values and mission, cooperation with all team members, and a continuous effort to communicate so the team can meet the mission of FIRST and our team. We believe that the team leadership should set the example for all team members to follow and help keep us on track with the 3C values.

INNOVATION & CREATIVITY

We appreciate new ideas and imaginative ways to solve problems. We embrace trying new technology when appropriate. We strive to develop creative solutions and put them into action.

2.0 Sustainability

2.1 Set SMART Sustainability Objectives

The SMART acronym is a way to evaluate objectives and make sure they are specific, measurable, achievable, relevant, and time bound. This system is crucial in identifying our objectives as we need to make sure that each one follows all the components of the SMART acronym. SMART objectives help with ensuring the sustainability of our team. Additionally, SMART objectives assist with providing our team with direction and focus while trying to achieve our goals.

- **Specific**: The goal needs to be clear and detailed.
- **Measurable:** The goal needs to be quantifiable and able to be tracked.
- **Achievable:** The goal needs to be realistic and reasonable for the team to achieve with the resources available.
- **Relevant:** The goal needs to be relevant to the mission and purpose of our team.
- **Time-Bound:** The goal needs to have a deadline in which it must be accomplished. The main objectives of our team all conform to the parameters of SMART goals.

2.2 Sustainability Objectives and Tactics

AdamBots Objectives and Tactics

Below, each of our team objectives are listed, as well as the tactics we use to reach these objectives which ensures the sustainability of our team.

Objectives	Tactics
Mentoring other teams The AdamBots mentor junior robotics robotics teams to spread awareness of *FIRST* and recruit future AdamBots This is measured through sign-in sheets to keep track of hours.	• We mentor FLL-E, FLL-C, and FTC teams each fall. • Veteran students are required to provide one hour of mentoring per week. • Each student of our team is required to provide at least four hours of support to a robotics competition in the fall either at one we host or one hosted by Rochester United.
Community Outreach The AdamBots participate in community outreach events to give back to our community, to spread awareness of *FIRST*, and to emphasize the importance of social responsibility to team members. This is measured through sign in sheets and photo evidence.	• Provide community outreach in the off season. • Every team member is required to participate in at least five outreach events, including raising money, donating items for organizations in need, and helping with labor. • During outreach and mentoring all team members wear their AdamBots shirts to promote our team.
Financial Sustainability The AdamBots aim to be financially stable each year and have enough funds to support all our initiatives and competitions.	• The team has an annual budget that is monitored by the lead business mentor. • The team sends thank you notes and newsletters to sponsors. • The team provides all the required information for the MDE grant. • Through the concept of “seed money,” our team ensures that we maintain a certain level of leftover funding at the end of the season to compete next season

Objectives	Tactics
	no matter what.
Organization Structure The AdamBots strive to create diverse opportunities to allow team members to pursue their interests. As a large team, we use subteams with student leaders and adult mentors.	• We provide a foundation for the students to try students into subteams of their interest in both new engineering activities and divide the engineering and business side. • Students are selected to be co-leads of the subteams with specific mentors assigned to provide support and share their technical or business knowledge. • Each student is provided information for their subteams and schedules are posted on the team calendar.
Adult Mentors The team recruits and retains adult mentors to support our large team.	• Veteran mentors train new mentors in the fall, so they are ready for the *FIRST* season. • Mentors register on the *FIRST* site and complete a school background check. • Mentors traveling with the team to overnight events are fingerprinted. • At the beginning of the

Objectives	Tactics
	season, parents of new students volunteer to become mentors.
School Relationship The team works closely with the Rochester Community School District and the Rochester Adams High School Administration to maintain and grow our robotics build space.	• Follow all school budget practices as monitored by lead business mentors. • Support requests from the school administration for presentations and demonstrations including the Gold Rush tailgate event. • Support local schools with science fair participation to demonstrate the robotics program. • Build and maintain the T-shirt cannon used by Rochester Adams High School for various activities.

3.0 Environmental Sustainability

3.1 Utilizing Sustainable Materials

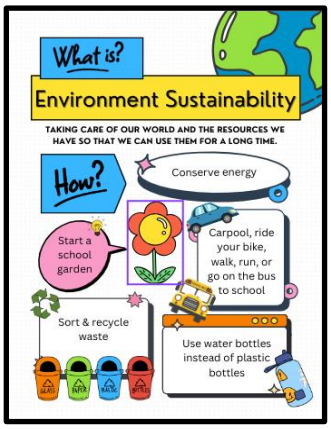
The AdamBots have made a conscious effort to reduce their carbon footprint by adopting sustainable practices. One example is our switch from disposable water bottles to reusable ones. Not only has this reduced our plastic waste as a team, but has also contributed to a reduction in the amount of oil and greenhouse gasses required to produce plastic water bottles. Additionally, we have implemented other sustainable practices such as promoting composting, recycling, and using eco-friendly materials in our community. These efforts not only demonstrate our commitment to environmental sustainability, but also serve as an inspiration to others in the robotics community to do their part in protecting the planet.

3.2 Recycling Materials

Throughout the season, the AdamBots have strived to become more environmentally friendly by using reusable water bottles instead of plastic bottles and recycling metal scraps and old electronics. Recycling electronics and metal allows us to reduce the amount of waste we produce and conserve natural resources. It also helps reduce the amount of hazardous waste that ends up in landfills, which can be harmful to the environment and public health. By taking these sustainable actions, the AdamBots are setting an example for other robotics teams and inspiring our community to take action towards a more sustainable future.

3.3 Community Impact

The AdamBots created a poster for the FLL and FTC teams we sponsor and taught them about environmental sustainability. This year, we strive to become more environmentally sustainable by decreasing the use of plastic materials and helping our community recycle items like batteries and plastic bottles. We recognize the importance of educating our future generation of difference-makers and our posters intend to educate them on those topics.



Battery Recycling

To reduce air, water, and land pollution, as well as our overall emissions, the AdamBots met with Rochester Adams administration to discuss how we can promote the battery recycling program in our school. The AdamBots are in the process of displaying informational flyers around the school that promote the use of the battery recycling containers at our school, and making a short video/photo slide deck for the school announcements that promotes the initiative and describes the environmental benefits of battery recycling.

4.0 Team Information

4.1 Basic Team Facts

Rookie Year	1999
Location	Rochester Adams High School, Rochester Hills, Michigan
School Affiliation	Rochester Adams High School
Team Demographics	76 Students (58 returning and 18 new) ● 12 Seniors, 25 Juniors, 22 Sophomores, 17 Freshmen ● 58 males and 18 females
Mentors	● 193 total years of mentoring ● 1 Teacher ● 15 Engineering mentors ● 7 Business mentors ● 21 Mentors
Sponsors and Partners	● General Motors ● Stellantis ● APTIV Foundation ● R&G Drummer ● State of Michigan Robotics Grant ● Salem Steel NA, LLC ● Thyssenkrupp ● Thyssenkrupp Engineered Plastics ● City of Rochester Hills ● Rochester Community Schools ● Rochester Adams High School ● Rochester Advanced Dentistry ● The Pickard Family ● Friends and Family ● Molex ● Tek Pros Today
Website	https://www.adambots.com

4.2 Member Benefits – Students, Mentors, School, and Sponsors

Student Benefits

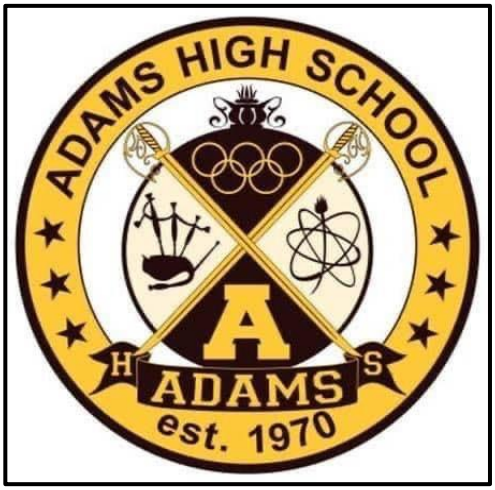
- Learn how to design, build, wire, and program the robot
- Develop confidence
- Improve communication skills
- Improve leadership skills
- Be part of a community and work as a team
- Help others through community outreach
- Gain opportunities to earn scholarships
- Be introduced to STEM and/or Business related fields
- Develop project management and time-management skills
- Work with and learn from adult mentors who have professional experience in the areas of science, technology, engineering, math, and business

Mentor Benefits

- Share knowledge and experience with students to help them accomplish their tasks, both in engineering and business areas
- Have fun
- Be part of a community and work as a team
- Help others through community outreach
- Help give the students a “real life” learning experience they cannot get in the regular classroom

School Benefits

- Support an outstanding student development program
- Support STEM and business interests in students
- Gain insight of professionals outside of academia to help set curriculum
- Allows students to see how lessons learned in the classroom can be applied in the real-world experiences
- Help support students through scholarship opportunities
- Use of the AdamBots T-shirt cannon specifically designed for use at the football games.



Sponsor Benefits

- An opportunity to market/advertise their company
- Reach out to the community
- Develop potential future employees
- Help inspire students to enter STEM and business fields
- Provide opportunities to be good corporate citizens

4.3 AdamBots Core Values

Students and mentors worked together to define Core Values which we believe are key to our success, sustainability, and help us to be a role model team.

Gracious Professionalism

We always act with integrity and set a positive example for others to follow. We believe in fair competition and strive to help our allies and opponents to be their best. We also maintain respectable behavior during team activities, including school, competitions, robotic demonstrations, or community outreach events. As Woodie Flowers once said, "Gracious Professionalism is part of pursuing a meaningful life. One can add to society and enjoy the satisfaction of knowing one has acted with integrity and sensitivity."

Respect

Every member of the AdamBots respects and accepts each other's unique talents, experiences, and identities. We treat each other like family, acknowledging all opinions and observations. We believe that respect is earned by giving respect.

Teamwork

Collaboration between students, mentors, sponsors, and school administration is crucial for effective teamwork. Each team member has a role to play, this is attained through strong communication, relationships, and respect.

Innovation & Creativity

We value innovative solutions and embrace new technology to solve problems.

Fun

We believe that being a member of the robotics team should be an enjoyable and fun experience for all members. At AdamBots, we believe that schoolwork, team responsibilities, and personal life should be integrated in a way that being a member of the team becomes a rich and rewarding experience.

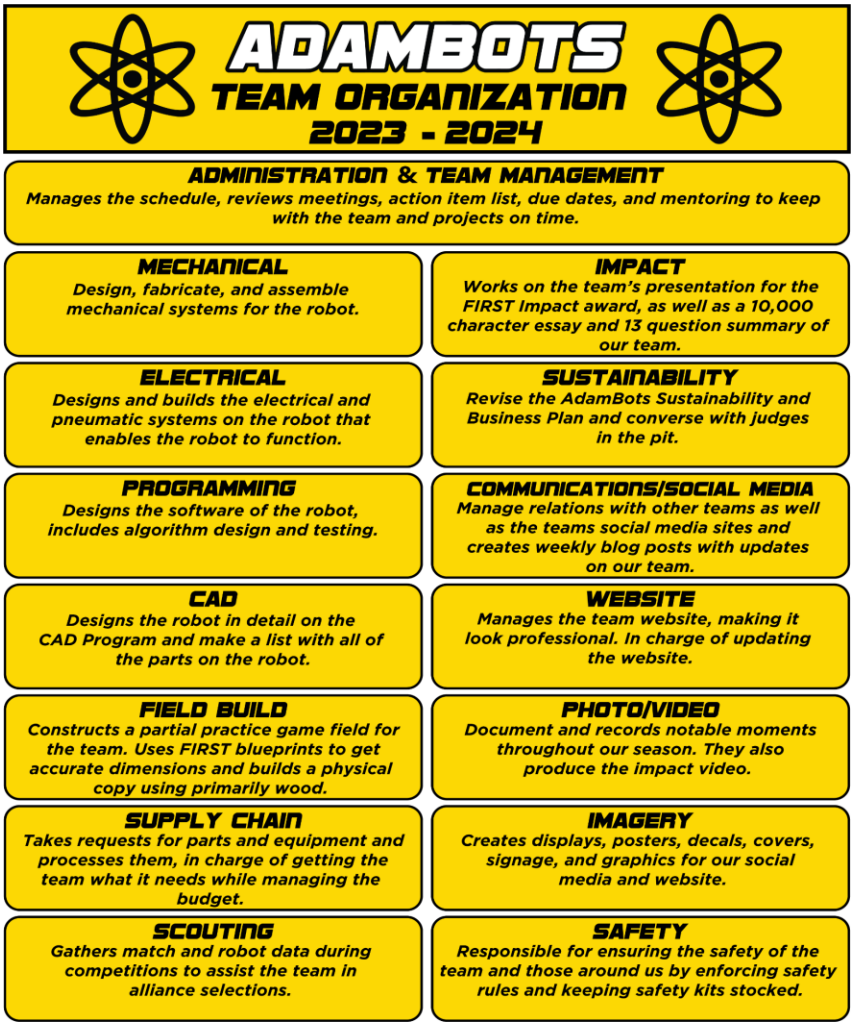
3C's: Commitment, Cooperation, and Communication

Our team strongly believes that every member should exhibit a high level of commitment towards the values and mission of the team. We emphasize on the importance of cooperation and effective communication among all team members to achieve the ultimate goal of *FIRST*. We also believe that the leadership should act as a role model and guide the team members to adhere to the 3C values.

5.0 Organizational Plan

5.1 Team Structure

Our team is organized into engineering and business subteams, each with at least one student leader and one mentor. The team also has mentors and students who oversee goals and deadlines for the robot. Several mentors fulfill the roles of Team Manager, Financial Manager, and Purchasing Manager. These roles supervise team administration, travel, finances, and purchases. Before the build season, students fill out forms ranking their top choices and nominating themselves for leadership positions. Mentors interview and select student leaders and place students on subteams based on their interests.



5.2 Human Resources

Recruitment

At the end of May, we start our recruiting process by inviting new students to apply for the team. We also ask students from the existing year to re-apply for the next season. We send out communications over the summer to keep students and parents engaged. At the beginning of each school year, we continue our recruiting process by displaying posters around our school to promote the AdamBots. At our first team meeting each year, we give an overview of our team and what the robotics season entails. We also recruit mentors from sponsors or the parents of the students. Later in the year, the new students attend training sessions before the *FIRST* season begins. We also hold a "Meet the AdamBots Day" every year to recruit new members.

Training

In the fall, the AdamBots begin their training for new students with the assistance of mentors and veteran students. Over the course of the season, gain practical experience, and learn how to collaborate as a team. This helps them prepare for the upcoming *FIRST* season by teaching them important skills such as tool usage and safety, as well as giving them an idea of the team's structure.

Engineering and Business Skills

Each AdamBot benefits from the skills gained from their subteams from experienced mentors and veteran students. For example, problem-solving, communication, and safety skills. This approach helps each student improve in their skills, i.e.:

- How to operate SolidWorks and provide dimensions and manufacturing instructions for the mechanical subteam for those on the CAD team
- Machining and assembly skills for those on the mechanical team
- Wiring, pneumatics, connectors, sensors, for those on the electrical team
- Programming, camera sensing, LIDAR, and JAVA skills for those on the programming team
- Photoshop and printing skills to those on the imagery team
- Camera and video skills, both in documenting and editing, for those on the photo/video team
- Presentation, strategic planning, documentation, finance, and business skills for those who take part in advocacy, impact and sustainability
- Website, WordPress, and layout design to those on the digital media team
- Order processing and documentation for those on the supply chain team
- Scouting and strategy to those on the scouting team

Attendance, Participation and Behavior Expectations

It is important that students are punctual to all events. If a student cannot attend, they should inform a mentor or student leader in advance. It is also important that all students regularly attend their subteam meetings so that they can contribute to the team's progress. Grades are very important to our team, the average GPA on our team is 3.962. Due to the importance we have on grades, for a student to remain on the team, they must have all passing grades. Students are also expected to participate in five outreach activities throughout the year.

In addition, students are expected to showcase Gracious Professionalism® at competitions towards all teams. We do our best to help other teams whenever any issues occur on their side. Team members must always strive to work together peacefully and cooperatively, remembering to be gracious. Other member expectations are found in the Student Contract distributed at the beginning of the season.

Safety

Safety of team members is critical. Students and mentors working with the robot at any time must always wear safety glasses. Safety training is given in the fall and the use of power tools is supervised by mentors. Before competitions, the safety captain coordinates safety drills with the whole team.

EDGE Teaching Method

Our team uses the EDGE teaching method, an effective four-step teaching approach inspired by the Boy Scouts of America, to teach skills and concepts. For example, this method is used to show someone how to use a camera, update the website, and create graphics.

Explain – The trainer explains how something is done.
Demonstrate – After the trainer explains, the trainer demonstrates while explaining again.
Guide – The learner tries the skill while the trainer guides them through it.
Enable – The learner works by themselves under the watchful eye of the trainer. The trainer's role in this step is to ensure success for the learner.

5.3 Organization of Operational Functions

FIRST Robotics Competition (FRC)

The *FIRST* Robotics Competition season runs from January to April and involves approximately 4,000 teams participating globally. Teams compete in districts and states to earn a spot at the *FIRST* World Championship. *FIRST* emphasizes the importance of fostering STEM inspiration by building relationships between students and mentors.

FIRST Offseason

Following the *FIRST* Championship, teams can sign up for additional independent events.The AdamBots compete in 3-5 offseason events each year. By participating in off-season events, we can train future drive team members. Our potential offseason events include:

- **Michigan Advanced Robotics Competition (MARC I & II)** – summer robotics competition where our students can practice and have fun.
- **Indiana Robotics Invitational (IRI)** – summer robotics competition, by invitation only.
- **Kettering Kickoff** – September event in Flint where our students can practice and have fun in the leadup to the *FIRST* season.
- **Bloomfield Girls Robotics Competition (BGRC)** – October event in Bloomfield Hills. This all-girls event allows our female students to get additional opportunities to drive and fix the robot.

6.0 Operational Plan

6.1 Tasks

As part of the *FIRST* program, we are given the challenge of building a new robot each year. We have eight weeks to complete this task, but that's not all that we do as a team. In addition to building the robot, we work on a variety of other important tasks that are necessary for our success.

6.2 Scheduling

Each Thursday at 6:30 p.m., we conduct team meetings. We also meet at the beginning of the *FIRST* season, to discuss strategy development and robot design. Each Saturday, engineering subteam leaders meet to discuss deadlines and projects. Subteams decide what schedule works best for both the students and mentors.

6.3 Communication

Communication within the team is accomplished during meetings, through emails, group chats, leader-to-member communication, and our website. While traveling, we meet nightly to discuss plans for the next day. Our Team Manager sends emails to all team members and parents regarding events.

6.4 Project Management

Project management is vital to our continued success during the *FIRST* build season. Mentors and students collaborate to help keep our team on task. We also named a Team Captain to help facilitate reports, meetings, and schedules.

7.0 Outreach and Mentoring Plan

7.1 Community Outreach

The AdamBots are involved in many community outreach events to give back to our community, spread awareness about *FIRST*, and emphasize the importance of social responsibility to team members. To ensure this, students attend five total community outreach events each year and are always looking for more opportunities to get involved in the community!

Relay for Life

The Relay for Life is a fundraiser walk to support the American Cancer Society. The AdamBots raise money for this event by selling luminaries every spring as well as pink ducks at competitions. Luminaries are placed around a track in honor of those who have died from cancer or who are currently battling it. Our team has been recognized by the American Cancer Society as the top team fundraiser in our area for several years. We have raised money for this fundraiser since 2008.

Hunger Walk

The Hunger Walk is a local charity walk that takes place in the fall, created by the AdamBots to help support the Rochester Area Neighborhood House to help those in our community who are in need. This year we raised over $651 and collected 441 lbs of food. We invite the Cyber Cats, FEDS, as well as the FLL-E and FLL-C teams to participate.

Rochester Hometown Christmas Parade

The AdamBots, along with our sister teams, the FEDS, and the Cyber Cats, walk in the Rochester Christmas Parade each December. It is not only a way to advertise our team, but also encourages more people to get involved with *FIRST*. In the past few years, we have demonstrated the robot built by the rookie students who participate in our fall training sessions. Students from each team walk next to their robots, carrying banners that include the school and *FIRST* team logos.

Halloween Hoot

The Halloween Hoot takes place at the Dinosaur Hill Nature Preserve in the Rochester community every October. Since 2002, the AdamBots have cleaned up after the final night of the Halloween Hoot, taking down the decorations and picking up trash after everyone is gone from the trails.

Operation School Bell

The AdamBots help load trucks for Operation School Bell in the fall, which is the Assistance League's signature program. Chapters research specific needs in their local communities; then develop, fund, and implement programs that support children in need. The goal is to help children succeed in school by providing new clothing, health assistance, which includes hearing, vision, and dental care; and literacy, cultural, and higher educational enrichment.

FLL-E/FLL-C/FTC Events

Every year, as a part of our outreach program, each AdamBot is required to participate in four hours of robot outreach, which can be attained by volunteering at one of the local FLL-C and FLL-E events. The AdamBots volunteer alongside the FEDS and the Cyber Cats, as judges, reviewers, and a variety of other roles. This helps foster a better community with our FRC, FTC and FLL teams, since many of them attending the competitions have been mentored by the AdamBots.

Other Service Projects

Each winter, the AdamBots donate toys to the Rainbow Connection and to Toys for Tots. We've also baked and delivered cookies to the fire department and senior living centers in our community. Additionally, we donated $500 from our Art and Apples fundraiser last year to NOVA Ukraine, an organization that provides humanitarian aid to the Ukrainian people. Treats for Troops is another program we participate in, where donated items go to deployed troops and veterans. We also participate in Coats for the Cold where team members donate jackets and coats for those in need. We have made hand-written cards for members of the Older Persons Commission to bring them holiday cheer and provided holiday gift donations to the Rochester Area Neighborhood house for families to enjoy during the holidays. This offseason, we participated in a tour of JR automation which helps team members gain useful insight into the industry, and are able to attain some useful mechanical skills.

7.2 *FIRST* Support

Rookie Team Mentorship

In 2010, General Motors, one of our partners, requested experienced *FIRST* teams to assist rookie teams in Mexico. The AdamBots gladly chose to help Team 3478, LamBots from San Luis Potosi, Mexico. Several LamBots mentors flew to Michigan and met with the AdamBots to discuss team structure, organization, and the *FIRST* season. We attended regionals in Texas for two years, collaborating and communicating with them throughout the season to provide suggestions on team structure and robot design. The LamBots won the Rookie All-Star Award at the 2011 *FIRST* Championship. Since then, they have won the Regional Chairman's Award three times and the Engineering Inspiration Award at the *FIRST* Championship twice.

General Motors also asked us to mentor a local Detroit team, 3096 Village Bulldogs. They were a rookie team and faced significant challenges in getting the necessary support from their school. We continue to mentor and collaborate with them, sharing our designs, offering feedback, and using many of the same methods we used when first helping the LamBots.

In 2014, the AdamBots successfully started Team 5436, the Cyber Cats. We shared our build space with them for two years, while we guided and supported them. The Cyber Cats later expanded their team and acquired a workspace of their own.

FIRST Season Virtual Calls

Each Saturday during the *FIRST* season, we host Zoom meetings with several other teams. Beginning with the LamBots, the call now includes eleven other teams across Michigan and Mexico. Together we discuss strategy, robot design, team organization, outreach, scouting, Impact Award work and other topics.

FIRST Tech Challenge (FTC) Event Hosting

In 2019, the AdamBots hosted and ran Michigan's first-ever FTC League Meet. Then in 2021 we expanded our FTC support by hosting a qualifier. We worked with other teams to provide volunteers in different capacities.

FTC Mentoring

In 2011, the AdamBots started and mentored an FTC team at our feeder school, Van Hoosen Middle School. Our team mentored both the engineering and business areas of the rookie team. We continue to support them each year including providing financial, administration, and build space support along with the student mentors.

FLL-E, FLL-C, and FTC Challenge

The AdamBots have supported FLL-E, FLL-C, FTC teams for decades. This year we are mentoring 32 teams. We meet with each team at least twice per week in our building, guiding students to appreciate STEM fields of education and the values of *FIRST*.

FIRST Community Support

At each local *FIRST* competition, many mentors and students volunteer to help with field set-up, implementing safety measures in the pit, and managing other volunteers. Our volunteering is one way we give back to support the success of the *FIRST* community. Each AdamBot is required to provide 4 hours of volunteer service at a local *FIRST* competition.

Ambassador Program

When an AdamBot is traveling to another country, they are encouraged to participate in our Ambassador Program. Through this program, we take *FIRST* robotics kits, and visit schools or other institutions to explain the *FIRST* robotics program and encourage students to pursue STEM. When doing this, we represent our team by wearing our AdamBots uniform. So far, students from our team have visited countries like Japan, India, England, Australia, Haiti, and France.

7.3 STEM Inspiration

Robot Demonstrations

We demonstrate our robots at many different events, including school assemblies, science fairs, sponsor locations, scout functions, and libraries. We also annually demonstrate our robot at the Rochester Adams Gold Rush tailgate. This provides us with an opportunity to engage with our school community and increase enthusiasm in STEM. Robot demonstrations allow us to inspire students to have an interest in STEM education, spread awareness of *FIRST* and give partners a first-hand look at the benefits of our partnership.

8.0 Marketing Plan

8.1 Target Audience

Rochester Adams High School Administration

We present our team to the administration and faculty to ensure their strong, continued support through formal meetings, casual conversations, and team demonstrations. We also invite our school administration and faculty to attend our local competitions. Through our involvement in the school board's Career and Technical Education (CTE) Advisory Committee, we demonstrate the value of our team. In addition to CTE, an AdamBots alumni parent is a member of the Rochester Community Schools school board.

Sponsors

Sponsors, mentors, and donations provide the largest financial support to the team. We target current and potential sponsors through marketing and direct communication to ensure their support. Students and mentors keep sponsors up to date on our team and visit them to thank them for their assistance. This past year, we visited Thyssenkrupp and APTIV to demonstrate our robot at one of their facilities.

Potential Team Members (Students and Mentors)

We market and strive to recruit team members, both students and mentors, because our people are the most important component of our team. We demonstrate our robot at school during events. We also encourage teachers and parents to mentor the team. The best way we reach potential team members is through our various outreach and mentoring programs where we can encourage interest in STEM, *FIRST*, and the AdamBots.

Rochester United Robotics

The AdamBots have also partnered with the two other high school FRC teams in our district to make a positive impact in our local community. Along with the FEDS, and the Cyber Cats, we have done a variety of community outreach including the annual Christmas parade and the Hunger Walk. To maintain relations, meetings with lead mentors from each team are held to discuss activities and to help each other with hosting events.

8.2 Marketing Mediums

Robot Demonstrations / Speaking Events

We regularly participate in a wide range of events to showcase our robot and promote *FIRST* and the AdamBots. These events include elementary school science fairs and assemblies, Scout meetings, high school pep assemblies, demonstrations at freshman parent orientation, meetings with high school principals, presentations to the RCS School Board, and events at the Rochester Hills Public Library. Our Ambassador Program enables us to market *FIRST* and other STEM education opportunities to a wider community. Additionally, during our Meet the AdamBots open house, we showcase our robots from past and present seasons.

Meet the AdamBots

Our team hosts an open house called “Meet the AdamBots.” This event has been successful in recruiting new members. A presentation explaining our team, history, and demonstration of the robot is given. Also, those attending are divided into small groups and led by AdamBots on a guided tour where they see our build space and meet subteam leaders who explain and present their subteam.

Imagery: Posters, Robot Graphics, T-Shirts, Flyers, and Giveaways

The Imagery Subteam plays a crucial role in our marketing efforts as it helps us to become more recognizable and memorable in the *FIRST* community. We strive for cohesiveness in every aspect of our branding, from team shirts, presentation materials, website to social media channels, posters, and graphics on our robot. Additionally, we distribute marketing items at competitions, such as our ducks and team buttons.

Newsletter

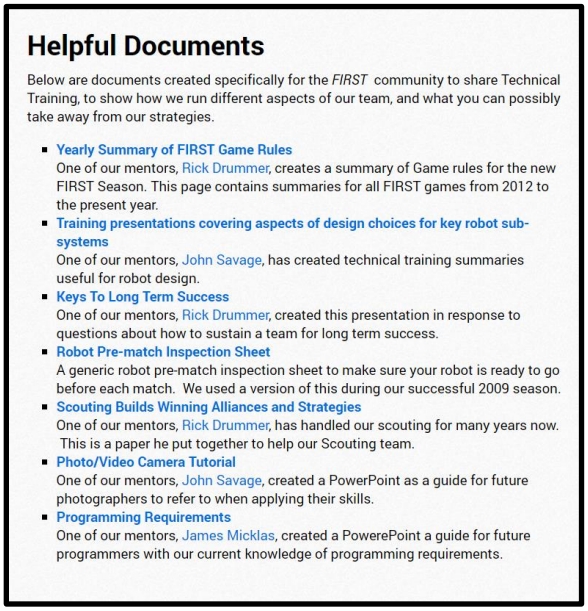
We distribute a monthly electronic newsletter to our sponsors, school administration, teachers, politicians, community leaders. Weekly newsletters are emailed to parents, students, and mentors. One can sign up for newsletters through our website, which are sent out through an online service called MailChimp. These newsletters provide sponsors with updates on how their funds are being utilized, current activities, and future initiatives. This includes information about competitions, outreach, team recognition and awards, a wish list identifying materials, and support needed by the team.

Online Presence

We operate various social media accounts on Facebook, Instagram, X, and YouTube. Our team website also won the World Championship Best Website Award in 2011. These platforms are utilized to gain sponsorships, learn more about competitions, community outreach initiatives, and team updates to families, classmates, friends, and community members. Our online presence helps build interest in *FIRST* and enables us to communicate with other teams across the globe.

Resource Sharing

The AdamBots share our resources with other teams to help them and demonstrate our capabilities. We believe that this form of Coopertition™ helps make us stronger. We also believe that sharing our resources and helping others allows us to demonstrate our Gracious Professionalism. These helpful documents are in the resources page of our website.



Helpful Documents

Below are documents created specifically for the *FIRST* community to share Technical Training, to show how we run different aspects of our team, and what you can possibly take away from our strategies.

- **Yearly Summary of FIRST Game Rules**
  One of our mentors, Rick Drummer, creates a summary of Game rules for the new FIRST Season. This page contains summaries for all FIRST games from 2012 to the present year.
- **Training presentations covering aspects of design choices for key robot sub-systems**
  One of our mentors, John Savage, has created technical training summaries useful for robot design.
- **Keys To Long Term Success**
  One of our mentors, Rick Drummer, created this presentation in response to questions about how to sustain a team for long term success.
- **Robot Pre-match Inspection Sheet**
  A generic robot pre-match inspection sheet to make sure your robot is ready to go before each match. We used a version of this during our successful 2009 season.
- **Scouting Builds Winning Alliances and Strategies**
  One of our mentors, Rick Drummer, has handled our scouting for many years now. This is a paper he put together to help our Scouting team.
- **Photo/Video Camera Tutorial**
  One of our mentors, John Savage, created a PowerPoint as a guide for future photographers to refer to when applying their skills.
- **Programming Requirements**
  One of our mentors, James Micklas, created a PowerePoint a guide for future programmers with our current knowledge of programming requirements.

9.0 Financial Plan

Our team's success is reliant on long-term financial sustainability, which comes from three primary sources: sponsors, team member fees, and our Art & Apples Festival parking lot fundraiser. To ensure financial stability, we have implemented several measures such as setting aside "seed money" for the next year. This helps us maintain a strong financial position in case of sponsor loss, fundraising challenges, or any other funding setbacks.

9.1 Sponsors

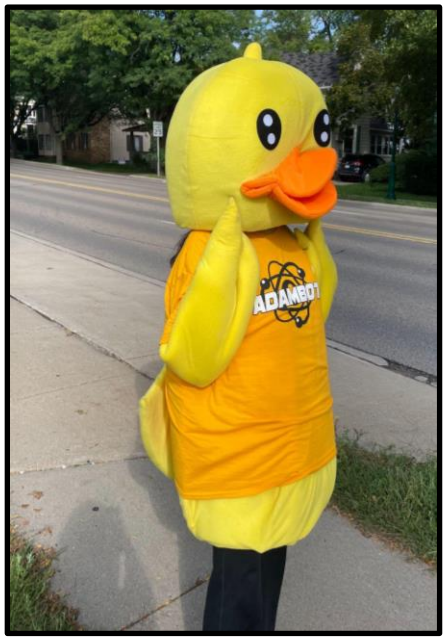
Sponsors are the primary method which we receive financial support and materials. Our goal is to obtain enough funding to cover the costs of the team. Currently, we have 15 sponsors and receive donations from several friends and family of team members. We also aim to gain a minimum of one new sponsor annually while retaining all sponsors from the previous year. This is accomplished through partner thank you notes and recognition along with our monthly electronic newsletter.

9.2 Member Contribution

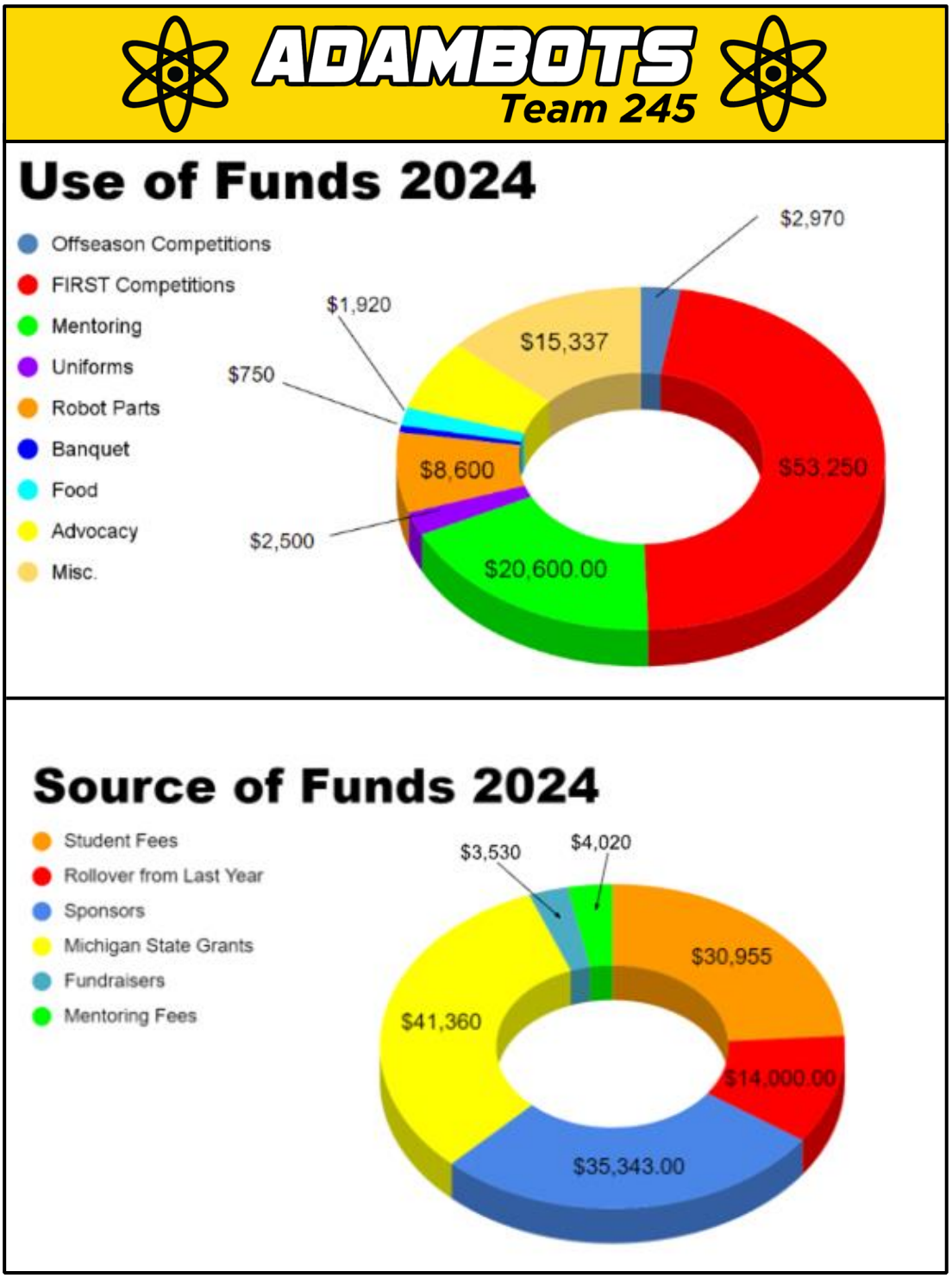
Students and mentors contribute financially with annual registration fees. Students participating in travel competitions also contribute an additional fee to cover necessary expenses. This includes transportation to districts, the state championship, and the world championship and off-season competitions.

9.3 Parking Lot Fundraiser

Each year in fall, during the Art and Apples Festival, the AdamBots hold a parking lot fundraiser at the Rochester Community Schools Administration Building. This festival is a well-known tradition within the Rochester Hills community and attracts thousands of people. In 2023, we raised $3,530 with a percentage of the funds raised going towards various charities. For this season, we supported the American Cancer Society through Relay for Life and last year we supported Nova Ukraine.



9.4 2024 Financial Graphic



9.5 Financial Contingency Plan

The AdamBots created a financial contingency plan to prioritize spending in case of budget cuts.

	Tentative	Budget Item
1	$6,000	Registration for two district events
	$5,000	Supplies for one competition robot
	$2,500	Standard team apparel
2	$4,000	State Championship registration
	$5,750	*FIRST* World Championship registration
	$35,000	*FIRST* World Championship travel
3	$2,000	Youth STEM programs
	$1,000	Registration for local offseason events
4	$3,000	Expansion of equipment (tools, cameras, etc.)
	$750	Banquet
5	$5,000	Additional team apparel
	$1,000	Pit marketing materials

10.0 Strategic Plan

10.1 Strategic Planning Process

The AdamBots Strategic Plan was created in 2014 and is annually reviewed and updated by students and mentors. This process begins with our mission to inspire growth and appreciation of STEM, business, and career skills. To accomplish this, we have divided it into five key team strategies. Then, we analyze our team using SWOT to create a list of actionable items. Following that, we review the list to structure conversations on our plans for the next few years.

10.2 Team Strategies

The AdamBots have a Strategic Plan that supports the team's mission statement and is used to make team improvements, manage risks, and enhance team sustainability. The Strategic Plan identifies five long-term team strategies with supporting action plans.

Grow a Model Team
Learn and Continuously Improve by Building a Successful Robot
Develop Strong Team Leadership
Develop Excellent Team Financing and Partner Relationships
Develop the *FIRST* Community

10.3 SWOT Analysis

The AdamBots completed a SWOT analysis for all five strategies to identify team strengths, weaknesses, opportunities, and threats. The composite SWOT analysis chart below demonstrates the four strategies.

Composite SWOT Analysis for all AdamBots Team Strategies	
Strengths	**Weaknesses**
1. Large, skilled, accessible body of long-term mentors 2. Large body of students organized in strong, sustainable structure 3. Students and mentors with knowledge and interest in wide variety of fields 4. Strong sponsor and financial partnerships 5. Succession planning from youth STEM programs and subteam structure 6. Development of real-world skills such as communication, collaboration, and career preparedness	1. Lack of succession planning for specific mentor roles 2. Most CAD skills not taught in school classes 3. Lack of participation among students
Opportunities	**Threats**
1. Focus on developing student skills 2. School involvement 3. Dedicated offseason group for developing new engineering prototypes, skills, and techniques 4. Learning from industry experience 5. Growing school administration support	1. Loss of mentors 2. Loss of financial support from sponsors 3. Loss of build space from school 4. Loss of robot transportation

10.4 Action Plans and Risk Mitigation

AdamBots Team Strategy: Grow a Model Team		
Action Plan	**Responsible**	**Estimated Completion**
Maintain past efforts to grow a model team	Student and Mentor Leaders	Continuous
Develop build space, including expansion, space utilization, and equipment	Lead Mentors	Continuous
Gain at least one new mentor every year	Financial Manager	Annually
Retain mentors for 3+ years	Lead Mentors	Continuous

Grow a Model Team

Every day we strive to be the best that we can be. This includes upholding *FIRST*'s mission, assisting our community, being respectful to all, creating a strategy to ensure student participation, and always looking for a way we can improve. With our student to mentor ratio of 3:1, our team emphasizes these aspects as both mentors and students collaborate in order to reach success.

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AdamBots Team Strategy: Learn and Continuously Improve by Building a Successful Robot		
Action Plan	**Responsible**	**Estimated Completion**
Maintain past efforts to learn and continuously improve	Sustainability subteam	Continuous
Invite experts to share knowledge with the team	Subteam student leaders and mentors	Continuous

Learn and Continuously Improve for Building a Successful Robot

We strive to educate students about STEM skills, leadership, project management, and collaboration. We aim for our students to take the lead in the process of building the best possible robot each year, while also expanding our teaching and engineering capabilities.

Action Plan	Responsible	Estimated Completion
Maintain past efforts to develop strong team leadership	Lead Mentors	Continuous
Maintain and monitor subteam depth charts	Team Manager	Annually
Continue new mentor training “Mentor to Mentor”	Experienced Mentors	Continuous

Develop Strong Team Leadership

We strive to develop mentors and student leaders who are capable of managing and advancing the collective progress of the team.

Relationships		
Action Plan	**Responsible**	**Estimated Completion**
Maintain past efforts to develop team financing and partner relationships	Sustainability and Communication subteams	Continuous
Gain at least one new sponsor every year	Financial Manager	Annually

Develop Team Financing and Sponsor Relationships

Having a well-defined financial plan is crucial in ensuring we accomplish our mission.

AdamBots Team Strategy: Develop the *FIRST* Community		
Action Plan	**Responsible**	**Estimated Completion**
Work with *FIRST* in Michigan to support multiple rookie FRC, FTC, FLL-C, and FLL-E teams each year	Team Manager	Annually in September
Share information on ways students can get involved in the global FRC community	Impact and Communications subteam	Annually in October

Develop the *FIRST* Community

We believe that by starting *FIRST* teams and assisting existing *FIRST* teams, we can expand our ability to foster growth and appreciation for STEM, business, and career skills in students.

11.0 Advocacy Plan

11.1 Student Association for STEM Advocacy (SASA)

The Student Association for STEM Advocacy (SASA) is a campaign that helps to develop student advocates to expand access to STEM opportunities to underprivileged individuals and underserved communities. SASA has helped to develop over 2,000 informed, developed, and confident student advocates, which include current AdamBots. The AdamBots have attended both the State and National Level SASA conferences for the past two years.

National Advocacy Conference (NAC)

The National Advocacy Conference, held in Washington D.C., provides students with the opportunity to discuss STEM advocacy with members of Congress. We spread awareness about STEM and support robotics programs on a national level. As a result, the AdamBots have improved skills such as public speaking, presenting, and leadership. Specifically, our members met with the offices of senators and representatives, including John James, Elissa Slotkin, Tim Walberg, Gary Peters, and Debbie Stabenow.

Michigan Advocacy Conference (MAC)

The Michigan Advocacy Conference is an annual, student-led conference that takes place in Lansing, MI. Students lead meetings and discuss STEM advocacy with state officials and advocacy experts. The AdamBots participated in MAC for the last two years, gaining knowledge on STEM legislation in the Michigan Government and its role in STEM education.

Promoted Bills

During these meetings with state representatives and officials, the AdamBots advocate for certain pieces of legislation's approval. These bills include:

- **2022 & 2023 NAC:** Every Student Succeeds Act Title IV-A
- **2022 NAC:** United States Innovation and Competition Act Section 2114
- **2023 NAC:** CHIPS & Science Act (Part regarding National Science Foundation)
- **2022 & 2023 MAC:** Section 99H of the Michigan State Budget

11.2 Rochester United Advocacy

Each week the AdamBots meet with our sister school robotics teams, which includes the FEDS and the Cyber Cats, to discuss outreach and STEM advocacy in our area. We plan meetings with local and school officials and have met with our mayor, Bryan Barnett. As a result of that meeting, the mayor proclaimed that the AdamBots were a role model within Rochester. Also, the mayor's office awarded us with $8,060 to support STEM educational programs. We are currently working on meetings with our school board officials to ensure the sustainability of our district's priority on STEM.

11.3 Other Advocacy

Diversity, Equity, and Inclusion (DEI)

At our district's Diversity, Equity, and Inclusion (DEI) meeting, we presented and discussed how we, as a team, demonstrate our district's DEI statement. We discussed the AdamBots core values and our commitment to making STEM more equitable. We also met with the RCS Director of Diversity, Equity, and Inclusion, Ann Prashar, and Musson Elementary Principal, Laura Bidlack, to discuss how we can engage younger audiences in STEM. We intend on attending future events to further promote STEM involvement and opportunities.