

ADAMBOTS

Team **245**

Rochester Hills, Michigan
Adams High School

2019 Business Plan

COMPREHENSIVE PLAN FOR CONTINUITY, SUSTAINABILITY, AND CONNECTION

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1.0 Executive Summary

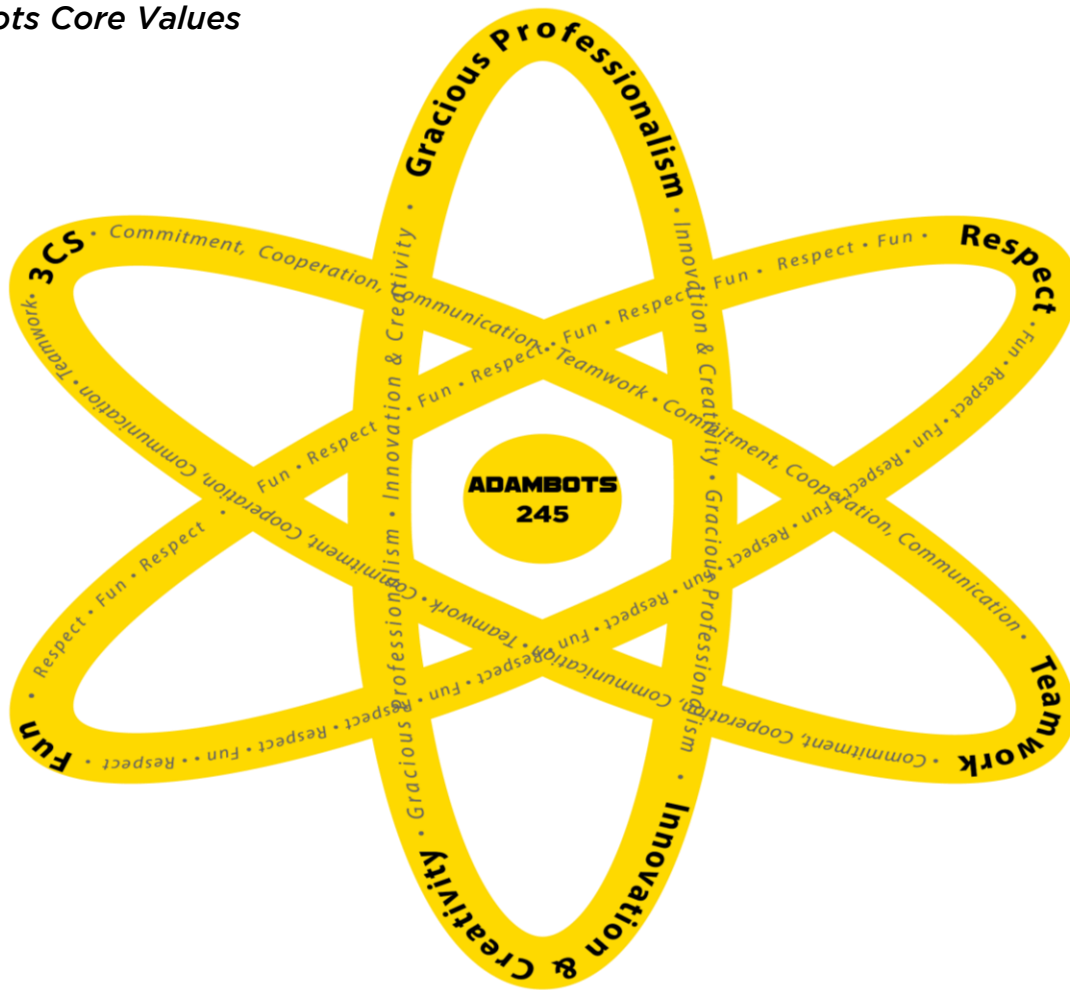
Team Mission Statement

“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.”



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 *Cooperation™* 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*.

AdamBots Core Values



See page 7 for detailed description of Core Values

Why a Business Plan?

Our Business 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.

Team Summary

Based at Rochester Adams High School in Rochester Hills, Michigan, the AdamBots began in 1999 with a small team of ten. We have grown steadily and today have 87 students and 36 mentors. We build our robots in the Adams CAD Room, Robotics Room, and adjacent closets. The AdamBots are heavily involved in the local and global STEM communities, including supporting *FIRST* at all levels. We have sixteen sponsors, including corporate, government and friends and family that together fund almost half of our team expenses. Our largest sponsor is General Motors. Each fall we raise over \$7,000 through our successful parking lot business. Community outreach is integral to our team culture, and the AdamBots provide over 2,500 hours of community service and outreach each year. Our team has been the top team fundraiser for the American Cancer Society’s Relay for Life for the last two years in our area, raising more than \$100,000 over the years. Our community service also resulted in our city mayor awarding us the Community First Award, for making “a notable effort to improve the quality of life for those around” us (rochesterhills.org).

Business Plan Roadmap	
1.0 Executive Summary	Summary of team mission, what is important to us and roadmap of our Business Plan document
2.0 Team Information	Gives team demographics, benefits to team members, sponsors, and school, and Core Values
3.0 Organizational Plan	Explains team structure, training, expectations of members, safety, location, and off-season events
4.0 Operational Plan	Details major <i>FIRST</i> season tasks and how we manage our work
5.0 Outreach and Mentoring Plan	Explains how we spread <i>FIRST</i> by mentoring teams and give back through community service
6.0 Marketing Plan	Explains how we use our brand to enhance partnerships with others
7.0 Financial Plan	Deetails how we manage our team finances for sustainability
8.0 Strategic Plan	A 1-5 year plan which defines our goals and actions to get there; also addresses risk management
9.0 Measuring Success	Outlines efforts to identify how the team succeeds and where the team can improve

2.0 Team Information

2.1 Basic Team Facts

Rookie Year	1999
Location	Rochester Adams High School, Rochester Hills, Michigan
School Affiliation	Rochester Adams High School
Team Demographics	<p>87 Students (up from 10 during Rookie year)</p> <ul style="list-style-type: none"> • 20 girls and 67 boys • 12 Seniors, 30 Juniors, 28 Sophomores, 17 Freshmen
Mentors	<p>34 Mentors (up from 3 during Rookie year).</p> <p>18 of our mentors have no children on the team</p> <p>We draw mentors from current and retired teachers, alumni, and past and present team parents.</p>
Sponsors and Partners	<p>General Motors, R&G Drummer, FCA Foundation, JTEKT Corporation, State of Michigan, Valeo, Emagine Entertainment, DTE Energy, Thyssenkrupp</p> <p>Rochester Community Schools, Four Star Wire and Cable, H.H. Barnum, IFM-efector, PIAB, Rochester Advanced Dentistry, Bloomfield Periodontics and Oral Surgery</p>
Website	AdamBots.com

2.2 Member Benefits – Students, Mentors, School and Sponsors

For Students:

- Learn how to plan and build a working robot
- Develop confidence, communication and leadership skills
- Have fun
- Be part of a community and work as a team
- Help others through community outreach
- Gain opportunities to earn scholarships and obtain internships
- Get a head start in studying a STEM related field such as engineering etc.
- Develop multi-tasking 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

For Mentors:

- Share knowledge and experience with students to help them accomplish their tasks, in both 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

For School:

- Support an outstanding student development program
- Support STEM and business interests in students
- Increase name recognition as a school that helps develop outstanding students
- Gain insight of professionals outside of academia to help set curriculum
- Help support students through scholarship opportunities

For Sponsors:

- An opportunity to market their company
- Reach out to the community in a positive way
- Develop future employees
- Help inspire students to enter STEM and business fields
- Provides opportunity to be good corporate citizens

2.3 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 do the right thing with integrity. We set positive examples for others to follow. We compete on an even playing field and help our allies and opponents to be their best. We are also be on our best behavior whenever we are participating on the team; at the school, at competitions, at robotic demonstrations, and at community outreach events. *“Gracious professionals learn and compete like crazy, but treat one another with respect and kindness in the process...In the long run; 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

3Cs: 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.

Respect

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

AdamBots
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Fun

We believe that 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.

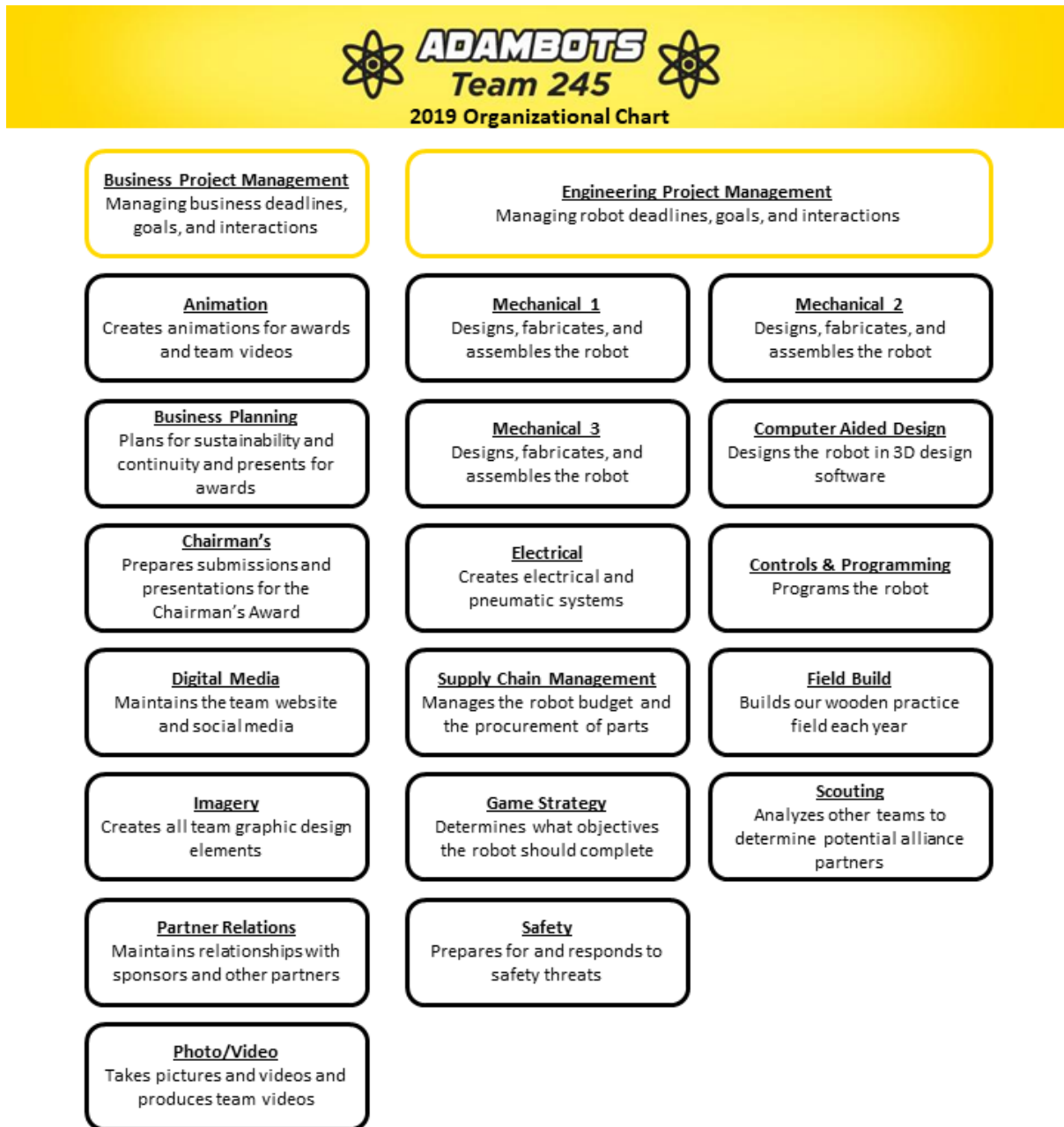
Innovation & Creativity

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.

3.0 Organizational Plan

3.1 Team Structure

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



3.2 Human Resources

Recruitment

At the beginning of each school year, we start our recruiting process by giving the time and place of our first meeting on posters we hang up around our school to promote the robotics team. Many students also join as a continuation of our feeder programs. At the first meeting, we give an overview of our team and what the robotics season entails. Students can then decide if they want to join. We also recruit mentors during our Team Startup Meeting held in the first week of December. This is a meeting that both students and parents attend in order to receive detailed information on travel, competitions, fees, and more. At the end of this meeting, we encourage any parents who might be interested in becoming a mentor to sign up. Later in the year, they will attend a training session before *FIRST* season begins.



Training

In the fall, veteran students and mentors hold weekly workshops to train students and introduce them to tools, safety and design concepts such as chassis, control, electronics and programming. Mentors also go through training to learn how to best engage students. In addition, we have a Buddy System that ensures new members feel like a part of the team right away and that they are always informed about upcoming events. This Buddy System pairs two seasoned members with two to three new members. It is the veteran members' job to keep in contact with their 'mentees', sending them weekly reminders and answering any questions.

Skills Approach to Subteams

To manage turnover of student knowledge, we refocused the purpose of our subteams this year. Rather than each subteam's goals being limited to their contribution to the overall team, each subteam is also defined by the specific real-world skills it teaches its students. Regular measurements ensure the team is aware of the threat of turnover in the case of only older students having high levels of experience. This "Skills Approach to Subteams" will boost awareness of threats and improve individual student motivation to participate. We hope to develop a highly skilled body of students by setting measurable learning as a top priority.

Core Values Boot Camp

The Core Values Boot Camp is an important team building and training event that is held annually in the fall and attended by all students and mentors. At the Boot Camp, students and mentors spend a day together team building and learning about team history, Core Values, culture, leadership, communication and teamwork. Not only is it a fun team bonding experience, but it is also an effective way to welcome our newest team members.

Attendance, Participation and Behavior Expectations

It is important that students are on time to all events, matches and meetings. If a student is unable to attend, they should inform a mentor or student leader of their absence in advance. It is also important that all students regularly attend their own subteam meetings so that they can not only stay current with the team's progress but also to partake in it. Grades are of utmost importance to our team. For a

student to remain on the team, he or she must have at least Cs in all classes because we do not want any member's participation in the robotics team to become the cause of failure in their school work. Students are also expected to participate in five community outreach activities throughout the year. Opportunities to sign up and participate are available regularly.

In addition, students are expected to exhibit Gracious Professionalism® at competitions not only for our team, but for other teams as well. We try our best to help other teams whenever any technical or operational issues occur on their side, regardless of the fact that we are all competitors. Students are also encouraged to focus on the competition and avoid playing on an electronic device or other forms of entertainment. Team members must always strive to work together peacefully and cooperatively, remembering to be gracious in winning and losing. Other member expectations can be found in the Student Contract (Appendix).

Safety

Safety of team members is critical. Students and mentors working with the robot at school or in the pit must wear safety glasses. Safety topics are covered in all of our fall training workshops, and the use of power tools is supervised by experienced mentors. Prior to competitions, the safety team coordinates practice safety drills with the whole team. More information can be found in our award-winning Safety Manual.

EDGE Teaching Method

Our team uses the EDGE teaching method, an effective four step teaching approach borrowed from Boy Scouts of America, to teach team members new skills and concepts. This approach is used consistently by mentors and students. The EDGE teaching method is similarly used to teach a wide variety of skills and concepts related to the AdamBots work, including any Engineering or Business sub-team task. For example, the method could also be used to show someone how to use a camera, update the website, or create items for the Business Plan.

- **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 him or her through it.
- **Enable** – The learner works on his or her own under the watchful eye of the trainer. The trainer's role in this step is to remove any obstacles to success, which enables the learner to succeed.

3.3 Organization of Operational Functions

FIRST Robotics Competition (FRC)

The *FIRST* Robotics Competition runs from January to April, with approximately 4,000 teams participating globally. Teams compete in districts and regionals to earn a spot at the *FIRST* Championship. FRC stresses STEM inspiration by building relationships between students and mentors.

The *FIRST* Robotics Competition is the main season for the AdamBots. All students and mentors participate in FRC and the organization is as it appears in the chart. By participating in FRC, we inspire and educate our students in preparation for high-level competition.

Oakland County Competitive Robotics Association (OCCRA)

The Oakland County Competitive Robotics Association runs from October to November, with approximately 25 teams participating across the county. All teams participate in four ranking tournaments followed by the County Championship. OCCRA stresses growth of STEM and leadership skills by restricting mentor involvement to concept and safety and by disallowing the use of heavy machinery.

Our OCCRA team is made up of 10-30 veteran students who have the skill set to build a robot without mentor assistance. Relatively few mentors participate in our OCCRA team, but we maintain the roles of Coach and OCCRA Team Manager. By participating in OCCRA, our leaders develop their skills and have a lot of fun.

FIRST Offseason

Following the *FIRST* Championship, teams can sign up for additional independent events. The AdamBots compete in 2-4 offseason events each year. By participating in offseason events, we can train future drive team members. Our potential offseason events include:

- **Michigan Advanced Robotics Competition (MARC)** – June event in Monroe where our students can practice and have fun
- **Indiana Robotics Invitational (IRI)** – July event in Indianapolis and one of the most competitive robotics events in the world. We've proudly been invited each year we've applied but one
- **Kettering Kickoff** – September event in Flint where our students can practice and have fun
- **Bloomfield Girls Robotics Competition (BGRC)** – November event in Bloomfield Hills. This all-girls event allows our female students to get additional opportunities to drive and fix the robot

4.0 Operational Plan

4.1 Tasks

During the *FIRST* season, we are tasked to complete a new robot each year within a six-week time frame. Our team also completes many other important tasks. Below are the tasks we work to achieve each year as a *FIRST* team.

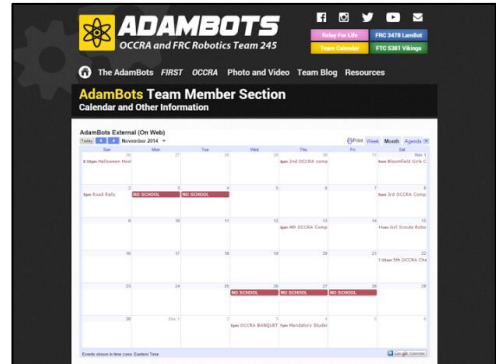


4.2 Scheduling

Each Tuesday after school, we conduct meetings that are attended by all student team members. We also meet at the beginning of the *FIRST* season, on the day after the game is announced, to conduct an initial strategy development session and begin the robot design process. Each Saturday, engineering subteam leaders meet to discuss deadlines and projects that involve multiple sub-teams. Each of our subteams meet at staggered times throughout the work week to ensure that there are not too many people in the robot build area. Subteams decide what schedule works best for both the students and mentors.

4.3 Communication

Communication within the team is accomplished with team meetings, sub-team meetings, email blasts, group chats, leader-to-member communication and the website. Students receive important team notifications via Remind, especially during travel. While traveling, we meet nightly to discuss plans for the next day. Our Team Manager sends emails to all team members and/or parents regarding events that involve the whole team. Student and mentor subteam leaders send emails to communicate with subteam members. On our website, www.AdamBots.com, the Project Management Teams maintains a calendar for use within our team.



4.4 Project Management

Good project management is vital to our continued success during the *FIRST* build season. Our team utilizes two Project Management Teams that consist of our engineering or business subteam leaders to help keep our team on task and on schedule. The Project Management Teams conducts weekly meetings with sub-team leaders to review progress, manage resources and resolve problems and a status review for the entire team every Saturday afternoon. The Project Management Team also makes use of a board (pictured right) to review the project schedule.



Engineering sub-team student leaders and mentors participate in a design review meeting every Thursday evening that is led by the Project Management Team. During these meetings, each Engineering sub-team presents their design using CAD drawings. This review identifies design issues, coordinates interfaces between sub-teams and makes the robot build status visible to all involved. Issues are recorded on an action item list for follow-up after the meeting. The design process is debriefed to the whole team each Saturday. Our design process is documented in our Engineering Notebook.

5.0 Outreach and Mentoring Plan

5.1 Community Outreach

The AdamBots choose to many 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. We provide over 2,500 hours of total community outreach 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 summer. Luminaries are placed around a track in honor and memory 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 the past five years, and we have raised more than \$100,000 since we began participating in 2005.



Hunger Walk

The Hunger Walk is a local charity walk created by the AdamBots to support the Rochester Area Neighborhood House and benefit those in our community who are in need. This year, we raised over \$1,000, for nearly \$2,500 raised in the four years we've run the event. This event takes place in the fall, and participants include members of the AdamBots, Cyber Cats, and FEDS teams, children from elementary and middle school teams we mentor, as well as friends and family.

Rochester Hometown Christmas Parade

The AdamBots, along with other local *FIRST* teams, march in the Christmas Parade each December. It is a way to advertise our team along with the *FIRST* community, in the hopes of encouraging more people to join or recognize *FIRST*. Over the years, we've built floats and demonstrated our robots and police robots. A few students from each team walk next to these, carrying signs and posters for *FIRST*.



Halloween Hoot

The Halloween Hoot takes place at the Dinosaur Hill Nature Preserve in the Rochester community every year in October. It is completely run by the community. Children carve pumpkins, teens act out Halloween skits, and members of the Rochester Hills Women's Club provide cider and doughnuts. Since 2002, the AdamBots have cleaned up after the last night of the Halloween Hoot. We take down the decorations and pick up after everyone is gone from the trails.

Other/Past Service Projects

This year, we collected and donated socks. Each winter, the AdamBots donate toys to the Rainbow Connection and/or to Toys for Tots. We've also baked cookies and delivered them to the fire department and senior living centers in our community. For many years, we cleaned up after the Make a Wish duck races, which provided the inspiration behind our mascot, Goldeneye the Duck.

5.2 *FIRST* Support

Rookie Team Mentorship

In 2010, General Motors, one of our partners, asked for experienced *FIRST* teams to help rookie teams in Mexico. The AdamBots gladly chose to assist Team 3478, LamBot, from San Luis Potosi, Mexico. Several LamBot mentors flew to Michigan and met with the AdamBots to discuss team structure and organization and the *FIRST* season. We attended regionals in Texas for two years to get to work more with them. The LamBots won the Rookie All-Star Award at the 2011 *FIRST* Championship. Since then, they've won the Regional Chairman's Award twice and Engineering Inspiration Award at the *FIRST* Championship twice.



General Motors asked us to mentor a local Detroit team, 3096 East English Village. They were a rookie team and faced significant challenges in getting needed support from their school. We continue to mentor them and aid them in gaining additional support. In helping this team, we share our designs, offer feedback and use many of the same methods used when first helping the LamBots.

In 2014, the AdamBots successfully started Team 5436, the Cyber Cats! Students from the local Stoney Creek High School previously came to our team, but we helped them to form their own at their school. After a successful rookie season, the Cyber Cats have expanded their team and acquired a workspace of their own. They've won numerous awards and qualified for the *FIRST* Championship the past two years.

***FIRST* Season Video Calls**

Each Saturday during the *FIRST* season, we host a video call with several other teams. Beginning with the LamBots alone, the call now includes seven teams across Michigan and Mexico (201, 2224, 3096, 3478, 5234, 5436, and 6121). Together we discuss strategy, robot design, team organization, outreach, business planning, Chairman's award work and any other topics requiring focus. Each year, we make plans to attend competitions with each of these teams when possible.

Student FRC Support

Our students often find their own ways to support other FRC teams. This year, we're mentoring or assisting all three Japanese FRC teams. Additionally, one of our students serves as a mentor for FullCircle Rookie Resources, supporting nine rookie teams around the world. Another student worked at an FRC camp at Kettering University this summer.

***FIRST* Tech Challenge (FTC) League Meet**

In 2019, the AdamBots hosted and ran Michigan's first-ever FTC League Meet! We cooperated with FRC Teams 201 and 5436 to set up before and clean up after the event as part of Rochester United Robotics. Our team also provided volunteers for queuing and other event functions. By running this event, we hope to develop the infrastructure of *FIRST* in Michigan to support the growth of FTC.



Middle School Robotics Programs

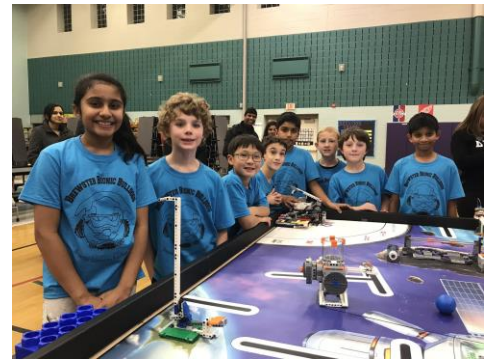
In 2011, the AdamBots started and mentored an FTC team at a neighboring school, Van Hoosen Middle School. Our team mentored both the engineering and business areas of the rookie team. Since then, the program has expanded to include nearly a hundred students across nine VEX teams, which we continue to mentor.

Last year, we started a VEX IQ-based program at West Middle School. This six-week program, the Rochester Community Robotics Competition, uses engineering lessons to expose beginners to robotics. We plan on expanding to all four RCS middle schools this year, and eventually develop FTC teams at each school as well.

FIRST Lego League (FLL) and FIRST Lego League Jr. (FLL Jr.) Mentoring

The AdamBots have supported FLL teams through nearly our entire history. This year, we started two FLL teams, bringing our total up to four teams mentored. We also started and continue to mentor 11 FLL Jr. teams this year. The AdamBots fully fund the 13 *FIRST* teams at Delta Kelly Elementary School. We meet with each team at least once per week, guiding students to appreciate STEM fields of education and the values of *FIRST*.

This year, Rochester United Robotics hosted a practice event for all our FLL and FLL Jr. teams. The AdamBots also volunteered at Team 5436's FLL Jr. Expo.



FIRST Community Support

At each local *FIRST* competition, we provide two to six volunteers to assist, including both mentor and student volunteers. We support not only *FIRST* season events, but also off-season events such as IRI, MARC and Kettering Kick-off. Volunteers help set up the competition field, administrate the pit area, queue teams, distribute safety glasses, and even coordinate other volunteers. Our volunteering is one way our team gives back to support the success of the *FIRST* community.

5.3 STEM Inspiration

Robot Demonstrations

We display our robots at different events, including elementary school assemblies, science fairs, partner locations, Girl and Boy Scout functions and library demos. For example, this year, students demonstrated the robot at Delta Kelly Elementary School. 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 partnerships.

Ambassador Program

Whenever an AdamBots student goes abroad, they have the option of presenting to students in that country about opportunities in STEM education. These can vary from conversations on a street corner to brochures at a library to EV3 robot demonstrations at a hotel. New in 2017, AdamBots Ambassadors have been to England, Haiti, Mexico, Australia, and Japan. This year, we're partnering with the STEM Connection to add STEM-themed coloring books to our trips.

After-School STEM Classes

We run after-school classes through the BASES program at five elementary schools in our district. These allow us to expose more students to STEM early on and provide an outlet for existing enthusiasm.



Coding Club

This year, the AdamBots started the Coding Club at Adams High School. Our programming subteam members help introduce more students to programming. The Coding Club will also create an 8-bit arcade game each year to match the theme of the FRC game, which we will then feature in our pit display.

Girls STEM Event

This year, we partnered with the Young Feminists' Council, a branch of the National Organization for Women, to run a Girls STEM Event at the Rochester Hills Public Library. Students from our team and teams 4384 and 5436 introduced middle school girls to aerospace engineering, electrical engineering, computer science, biology, and chemistry concepts.



School Board – Career and Technical Education (CTE) Advisory Committee

We have several mentors on the school board's CTE Advisory Committee, including the CTE Advisory Instructor, three design and technology committee members and two business committee members. The group meets a few times each year to analyze new technologies and labor trends to apply to the curriculum. The committee may recommend new instructional materials, safety policies and procedures, as well as promote and assist in maintaining quality STEM programs in our schools.

School – Parent Teacher Student Association (PTSA) STEAM Committee

We have four students and one parent on the school PTSA STEAM Committee. With a mission of expanding student participation in STEAM (science, technology, engineering, arts, and mathematics) fields, they connect students to professionals through monthly workshops and an annual STEAM fair. The committee also facilitates cooperation between school clubs to strive together towards this common goal.



6.0 Marketing Plan

6.1 Target Audience

Rochester Adams High School Administration

We market ourselves to the administration and faculty to ensure their strong, continued support through formal meetings, casual conversations, and team demonstrations. We formally invite the principal and faculty to attend events hosted at home. We also extend invitations to administration and faculty to attend all of our local competitions. Through our involvement in the school board's Career and Technical Education (CTE) Advisory Committee, we market the value of our team's activity. In addition to CTE, one AdamBots parent is a member of the school board. We've set a goal for 2019 to gain at least one Adams teacher as a mentor to aid in prolonged school support.



Partners (Sponsors)

Sponsors provide the largest financial support, as well as many of our mentors and miscellaneous donations to the team. We target current and potential partners through marketing and direct communication to ensure their continued support and to gain new partners. Specific students and/or mentors are assigned to keep partners up to date, and we have visited partners to thank them for their assistance.

Potential Team Members (Students and Mentors)

We market to and strive to recruit team members, both students and mentors, because our people are the most important component of our team. We use in-school and online marketing to get the word of our team out to students and to invite them to apply to join the team at the beginning of the year. We demonstrate our robots at school whenever possible, including at a pep assembly this year. One way we showcase our team in the school is by wearing our spirit wear in class before competitions. We also encourage teachers and parents to mentor the team. The best way we can reach potential team members is through our various outreach and mentoring programs. There, we can encourage interest in STEM, *FIRST*, and the AdamBots.

Rochester United Robotics

The AdamBots also have partnered up with two other robotics teams to make a bigger positive impact on our community. Along with the FEDS, Team 201, and the Cyber Cats, Team 5436, we have done a variety of community outreach including the annual Christmas parade and the Hunger Walk. To maintain relations, periodic meetings with lead mentors from each team are held to discuss activities.

6.2 Marketing Mediums

Robot Demonstrations / Speaking Events

We regularly participate in a wide variety of events, where we demonstrate our robot and speak to attendees about *FIRST* and the AdamBots. Events have included elementary school science fairs and assemblies, Boy Scout and Girl Scout meetings, high school pep assemblies, demonstrations at

freshman parent orientation, meetings with high school principals, presentations to the RCS School Board and demonstrations at the Rochester Hills Public Library. Our Ambassador Program allows us to market *FIRST* and other STEM education opportunities to our global community.

Meet the AdamBots

Every year our team hosts an open house called “Meet the AdamBots.” This event has been a successful means for our team to inform and build relationships with partners, school administration, politicians, community leaders, parents and family members by introducing them to our team, our projects, facilities and how we operate. The goals of Meet the AdamBots are to reach out to all our partners, spark interest to gain new partners and spread the message of *FIRST*. A presentation explaining our team, our history and the objective of the current year’s game is given. Also, those attending are broken up into small groups and led by student guides on a tour where they see our build room and meet students from our sub-teams who explain and present their sub-team’s function and projects. The tour also includes a demonstration of our robot for the current and past seasons.

Imagery: Posters, Robot Graphics, T-Shirts, Flyers, Giveaways, etc.

Team imagery is an integral part of our marketing, allowing us to become more recognizable and memorable within the *FIRST* community. We strive to be cohesive in every aspect, from team shirts, documentation and presentation materials, to the website and social media channels, as well as our competition pit displays and the robot’s graphics. We also create celebratory and trading t-shirt, and give out marketing items at competitions, such as our renowned ducks and team buttons.



Newsletter

Every month we distribute an electronic newsletter to all our partners including sponsors, school administration, teachers, politicians, community leaders, parents, students and mentors. It is generally sent out within the first week of the month. Subscribers sign up to receive the newsletter on the team website, and an online service called MailChimp is used to email it to subscribers. This newsletter enables our partners to keep up to date with team activities and future plans. It includes information about competitions, outreach, team recognition and awards, a team wish list identifying material and support needs and recognizes our sponsors.

Online Presence

We operate various social media accounts on Facebook (700 likes), Instagram (1,000 followers), Twitter (1,600 followers), and YouTube (100 subscribers). Using these tools, sponsor, competition and community outreach information, as well as team news, is communicated to families, classmates, friends, and members of the community. Our online presence helps build interest in *FIRST* and enables us to communicate with other teams across the globe.

***FIRST* Support**

We get our name out to the global *FIRST* community by supporting teams. This includes mentoring and collaborating with teams through video calls, giving support to the Japanese teams, serving as mentors to rookie teams through FullCircle Rookie Resources, and publishing resources.

7.0 Financial Plan

We focus on long-term financial sustainability to ensure success. Financial support comes from three different sources: partners (sponsors), team member fees and contributions and our Art & Apples Festival parking lot business. We have contingencies in place, such as leaving “seed” money for the following year, so that we will still be in a viable financial condition in the event that we lose a sponsor, fundraiser or have some other event that results in a loss of funding.

7.1 Partners

Partners are the primary method in which we receive financial support. Our goal is to obtain enough funding to cover the costs of both *FIRST* registration fees and robot parts. Currently, we have thirteen partners and receive donations from several friends and family of team members. We also strive to obtain at least one new partner each year and keep all partners from the previous year. This is accomplished through partner thank yous and recognition, our monthly electronic newsletter and our annual “Meet the AdamBots” open house.

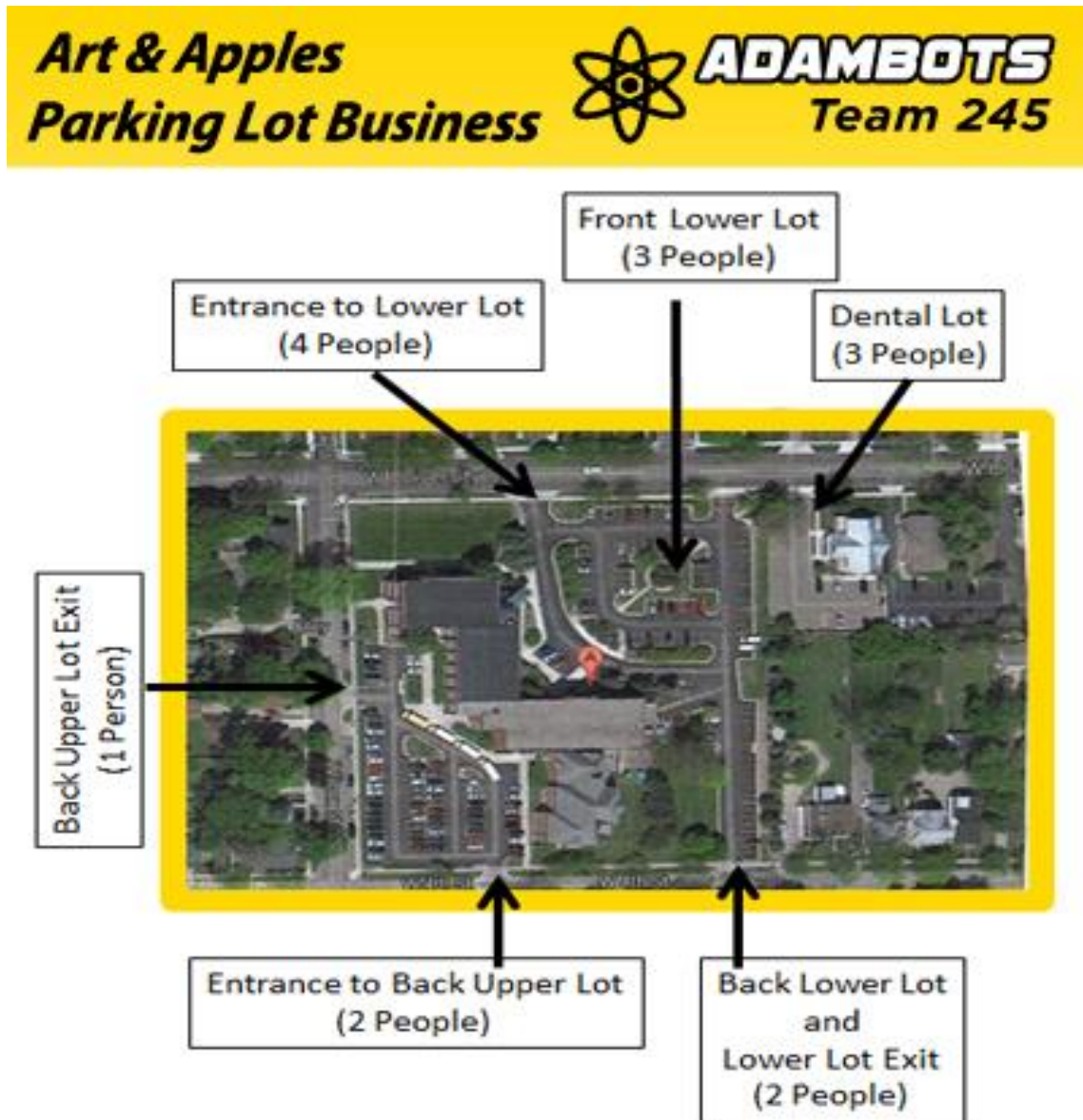


7.2 Member Contribution

Students and mentors also contribute financially. Students pay annual registration fees which help pay for transportation to competitions. This includes bus transportation to Michigan district and state championship, out-of-state regional, *FIRST* Championship and off-season competitions. When we travel out of the area for events, students and mentors pay half of the cost of travel and lodging.

7.3 Parking Lot Business

Each September, AdamBots students, parents, and mentors operate a profitable parking lot business during a three-day arts festival, Art & Apples Festival, which is held in the local Rochester Park. This festival is a well-known tradition within the community and attracts thousands of people from a wide area. All funds raised go towards team expenses.



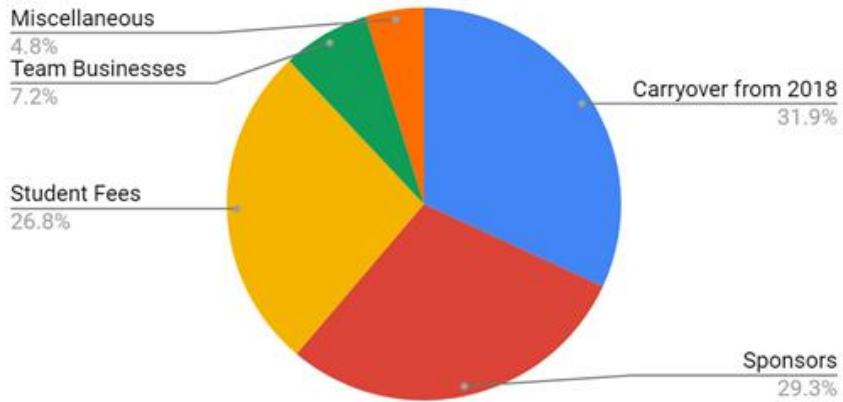
7.4 2019 Financial Graphic



2019 Budget

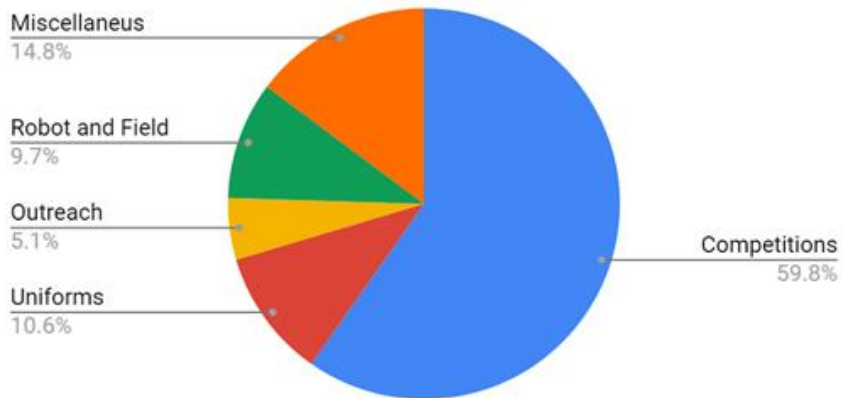
Sources of Funds

Total: \$94,320



Uses of Funds

Total: \$65,813.74



8.0 Strategic Plan

8.1 Strategic Planning Process

The AdamBots Strategic Plan was created in 2014. Students and mentors work together to review and update it two times per year (spring post-season and fall pre-season). The process begins with our mission to inspire growth and appreciation of STEM, business, and career skills. To accomplish it, we've broken it into five key team strategies. Then, we analyze our team internally (strengths and weaknesses) and externally (opportunities and threats) to create a list of actionable items. We then review the list in the context of each key team strategy to structure conversations on our plans for the next few years.

8.2 Team Strategies

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

AdamBots Team Strategies
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 <i>FIRST</i> Community

8.3 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 combines the SWOT analysis for all five strategies.

Composite SWOT Analysis for all AdamBots Team Strategies	
Strengths	Weaknesses
<ol style="list-style-type: none"> 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. 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 skills 	<ol style="list-style-type: none"> 1. Lack of succession planning for specific mentor roles 2. Non-<i>FIRST</i> youth STEM program involvement 3. No teacher mentors
Opportunities	Threats
<ol style="list-style-type: none"> 1. Fall CAD and programming training programs 2. Focus on developing student skills 3. School involvement 4. Dedicated offseason group for developing new engineering prototypes, skills, and techniques 5. Learning from industry experience 6. Growing school administration support 	<ol style="list-style-type: none"> 1. Loss of mentors in key roles 2. Loss of financial support 3. Loss of build space 4. Loss of school district support 5. Loss of robot transportation

8.4 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	Business Planning Subteam	Continuous
Develop build space, including expansion, space utilization, and equipment	Lead mentors	December 2020
Recruit an Adams High School teacher to the team	Partner Relations Subteam	September 2019
Create and maintain succession plans for lead mentors	Team manager and lead business mentor	September 2020

Grow a Model Team

We want to continually develop ourselves to be the kind of team that we believe all teams should strive to be. This includes upholding *FIRST*'s mission, solving our community's problems, being respectful to all people, maintaining strong student involvement, and continuously improving and sustaining.



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	Business Planning Subteam	Continuous
Create a committee to explore new technologies, methods, and designs throughout the off-season	Lead engineering mentors	May 2019
Invite experts to share knowledge with the team	Subteam student leaders and mentors	Continuous
Select subteams before October and create training programs for November and December, especially for CAD, programming, and machining	Lead mentors and lead engineering mentors	October 2019
Hold a meeting to evaluate the cost and benefit of participating in the Oakland County Competitive Robotics Association	Lead mentors	September 2019

Learn and Continuously Improve By Building a Successful Robot

We strive to teach students STEM skills, leadership, project management, and collaboration. We strive for our students to lead our process for building the best robot we can each year and by expanding our teaching and engineering capabilities.



AdamBots Team Strategy: Develop Strong Team Leadership		
Action Plan	Responsible	Estimated Completion
Maintain past efforts to develop strong team leadership	Business Planning Subteam	Continuous
Select student leaders in early fall	Leadership interview committee	October 2019
Continue new mentor training	Experienced mentors	December 2019
Develop student leadership training	Experienced mentors and students	December 2019
RISK MITIGATION: Document job function of AdamBots key mentor leaders with details necessary to carry out responsibilities: <ul style="list-style-type: none"> • Team Manager • Financial Manager • Teacher(s) • Purchasing Manager • Team Leadership Mentors 	Key mentor leaders	April 2019
RISK MITIGATION: Document job function of AdamBots student leaders	Student leaders	April 2019
RISK MITIGATION: Maintain and monitor subteam depth charts	Business Planning Subteam	Annually by June 17th

Develop Strong Team Leadership

We strive to develop mentors and student leaders who can manage teams and bring the team as a whole forward.

AdamBots Team Strategy: Develop Excellent Team Financing and Sponsor Relationships

Action Plan	Responsible	Estimated Completion
Maintain past efforts to develop team financing and partner relationships	Business Planning Subteam	Continuous
Create a financial contingency plan in case of loss of major sponsors	Business Planning Subteam	April 2019
RISK MITIGATION: Gain at least one new sponsor every year	Financial Manager	Annually by end of year

Develop Excellent Team Financing and Sponsor Relationships

A solid financial plan ensures we can support achieving our mission.



AdamBots Team Strategy: Develop the FIRST Community

Action Plan	Responsible	Estimated Completion
Start a <i>FIRST</i> team at every K-12 school within Rochester Community Schools	Rochester United Robotics leadership	September 2021
Work with <i>FIRST</i> in Michigan to support a rookie FRC team each year	Team Manager	Annually in September
Share information on ways students can get involved in the global FRC community	Chairman's Subteam	Annually in October

Develop the *FIRST* Community

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



9.0 Measuring Success

9.1 Key Performance Indicators

The AdamBots are implementing a plan for key performance indicators (KPIs) this year. The purpose is to measure changes in overall team success by examining several important factors. We determined our KPIs by examining our core values and mission statement. Measurements are taken through surveys, collected team statistics and competition performance. Our KPIs are:

Indicator	Measurement Method
Competition Performance	Elo rating
Student STEM Interest	Participation in STEM clubs at Adams High School
Alumni STEM Interest	Percent of graduates that move on to STEM fields
Student skills	Annual survey
Team Environment / Core Values	Annual survey

9.2 Implementation

Twice a year, the team meets to review the Strategic Plan. Data from our KPIs helps to facilitate discussion and back up modifications with evidence. The Business Planning Subteam and mentors meet to analyze the data before these meetings. Data can be found in our Appendix.