

**ADAMBOTS**

**Team 245**



**Rochester Adams and Stoney Creek High Schools  
FIRST Robotics Team  
Rochester Hills, Michigan**

# **Business Plan 2013**

**PLAN FOR LONG-TERM CONTINUITY, SUSTAINABILITY AND IMPACT**



**AdamBots.com**

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# 1.0 Executive Summary

## Mission Statement

*“To provide an inspiring learning environment that fosters growth and appreciation of science, technology, engineering, mathematics, and business knowledge, and to teach students skills vital to success in the real world through a strong relationship between students, mentors, and sponsors.”*



## Team Summary

- Team 245, the AdamBots, started in 1999 as a rookie team from Rochester Adams High School, in Rochester Hills, Michigan. The team began with a small group of ten students under the mentorship of Mr. Alan Gibson, a physics teacher at Adams High School and Mr. Gasper Cairo and Mr. Paul Slaby, mentors from Siemens VDO. Between 1999 and 2003, some mentors moved and retired, resulting in several changes in leadership. Mr. Warren Hildebrandt joined as the lead teacher mentor in 2003, and has since been with the team.
- Today, we have grown to a record 64 students and 30 mentors. The 64 students come from two local high schools, Rochester Adams and Stoney Creek. Stoney Creek High School students first joined the team in 2009. Our 30 mentors include parents of current students, adults who no longer have children on the team, and a retired teacher who is our coach.
- The AdamBots compete in two competitions, *FIRST* and *OCCRA*. *FIRST* (For Inspiration and Recognition of Science and Technology) is a larger, international competition that occurs between January and April. *OCCRA* (Oakland County Competitive Robotics Association) is a smaller, local, fall competition between 25 high schools in Oakland County, Michigan. We participate in *OCCRA* in order to prepare students for *FIRST*.
- Our team structure allows for both efficiency and learning. The team is student-led with mentors assisting. Both engineering and business sub-teams are set up to complete assignments and students on each sub-team are led by a student team leader(s) and adult mentor(s). Developing and applying both STEM and business skills is important to us.
- Team impact—how our team affects students, mentors, other teams, community, sponsors, and *FIRST*—is important to Team 245. We mentor an *FRC* team from Mexico and two new *FTC* teams, and the team is very active in variety of community outreach projects such as Relay for Life, Buddy Walk, CROP Walk, and more. Additionally, we promote *FIRST* and our team in the community through parades, robot demonstrations, and other presentations.
- The AdamBots work with sponsors to maintain strong financial support and also contribute to the budget through a parking lot business, fundraising, and team member contributions. We manage expenses so that we always have some funds to carry over to the next year.

## Sponsors

This year the AdamBots have seven sponsors, and it is through their generous support that the team can participate in so many activities:

- **General Motors Global Product Development**  
General Motors pays for all Michigan competition fees, and potentially for the Michigan State

Championship and *FIRST* Championship fees. In addition, several General Motors employees donate their time to the team as mentors, and General Motors provides a vehicle for robot transportation to out-of-state competitions.

- **Chrysler Foundation**

The Chrysler Foundation has supported our team since 2012. One of our mentors is also an employee at Chrysler.

- **R&G Drummer**

For many years, the Drummers have been instrumental in managing our team. In addition to supporting us generously with their time, they also make a financial contribution to the team. Mrs. Grace Drummer manages our team and Mr. Rick Drummer assists her and is a mentor for our business sub-teams.

- **Plex Systems, Inc.**

Plex Systems, Inc. has supported the AdamBots since 2009. They also invited the marketing and website sub-teams to visit their Auburn Hills, Michigan facilities to learn more about possible marketing strategies.

- **Magna Powertrain AG**

Magna Powertrain is a new sponsor for the 2013 *FIRST* season. One of our mentors works at Magna Powertrain AG.

- **Science Applications International Corporation (SAIC)**

SAIC selected the AdamBots to receive a grant in 2010 as part of their substantial partnership with *FIRST* and have continued to donate each year. SAIC helped fund our team's entrance fees for the 2011 and 2012 Alamo and 2013 Palmetto Regionals.

- **Wally Edgar Chevrolet**

Wally Edgar Chevrolet is a local Chevrolet dealer that has supported the team since 2011.

## Growth and Future Projections

- Since our 1999 rookie season, the number of students has grown from 10 to 64 and the number of mentors has grown from 3 to 30. The AdamBots continue to recruit students and mentors alike as a means of spreading the message of *FIRST* and improving our team. In the future, we plan to expand into two teams, one at each of the two high schools from which students join our team.
- The AdamBots have mentored *FRC* Team LamBot 3478 from Mexico and local *FTC* Team Viko-Psychos 5381 since their rookie years in 2011. This year we are also mentoring the new local *FTC* Team Thunder Blades 6348. We plan to continue mentoring these teams in the future, assist other teams, and help start new *FLL*, *FTC*, and *FRC* teams in our area.
- The team is also working to improve our skills in the design and build process, including using more advanced technology. We plan to continue experimenting and refining both our technology and business skills during the off-season so we are prepared to design and build outstanding competition robots in the future and can better help other teams.
- We are always working to become even more financially sustainable. We will continue to have strong partnerships with current sponsors. In the past three years, the team has gained one new sponsor each year, a trend we plan to continue. Additionally, we will continue to operate our Arts and Apples parking lot business.
- Community outreach has and will continue to be vital to our team identity and how we practice Gracious Professionalism™. In 2012, the AdamBots raised over \$10,000 for Relay for Life. We will continue to give back to the community through this and other projects.
- Due to the AdamBots' strength in partnerships, ingenuity, and dedication, we are poised for long-term sustainability, continuity, and impact.

## 2.0 Background Information

### 2.1 Basic Team Facts

<b>Rookie Year</b>	1999
<b>Location</b>	Rochester Hills, Michigan
<b>School Affiliations</b>	Rochester Adams and Stoney Creek High Schools
<b>Team Demographics</b>	64 students <ul style="list-style-type: none"> <li>• 14 girls</li> <li>• 50 boys</li> </ul>
<b>Mentors</b>	30 mentors <ul style="list-style-type: none"> <li>• 3 teachers</li> <li>• 16 engineering mentors</li> <li>• 8 business mentors (NEMO's)</li> <li>• 3 technical mentors</li> </ul>
<b>Sponsors</b>	General Motors Global Product Operations, Chrysler Foundation, R&G Drummer, Plex Systems, Inc., Magna Powertrain AG, Science Applications International Corporation (SAIC), Wally Edgar Chevrolet

### 2.2 Team Values, Mission, and Goals

#### Team Values

Gracious Professionalism™ and Coopertition™ are values that the AdamBots uphold in their everyday life, helping create a world in which respect and encouragement are evident everywhere.

#### Gracious Professionalism™

Gracious Professionalism™ is the manner in which the AdamBots approach their work. It involves treating everyone with the utmost respect. Genuine encouragement is preferred over “trash talking.” Through Gracious Professionalism™, the AdamBots work to improve themselves while encouraging the growth of others, a way in which every member of the community is valued and supported.

#### Coopertition™

Coopertition™ describes the way in which the AdamBots approach competitions. It is a manner in which a respectful, fierce competition is nurtured. Coopertition™ is a combination of the words “cooperation” and “competition.” It involves helping others, whether they are teammates or members of a rival team, and encouraging them to perform to the best of their abilities. By doing so, one ensures that the competition the team faces will consist of the teams at their best. Coopertition™ nurtures the growth and development of everyone through mutual encouragement.

## Methods for Continued Success

- Exhibit Gracious Professionalism™
- Have fun
- Diversity in members
- Mentored learning
- Hands-on learning
- Student leadership
- Project management
- Fundraising
- Community outreach
- Marketing
- Sustainable business planning

## Mission

The AdamBots' mission is to teach students skills vital to success in the real world. The team seeks to teach students the importance of cooperation, innovation, communication, and leadership. By offering an environment in which these skills are used, the AdamBots prepare students for success.

A method to accomplish this mission is to foster a strong relationship between student, mentors, and sponsors. This relationship is an important link for valuable knowledge and experience from mentors and sponsors to be transferred to future scientists, a means by which mentors and sponsors can nurture the next generation and apply their skills in areas outside their job.

Another vital method to accomplish the mission is to nurture a family-like relationship between members. The AdamBots are not only a group of people who work together and share a passion for STEM, but also a community whose members encourage each other to succeed in all aspects of life whether they pertain to robotics or not.

## Goals

### Short Term

- Follow our project management calendar
- Finish building the robot on time
- Perform well at competitions

### Long Term

- Maintain a sustainable team
- Increase our team impact within our team, locally, nationally, and internationally

## 2.3 Member Benefits – Students, Mentors, School and Sponsors

### For Students:

- Learn how to plan and build a working robot through programming and construction
- Start or build upon business, communication, and leadership skills such as business planning, marketing, scouting, project management, presentation, and website design
- Have fun
- Be part of a community and work as a team through collaboration and teamwork
- Help others through community outreach programs and volunteer opportunities
- Gain opportunities to earn scholarships for colleges and other institutions
- Get a head start in studying a STEM related field such as engineering, etc.
- Improve 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 through collaboration and teamwork
- Help others through community outreach programs and volunteer opportunities
- Help give the students a “real life” learning experience they cannot get in the regular classroom by sharing problem solving techniques

### For School:

- Support an outstanding student development program
- Support STEM and business interests in their students
- Increase name recognition as a school that helps develop outstanding students
- Help support students through scholarship opportunities

### For Sponsors:

- An opportunity for their company name to be heard
- Reach out to the community in a positive way
- Develop future employees
- To help inspire students to enter the fields of science and technology

## 2.4 Team History

During the team's rookie year in 1999, the AdamBots were simply known as the "Adams High School Engineering Club." The second year, the team decided to use the name "Golden Eyes," but it did not take hold. It was not until the team's third year when the name "AdamBots" was chosen as the official team name.



The AdamBots began under the faculty mentorship of Mr. Alan Gibson, a physics teacher at Adams High School, and Mr. Gasper Cairo and Mr. Paul Slaby, mentors from our sponsor at the time, Siemens VDO. Year two brought in Mr. Chris Smith, a physical science teacher, to assist Mr. Gibson with the team. In 2001, Mr. Gibson retired and Mr. Smith continued to mentor. In 2003, Mr. Smith left Adams High School and Mr. John Hilburger, a physics and calculus teacher, took charge; however, Mr. Hilburger moved out of state. That year, Mr. Warren Hildebrandt moved from Rochester High School to Rochester Adams High School and became the faculty mentor. Mr. Hildebrandt has been with the team ever since!

The AdamBots experienced minimal competitive success for the first four years. Building a working gearbox was considered a huge accomplishment; however, this all changed in 2003!



The game in 2003 was called *Stack Attack*. The objective was to stack boxes on top of each other. A senior on the team, Carl Fristad, suggested a simple concept for the challenge: build a robot capable of performing one task very well. The team decided on a modest design of a powerful drivetrain with two arms extending from the edges of the robot. The arm design was eventually simplified to just two flaps extruding from the edges of the robot. The team decided to name the robot "Penelope." At the first regional of the season, the

Midwest Regional in Chicago, the robot performed exceptionally. Team 45, The TechoKats, from Kokomo, Indiana, chose the AdamBots as an alliance partner. This selection led to the team's first regional victory. Next, at the West Michigan Regional, the AdamBots won again.

In 2005, the team found the perfect solution to the *FIRST* game, *Triple Play*. There was much debate about the design of the robot, but the team eventually decided on a forklift design. Rich Schuster and Jeremy Clemens were the builders extraordinaire. They led the building of the 2005 robot and eventually dubbed the robot "Victoria."

In 2005, the AdamBots did extremely well in the first regional competition. They went to Sacramento and placed first in the seeding matches. The team asked for the assistance of teams 766 and 1072 and won first place in the finals at the Sacramento Regional. They then went on to win the Detroit Regional with teams 217 and 301 and won second place at the West Michigan Regional. The AdamBots qualified for the World Championship where they placed 2nd in the elimination rounds and chose teams 217 and 766 as alliance partners. After their selections, they went on to win the Archimedes Division at the *FIRST* Championship. The team placed third at Championship Event, losing to the eventual World Champions, led by Team 67, by only a few points.





In 2006, we again competed at the Sacramento Regional, in which we won the regional Chairman's Award and the Woodie Flowers Award for our coach Mr. Hildebrandt. We also competed at the World Championship.

2007 wasn't our most successful year, but we were able to compete in the very first Michigan State Championship after some District events.

In 2008, the AdamBots participated at both the Detroit and Great Lakes Regional competitions. The team won Best Website awards and made the elimination rounds at both competitions.



In 2009, the AdamBots created "Olympia," a very simple but extremely effective robot. "Olympia" had zero failures in 110 matches and won multiple Quality Awards. The team won the Kettering District Event, MARC Competition, TARDEC IGVC Invitational and was a finalist at the Lansing District Event. They also gained another Website Award. The AdamBots were fortunate enough to participate in the World Championship in Atlanta, Georgia, where they made it to the semi-finals in the Curie Division.

In 2010, the team grew by including students from Stoney Creek High School. They also gained a new sponsor, Plex Systems, Inc. while GM continued to sponsor the team. The AdamBots competed at the Kettering District competition, earning the Imagery Award and getting to the quarter-finals. The team also competed in the Detroit District competition, once again playing to the quarter-finals and earning a spot at the State Competition. During the off-season, the team competed at the TARDEC IGVC Invitational and won the finalist trophy.

The 2011 season proved to be an exceptional year for the AdamBots. They began the year by agreeing to mentor a rookie team from Mexico, *FRC Team LamBot 3478*. Team members used Facebook, Skype, and teleconferencing to communicate with the Lambots. Team mentors from Mexico also came to meet with AdamBots team mentors and took information back to their team on several occasions.

The team traveled to the Alamo Regional in San Antonio, Texas to compete and to meet with Team LamBot. The AdamBots finished as finalists and won the Best Website Award while Team LamBot won the Rookie All-Star Award. The next competition for the AdamBots was the Detroit District, where they again placed as finalists and won the Website Award. At the Troy District, the team finished as semi-finalists, won the Website Award and won a new award, the Entrepreneurship Award. At the Michigan State Championship, the AdamBots again were finalists, earning a spot at the World Championship in St. Louis, Missouri. The AdamBots competed in the Curie Division and ended the *FIRST* season as quarter-finalists. The big surprise came when the World Championship Website Award was announced and the team won! The team was also awarded the GM Team of the Year Award. The AdamBots were proud that their rookie team, LamBot, won the Championship All-Star Rookie Award.



The team competed in three off-season events, earning the championship award at the TARDEC IGVC Invitational Competition, Finalist Award at the MARC Competition, and competing at IRI for the second time. New sponsors, SAIC and Wally Edgar Chevrolet, joined GM and Plex Systems, Inc. to support the team for the 2011 season.

In the 2012 season the AdamBots were again successful. They kicked the year off with the usual design meeting where the team came up with solutions and strategies for the year's game *Rebound Rumble*. The team built "Margarita," a wide-chassis robot that was a great solution for the shooting, feeding, and balancing involved in *Rebound Rumble*. The AdamBots continued to mentor FRC Team LamBot 3478 throughout the build season, and enjoyed meeting up with them once again in San Antonio, Texas, to compete at the Alamo Regional.



The AdamBots' first competition of the 2012 season was the Alamo Regional. There, the team made it to the quarter-finals and won the Entrepreneurship and Website Awards. The next competition was the Niles District in Michigan. At Niles, the AdamBots again finished in the quarter-finals and won the Quality Award. The team competed next at the Troy District, and again finished in the quarter-finals and won the Website and Entrepreneurship Awards. At the Michigan State Championship, the AdamBots made it to the finals with FRC Teams 2056 and 548. The AdamBots won both the Entrepreneurship and Website Awards at the State Championship, and with that, earned themselves a spot at the FIRST Championship in St. Louis. The AdamBots competed in the Archimedes Division and were quarter-finalists with alliance partners FRC Teams 1676 and 1592.

The team competed in three off-season events and were quarter-finalists at the TARDEC IGVC competition and finalists at the MARC competition. The AdamBots were excited to be part of the winning alliance at the IRI Competition along with FRC Teams 2826, 1114, and 4334.

Also during the 2012 season, the AdamBots were pleased to gain Chrysler as a new sponsor, while GM, Plex Systems, Inc., SAIC, and Wally Edgar Chevrolet continued to support the team.

The team is off to a great start for the 2013 FIRST season. The AdamBots won the 2013 Safety Animation Award and are excited that the team's safety animation will be shown at all FIRST competitions this season. Also, the AdamBots have been fortunate to gain two new sponsors, R&G Drummer and Magna Powertrain AG.

## 2.5 Oakland County Competitive Robotics Association (OCCRA)

Each fall, the AdamBots participate in the Oakland County Competitive Robotics Association, or OCCRA, a local robotics competition held in Oakland County, Michigan. Twenty-five county high schools, including the AdamBots, participate, and each year, a new game is given and the teams must build a robot to play this game.

OCCRA and *FIRST* differ in several ways. One of the rules of OCCRA is that teams are not allowed to use any precision machining. Robots must be built with lighter machinery, such as hacksaws and drills. Also, teams are not allowed any kind of corporate funding. Because of this,



students work together to fundraise and cover expenses. The biggest difference is, in OCCRA, robots must be student designed, built, and operated. Mentors are not allowed to help with any part of the robot. This gives students more responsibility over the project and allows them to be in control of the build process from start to finish.

One very important benefit of OCCRA is it helps the AdamBots prepare for *FIRST* season and allows for team bonding. By the time the *FIRST* season begins, new students already have some experience building robots and understanding of how the AdamBots operate. Also, with a team as large as ours, it allows new members to find what sub-team best suits them on the team and become friends with other students. With OCCRA, we are also able to try new building techniques or experiment building something we have never tried before. This gives the team more building experience for *FIRST*.

### OCCRA Mission:

The Oakland County Competitive Robotics Association (OCCRA) shall organize and administer a high school competitive robotics league in Oakland County for the purpose of:

1. Generating enthusiasm for technical and academic disciplines such as design, engineering, physics, mathematics, and electronics through student designed and built robots
2. Providing a format for integrating and applying diverse scientific, technical, and other areas of study within the high school curriculum
3. Providing recognition and encouragement for students who devote their energies to these technical, scientific, and other areas of study
4. Promoting team/workplace skills and good sportsmanship
5. Raising awareness within high schools of the diverse technical career options available in our county and state
6. Creating partnerships with corporations and the educational community that will enrich the high school experience for our students by providing greater accessibility to people in scientific and technical careers

### OCCRA Mission Source

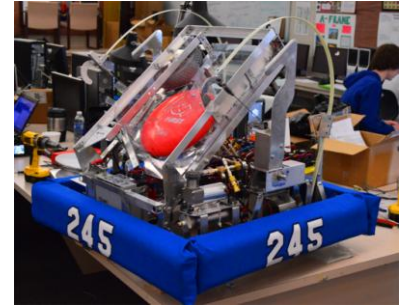
<http://www.oakland.k12.mi.us/Departments/CareerFocusedEducation/OCCRA/AboutOCCRA/tabid/587/Default.aspx>

## 2.6 For Inspiration and Recognition of Science and Technology (*FIRST*)

*FIRST*, For Inspiration and Recognition of Science and Technology, is a competitive robotics competition founded by Dean Kamen in 1989. Its mission is “to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.” Its headquarters is located in Manchester, New Hampshire.

*FIRST* consists of five different programs:

- *FIRST* Robotics Competition for Grades 9-12 (ages 14-18)
- *FIRST* Tech Challenge for Grades 9-12 (ages 14-18)
- *FIRST* LEGO League for Grades 4-8 (ages 9-16; 9-14 in the U.S. and Canada)
- Junior *FIRST* LEGO League for Grades K-3 (ages 6-9)
- *FIRST* Place for ages 6 to adult



The AdamBots compete in the *FIRST* Robotics Competition every year. As mentioned earlier, we use the *OCCRA* season in the fall to help develop the team and introduce newer students to robotics. We use the *FIRST* season, starting with the kick-off event in January through the World Championship in April, to continue to develop our team. We also use post-season *FIRST*-based events to continue our growth opportunities and refine our skills.

## 3.0 Organizational Plan

### 3.1 Team Structure

Our team is divided into two sections, engineering and business. To be more efficient, sub-teams are created within the engineering and business sections to handle the specific tasks of the team. Each sub-team is assigned a student team leader(s), team mentor(s), and students. Focus is placed on having a student-led team rather than an adult-led team. During the off-season, new team members participate in new student workshops in which mentors and veteran students teach them about engineering, robotics and the business aspects of the team. Through this, new team members enter into the *FIRST* season with a greater knowledge base.

Students fill out forms ranking their top team choices and nominating themselves or others for leadership positions. Current student team leaders and adult mentors then meet to decide what sub-teams are needed and on which sub-teams students or mentors belong. Students are generally given their top two sub-team selections and student leaders are only given one sub-team to lead. Each student is required to attend their team's meetings and help with their team tasks. See the Appendix for the organizational chart of this year's team structure.

**See Appendix:** Team Structure Diagram

### 3.2 Human Resources

#### Recruiting

Recruiting begins at area elementary schools where we speak to the students and give robot demonstrations. As a result, some students typically join *FTC* teams at the middle school where we assist and mentor. We reach out directly to students when they reach high school. We held a recruiting event at Stoney Creek High School before our *OCCRA* season in early fall, inviting those interested in robotics to have a first-hand look at our robots. At Rochester Adams High School, we have an information table at the freshmen orientation in which students can get information about joining the team. At the beginning of the school year, we also have a large, informational sign-up meeting.

The AdamBots also recruit mentors, and our primary source is parents of student team members. At parent meetings, we ask parents if they would like to mentor the team.

#### Retaining

The AdamBots strive to retain as many team members as possible. We retain members by appealing to their interests and providing work. Students fill out interest and skill inventory forms so they can be placed on the best sub-teams. Once on sub-teams, all students are given tasks by student leaders and mentors. On our Balanced Scorecard, we set goals and measure success in member retention.

**See Appendix:** Balanced Scorecard

## Strategic Direction

The continued success of Team 245 has attracted many students from both Rochester Adams and Stoney Creek High Schools. For the past few years, the number of students on the team has increased rapidly, to our pleasure. However, the potential for a future growth rate, such as that of the past few years, presents a challenge to the team's long-term sustainability. After careful consideration, it was decided that the AdamBots will continue as a single-school team based at Rochester Adams, rather than as a joint team. A new team will be formed at Stoney Creek, and talks and work are underway to make this happen. Those students who are currently on the AdamBots team from Stoney Creek will be allowed to remain with the AdamBots, while new students from Stoney Creek will join the new team at Stoney Creek High School. This approach will ultimately allow more students to participate in *FIRST* at both high schools.

## Training

We train both students and mentors. Students are trained through *OCCRA*, training programs, student workshops and mentor-to-student or student-to-student interaction. Mentors go through training to learn how to best engage students and cooperate effectively.

## Attendance, Participation, and Behavior Expectations

Students are expected to attend all major meetings. Team meetings are in the CAD room every Tuesday from 2:45 to 3:30. If a student is unable to attend, a mentor or team captain should be aware of his or her absence.

Students must attend their own sub-team's meeting on a weekly or daily basis, depending on the demands of the group. Engineering and business sub-teams may meet on weekday afternoons from 3:45 to 5:45. Prior to these meetings, students work on homework from 2:30 until 3:45 in the CAD room. If a student is unable to attend, the team captain must be aware of his or her absence. Additionally, sub-teams may schedule meetings at night, between 7:00 and 9:00, and many sub-teams work from 9:00 am to 5:00 pm on Saturdays during the *FIRST* season.

For a student to remain on the team, he or she must have passing grades in all of his or her classes.

A student must participate in at least three community outreach activities. The student will have an opportunity to sign up for these activities throughout both the *FIRST* season and the off-season.

Students are expected to be on time for meetings, events, and matches. Students attend competitions to not only help support the robot, but to also provide moral support for all the teams attending. Playing on one's electronic device or other form of entertainment is discouraged.

Team members are expected to be "Gracious Professionals," or in the words of Woodie Flowers, "never do anything you wouldn't want your grandmother to see." Team members are required to work together peacefully and cooperatively, remembering to be gracious in winning and losing.

Students must not spread invective through e-mails, letters, postings, mouth, or any other form of communication. This includes an intention to spread hurtful messages, gossip, or acts of revenge or hate.



Students are recommended to not use their electronic devices at team meetings, competitions, or work sessions if they are not necessary for team progress.

Students who attend competitions will have to exhibit team spirit, or the act of cheering for not only our team, but for others as well. All cheers are expected to be upbeat, clean, and positive.

**See Appendix:** Team Student/Parent Agreement Form

## Safety

Safety of team members is of utmost importance. Students and mentors working with the robot at school or in the pit must wear safety glasses. The use of power tools is supervised by experienced mentors. We use safety cards and pit passes. Students wear safety cards to signify what tools they have been trained by a mentor to use. Also, a set amount of pit passes are given to students and mentors to ensure we do not have too many people in the team pit at competitions.



## 3.3 Location

Rochester Adams High School allows us to work and build in the school CAD computer lab and the adjacent workroom. We have tooled the workroom with the necessary machinery our team needs. Sometimes more specific machining is needed for certain parts so mentors will take parts home or will work with students to machine the part elsewhere.

Unfortunately, in 2008, we lost our original building location and had to move to Rochester Adams High School. As a result, in our Continuity of Operations Plan (COOP) we detail our plan in the event we lose our build location again.

**See Appendix:** Continuity of Operations Plan (COOP)

## 3.4 Off-Season Events

The AdamBots typically participate in three off-season events: TARDEC, MARC, and IRI. We participate in these competitions to allow underclassmen to gain more competition experience in a less competitive environment.

### TARDEC

TARDEC, or Army Tank Automotive Research, Development, and Engineering Center, holds a competition every year at Oakland University in Rochester Hills, Michigan. They conduct a robotics competition in the summer using the same game that was played during the *FIRST* season. The AdamBots won TARDEC in 2011, were finalists in 2010, and won in 2009.





### MARC

MARC, or Michigan Advanced Robotics Competition, is an off-season event that takes place during the summer in Monroe, Michigan. MARC is arranged for students to have fun and practice driving their robots at competitions off-season. We were finalists in 2011 and 2012 and won in 2009.

### IRI

Similar to MARC, IRI, or Indiana Robotics Invitational, is an off-season event that takes place during the summer in Indianapolis, Indiana. The event is invite-only and we have been privileged to receive an invitation each time we have applied. In 2012, the AdamBots were part of the winning alliance.



## 3.5 Community Outreach

The AdamBots choose to do many community outreach events to further impact our community and to emphasize the importance of social responsibility to team members.



### Buddy Walk

2010 was the first year that the AdamBots took part in the Buddy Walk. The Buddy Walk is a walk around the Palace of Auburn Hills that benefits people with Down Syndrome. The team walked for a sibling of a team member.

### Rochester Hometown Christmas Parade

The AdamBots, along with other local *FIRST* teams, build a parade float for the Rochester Christmas Parade each December. The float has a robotics theme and typically features a robot from each team. A few students from each team walk next to the float, carrying signs and posters for *FIRST*. We have won first place in the high school and college category in each year of participation.



### CROP Walk

The CROP Walk is a walk for hunger that the Rochester community takes part in every year. Sponsored by the Church World Service, CROP Walks help to end hunger in the community and around the world. Participants raise money for the walk before taking part in the activity. The AdamBots take part in the CROP Walk every year because it is important not only to the community, but also to the world.

### Robot Demonstrations

We display our robots at different events, including Boy Scout troop meetings and at elementary school science fairs and assemblies. For example, the robotics merit badge was introduced to the Boy Scouts of America during April 2011. To help promote this new badge, our robotics team worked with the Boy Scouts and *FRC* Team Killer Bees 33 and the *FRC* Team FEDS 201 in displaying robots at Oakland University on December 5, 2010.



## 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 in the elementary schools decorate and carve pumpkins, teens act out Halloween skits with well-known Halloween characters, and members of the Rochester Hills Women's Club provide cider and doughnuts. The AdamBots clean up after the last night of the Halloween Hoot. We take down the decorations and pick up after everyone is gone from the trails.



## Relay for Life

The Relay for Life is a walk to support the American Cancer Society and cancer research. The AdamBots participate in the local Rochester Area Relay for Life every summer. The team raises money by selling rubber ducks at competitions, conducting a t-shirt signing day at competitions, a community road rally and members sell luminaries. Luminaries honor those that have died or are currently battling cancer and are placed around a track in honor and memory of them. Our team has raised thousands of dollars from donations, especially from those supporting the team's own Rick Drummer. Mr. Drummer has been a mentor on the team for many years and Relay for Life allows us to honor and help him and everyone else who suffers from cancer. In 2012, the AdamBots raised over \$10,000 for Relay for Life.



## Leader Dogs for the Blind

The AdamBots supported Leader Dogs for the Blind by socializing a litter of puppies when they were 3-6 weeks old. The team also supported the host home by helping to clean up after and wash the puppies. One of the puppies from the litter was raised by an AdamBots family and the team helped to socialize and care for the puppy, especially at robotics competitions. The puppy will be returned to Leader Dogs in March and the team will be anxiously watching the progress through training. We will be honored to have Maize, our leader puppy, travel with us to the Myrtle Beach competition this year.

## 3.6 Mentoring and Helping Other Teams

Mentoring and assisting other teams is an integral part of the AdamBots' goal to promote the spirit of *FIRST*.

### **FRC Team LamBot 3478**

In 2010, one of our sponsors, General Motors, asked for experienced teams in *FIRST* to help rookie teams in Mexico that were also being sponsored by GM. The AdamBots gladly chose to assist Team 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. Throughout *FIRST* 2011, students and mentors



communicated and assisted Team LamBot remotely through online chat, Facebook, video-chatting, and teleconferencing. Every year since then, the AdamBots have continued their support and hold weekly design review sessions on Saturday mornings with Team LamBot. During the 2011 and 2012 *FIRST* seasons, the AdamBots had a great time when the team travelled to San Antonio, Texas, to meet up with Team LamBot and compete at the Alamo Regional! The AdamBots have always been greatly impressed by the tremendous enthusiasm of Team LamBot, and we were thrilled when Team LamBot won the 2011 Championship Rookie of the Year Award!



### **The Vikings FTC Teams 5183 and 6348**

In 2011, the AdamBots were asked to help start and mentor an *FTC* team at a neighboring middle school, Van Hoosen. Our team responded by helping with both the engineering and business functions of the rookie team. Originally, they chose the name “Vikings”, but later changed their name to “Viko-Psychos”. By 2012, the new team had attracted such a large number of new students that a second *FTC* team was formed at Van Hoosen Middle School. Today, the AdamBots mentor both of these teams, including *FTC* Team Viko-Psychos 5183 and *FTC* Team Thunder Blades 6348. So far, both teams have won finalist and quality awards at competitions. Most of the students on these teams will eventually attend Rochester Adams High School. Therefore, by mentoring these teams, the AdamBots are recruiting and developing future members of our own team!

### **Additional Assistance**

We also provide assistance to other teams on a regular basis. In addition to Team LamBot, we also assist *FRC* Team 3480 in Mexico by answering questions. Locally, we presented to *FRC* Team 3539, the “Byting Bulldogs,” from Romeo, Michigan, and answered questions regarding creating a business plan and successful team website. Lastly, through our award-winning website, we provide an extensive resource section to help teams locally, nationally and around the world in all aspects of the *FIRST* competition.

## 4.0 Operational Plan

### 4.1 Tasks

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

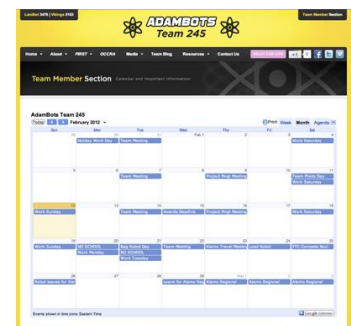
- Design robot in CAD
- Build competition robot
- Build “simulation” robot
- Program and set up controls for robot
- Creation of mock field
- Update team Business Plan
- Create and order marketing materials (flyers, robot imagery, t-shirts, sponsor brochures, posters for the pit, give-away items, etc.)
- Take pictures and video and upload them to Dropbox and website
- Update website content
- Prepare and submit documentation for awards (Chairman’s, Entrepreneurship, Woodie Flowers, and Dean’s List)
- Complete documentation for teams that we are mentoring/assisting
- Create scouting forms and system
- Create and submit animation

### 4.2 Scheduling

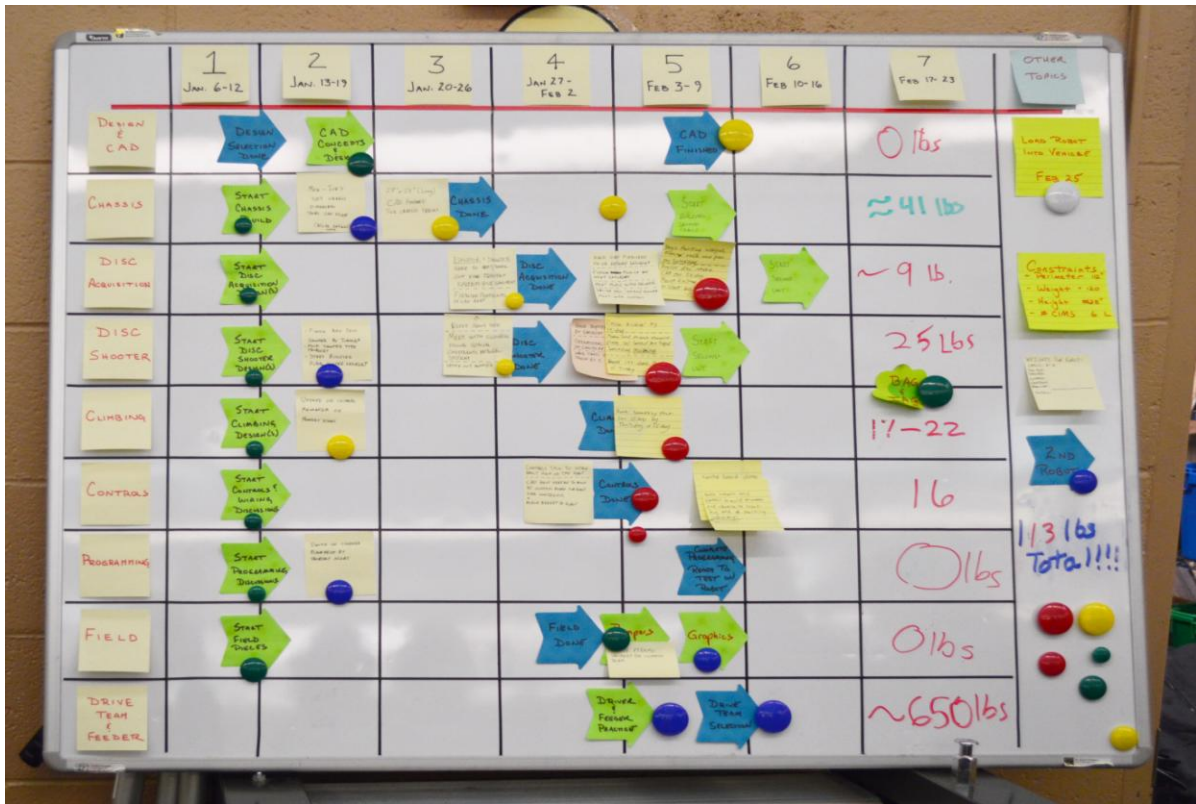
The AdamBots conduct meetings attended by all team members each Tuesday after school. These full team meetings last for approximately one hour. The full team also meets at the beginning of the *FIRST* season, on the day after the game is announced, to conduct an initial concept development session and begin the robot design process. Each of the AdamBots sub-teams meet at different times throughout the season. Sub-teams decide what schedule works best for both the students and mentors. Also, sub-teams tend to work at different times to ensure that there are not too many people in the robot build area.

### 4.3 Communication

Communication on the team involves team meetings, sub-team meetings, email blasts, team leader-to-team member communication, and the website. Also, the AdamBots Team Manager sends emails to all team members and/or parents regarding events that involve the whole team. Student and mentor sub-team leaders send emails to communicate with sub-team members. On our website, AdamBots.com, we also maintain an updated calendar with both specific sub-team events and general team events.



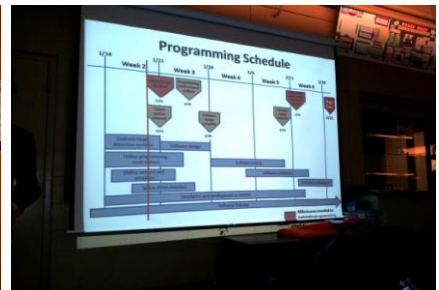
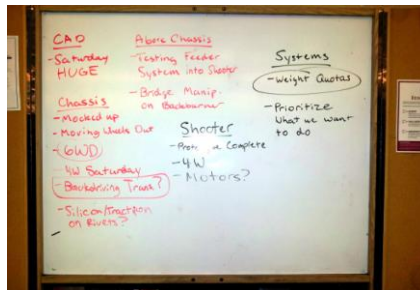
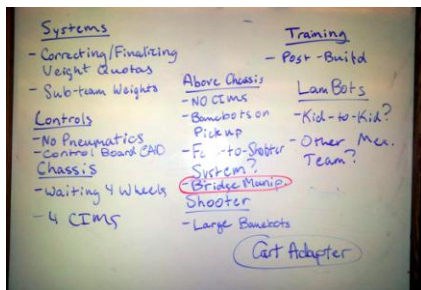
### 4.4 Project Management



Good project management is vital to the success of the AdamBots during the *FIRST* build season. Our team utilizes a project management team that consists of both students and two mentor leaders to help keep our team on task and on schedule. Since many tasks must be completed during the build season, the project management team exists to coordinate work between sub-teams and maintain the schedule. We do this by creating a project management board that includes each sub-team’s tasks, timeline, milestones, and relationships to other sub-teams.

The project management team also leads a design review with the engineering sub-team student leaders and all engineering mentors every Thursday evening. During the meeting, 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.

#### Thursday Evening Design Review Sessions





## 5.0 Marketing Plan

### 5.1 Target Audience

#### **Rochester Adams and Stoney Creek High School Administration**

Rochester Adams High School allows the AdamBots to work in the school's CAD room and a small adjacent workroom. Additionally, one teacher and a retired teacher work with us daily. We market ourselves to the administration and faculty to ensure their strong, continued support.

#### **Rochester Community Schools (RCS) School Board**

The RCS School Board allows us to use the RCS Foundation as our financial intermediary and also allows us to use their administration building parking lot each fall to conduct our Arts and Apples Festival parking lot business.



#### **Sponsors**

Sponsors provide the largest financial support to the AdamBots as well as many of our mentors and miscellaneous donations to the team. We target current and potential sponsors to ensure their continued support and to gain new sponsors.

#### **Potential Team Members (Students and Mentors)**

The AdamBots target potential team members, both students and mentors, because our people are the most important component of our team.

### 5.2 Marketing Mediums

#### **Robot Demonstrations / Speaking Events**

The AdamBots travel to different events, demonstrate their robot, and speak to attendees about *FIRST*, the team, and robotics. Past events include Delta Kelly, University Hills, North Hill, and Musson elementary school science fairs and assemblies, Boy Scout troop meetings, high school pep assemblies, demonstrations at freshman parent orientation, meetings with high school principals, presentations to the RCS School Board, and also a demonstration at the Rochester Public Library.

#### **Imagery: Posters, Robot Graphics T-Shirts, Flyers, Give-aways, etc.**

Team imagery is an integral part of our marketing. We strive to be cohesive in every aspect, from team t-shirts, to the website, to the robot's graphics. Team imagery allows our team to become more recognizable and memorable.



### **Online Presence**

The AdamBots have an award-winning website (2011 *FIRST* Championship Best Website), AdamBots.com, that receives roughly 70 visitors a day and has received 40,000 different visitors from 150 countries. Additionally, the AdamBots operate various social media accounts on Facebook, Google+, Twitter, YouTube and Vimeo. Using these tools, the AdamBots communicate team news, talk with other teams, and build interest in *FIRST*, sponsors, competitions, and community outreach.

### **Word-of-Mouth**

The AdamBots rely on word-of-mouth as well. We communicate team news to all students at both Rochester Adams and Stoney Creek High Schools via the school day announcement system at both schools. Additionally, AdamBots team members share news and information about *FIRST* and the team with family, classmates, friends, and people in the community. Ultimately, the AdamBots strive to have such a positive impact on all people that others will either choose to join us, sponsor us, and/or tell others the good news about *FIRST* and our team!

## 6.0 Financial Plan

The AdamBots focus on long-term financial sustainability to ensure success. Financial support comes from four different sources: sponsors, our Arts and Apples Festival parking lot business, team fundraisers, and team members. 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. In our Continuity of Operations Plan (COOP) in the Appendix, we detail response plans for the loss of a sponsor or fundraiser.

### 6.1 Sponsors

Sponsors are the primary method in which our teams receive financial support. General Motors Global Product Operations, the Chrysler Foundation, R&G Drummer, Plex Systems, Inc., Magna Powertrain AG, SAIC, and Wally Edgar Chevrolet all currently sponsor our team through the Rochester Community Schools Foundation, a 501 (c) 3 non-profit organization that acts as our fiduciary. Each year we seek new sponsors by marketing our team and contacting potential sponsors. For example, we contacted General Motors, Plex, Chrysler, SAIC and Wally Edgar Chevrolet and asked if they would be interested in sponsoring us. We market our team heavily as well to attract new sponsors.

### 6.2 Parking Lot Business

Each September, the AdamBots operate a profitable parking lot business during a three-day arts festival, called Arts and Apples, that is held in the local Rochester Park. This festival is well-known and attracts thousands of people from a wide area radius. Team members, mentors and parents work in shifts to park cars in a nearby parking lot surrounding the Rochester Community Schools administration building. Festival attendees who wish to park in the lot are charged five dollars per car. Ultimately, the parking lot business enables the AdamBots to raise approximately \$5000 each year to help cover team expenses. Because the AdamBots wear team t-shirts or sweatshirts while working, this event also becomes a marketing opportunity through which the team can further spread the word about *FIRST* and the AdamBots.

### 6.3 Fundraising

Our team operates fundraisers throughout the year to further increase funding. In the summer, we conduct bottle and can drives to pay for OCCRA and provide petty cash.

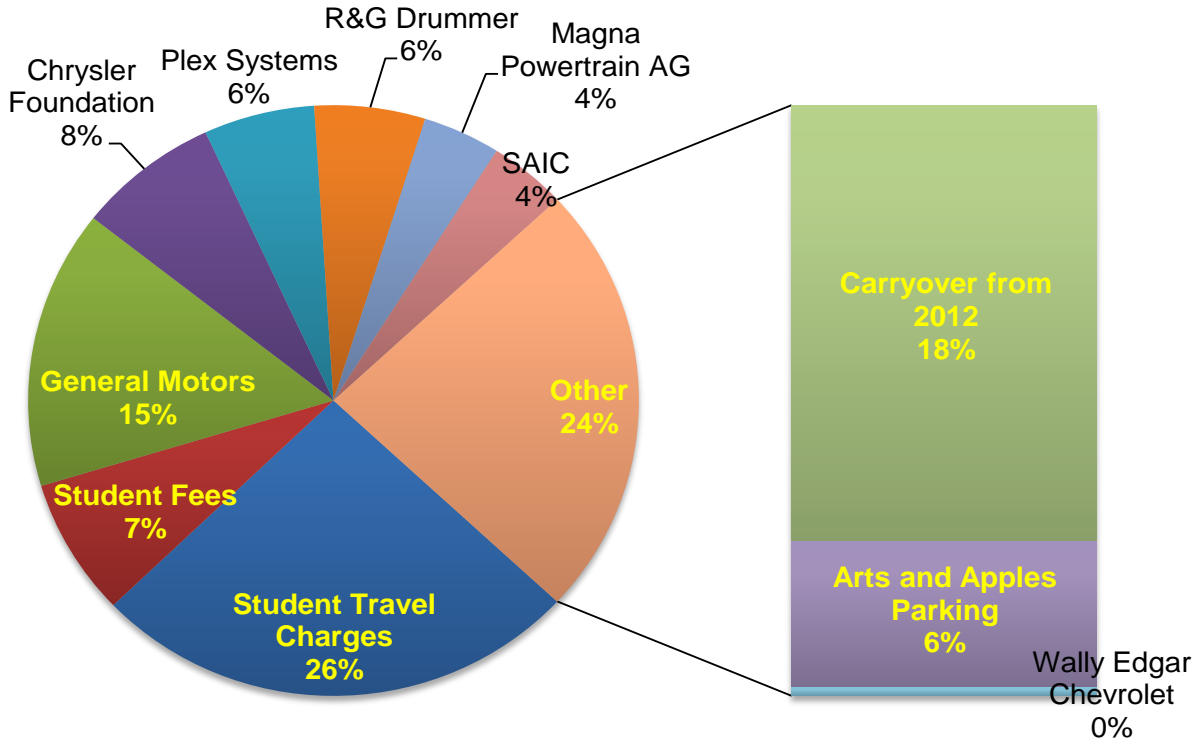
### 6.4 Member Contribution

Students and mentors also contribute financially. Students help pay for transportation to events such as bus transportation during the OCCRA season and transportation to Michigan *FIRST* events. When we travel out-of-state for events, students and mentors pay for approximately half of the cost. At the beginning of the season, students contribute to the budget through *FIRST* participation fees and they pay for their team shirts.

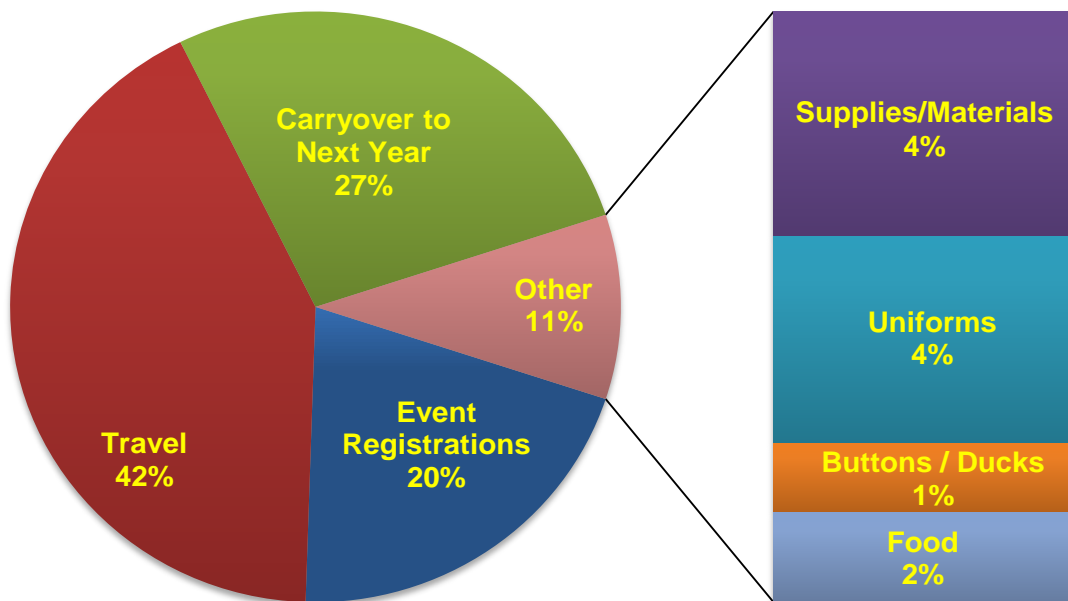
**See Appendix:** Continuity of Operations Plan (COOP)

# AdamBots Team 245 - 2013 Budget

## Sources of Funds = \$85,150



## Use of Funds = \$85,150





# 7.0 Appendix

## Values

- Gracious Professionalism™
- Cooperation™

## **FIRST Season Plan**

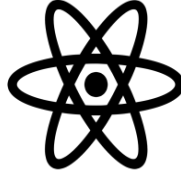
- Use project management to stay on schedule to build robot in 5 weeks
- Practice for a week before bag and tag
- Build second robot
- Students and adults work together on defined sub-teams (engineering and business)
- Have enough money for all events, especially if we win and move on to the World Championship
- Share knowledge with Team LamBot

## Methods for continued success

- Exhibit Gracious Professionalism™
- Have fun
- Diversity in members
- Mentored & hands-on learning
- Student leadership
- Project management
- Fundraising
- Community outreach
- Marketing
- Sustainable business planning

## **Off-Season**

- Revise plan for next year
- Continue after FIRST events
- Continue community outreach
- Off-season fundraising
- OCCRA in fall



**ADAMBOTs**  
**Team 245**

## **Results to Date**

- Project management on schedule
- Sub-team process worked well
- Sponsors will pay registration fees for all events
- All students able to participate
- Information shared with Team LamBot

## **Actions Needed**

- Conduct debrief meeting after Myrtle Beach to prepare for Michigan district competitions
- Schedule trip plans for next two district competitions

# Competitive Analysis

Competitive analysis allows the AdamBots to recognize and evaluate our competition. This analysis is not limited only to other teams at competitions, but also includes analysis of other activities that compete for the time of team members and mentors, our greatest resources. We have two distinctive kinds of competitive analysis:

1. Analysis of other teams at competitions
2. Analysis of other activities that pull students and mentors away from the team

## Competitive Analysis of Other Teams at Competitions

During the competition seasons, a scouting team is formed to help analyze other teams for their strengths, weaknesses, and to assess their potential as partners for elimination rounds. Each year, the scouting sub-team forms evaluation sheets which the team uses to gather information about teams during competitions. Data collected is used to select alliance partners in the event that the AdamBots are an alliance captain during the elimination rounds.

## Competitive Analysis of Other Activities

There are many school and outside activities that compete for the time and talent of our students and mentors. The team realizes that we need to retain team members rather than lose them to other activities. Some of the activities which compete for the time of our students and mentors include:

- Jobs
- Other school clubs
- Church and community activities
- Family events
- Sports
- Homework
- Friends and peers that compete for time
- Parents not sure of the value of the team
- More exciting activities, games, etc.

We use a “Balanced Scorecard” to help us measure our success. On the “Balanced Scorecard” we have defined *Learning and Growth* metrics to measure student and mentor retention and satisfaction. Through consistent recognition, involvement, access to information, and mentoring activities, we believe that engaged and valued students will stay with the team. We also believe this is true for mentors.

We currently have twelve mentors who are parents of former AdamBots, and two mentors who are alumni. These mentors tell us they stay with us because we make it meaningful and fun. They also feel they can contribute to the mission and goals of the team, therefore helping us to be an ongoing success.

# AdamBots Balanced Scorecard January 2013

*We measure more than just financials in determining the success of our team.*

Objective Type	Measures	Targets	Supporting Initiatives	How are we doing?
<b>Learning and Growth Metrics</b>				
<b>Student Retention</b>	Percentage of students who stay with team throughout the year	75% retention	Keep students engaged throughout the year	In 2013 the team has 64 students, a growth of 7 students from last year
<b>Student Satisfaction</b>	Involvement with decisions	Involve students in robot design, build, programming decisions and in community outreach activities	Project management and team structure	Student captains and mentors working well together, Students also playing a lead role in the business planning process
<b>Student Satisfaction</b>	Recognition	Based on student survey, ensure that 90% feel they receive positive recognition for their achievements	Conduct surveys at the end of the OCCRA and the FIRST seasons	Student satisfaction good after OCCRA, Gathering bio information at start of FIRST, Will survey after FIRST season
<b>Team Satisfaction</b>	Access to information	Based on survey, ensure that 100% of team knows where to find and how to access information critical to their jobs	Share website information with team and review at weekly team meetings	Critical information is covered at team meetings, parent meetings, and also shared through emails and the website calendar
<b>New Team Members</b>	Number of new team members each year that stay with program	10 new students and 2 new mentors a year	Communicate team/club information during the year, Members invite others to join	Currently have 32 new students and 4 new mentors
<b>Process Metrics</b>				
<b>Innovation</b>	New process or technique used during the FIRST season	At least one new assembly, programming, controls, or drive system technique used during the FIRST season.	Attendance at instruction seminars in area. Students work with mentors on new techniques.	Configuration management techniques to organize code, Using ICD to manage software subsystem development, Documented standard programming practices (accessible to team on Google Docs)
<b>Innovation</b>	Process cycle time	Build robot is five weeks so you can practice	Project management and team structure	Currently on track to have robot built so we can practice at least 2 days before bag and tag
<b>Operations</b>	Product quality	No major breakdowns	Robust CAD process and design testing	Too early to tell
<b>Operations</b>	Reliability and durability of robots	Very few repairs needed during the competition season including programming repairs	Use of CAD in design process, Structural analysis and use of robust build techniques	Too early to tell
<b>Sponsor Metrics</b>				
<b>New Sponsors</b>	Number of new sponsors in funding or in-kind support	At least one new sponsor each year	Ask students and mentors to talk to potential sponsors (neighbors, business colleagues)	R&G Drummer and Magna Pow entrain AG are our new sponsors this year
<b>Sponsor Retention</b>	Number of sponsors retained from year to year	Keep 100% of sponsors from year to year	Sponsor thank you and recognition	General Motors, SAIC, Plex Systems, Inc. and Wally Edgar all retained as sponsors
<b>Schools Recognition</b>	Robotics recognized by schools as a valuable team/club	Team is recognized in new newsletters and announcements	Communicate team information and success to schools and Community Schools Foundation	Students met with principals at Rochester Adams and Stoney Creek High Schools to update on team successes and direction, team news is shared via school announcements
<b>Financial Metrics</b>				
<b>Financially viable</b>	All costs covered with some money left to seed the next year	Obtain enough funds from sponsors to cover 100% of FIRST registration and FIRST robot parts costs	Work with existing sponsors through mentor support	General Motors paid for Michigan registrations SAIC paid for majority of Palmetto registration GM, Chrysler Foundation and Plex Systems, Inc. pay for parts and supplies
<b>Financially viable</b>	All costs covered with some money left to seed the next year	Obtain enough funds from members to cover 100% of T-shirt costs	Money collected for T shirts	Costs all covered with participation fee
<b>Cost Sharing</b>	Travel costs shared by team members	At least 75% of cost to travel for OCCRA and 30% of the travel for FIRST shared by team members	Bus fees for OCCRA collected. Money collected for 30% of travel to Palmetto Regional	Money collected
<b>Asset utilization</b>	Have computers available for programming and CAD and have tools needed	Use school computers for CAD, Have at least one dedicated computer for programming, Needed tools in workshop	Arts and Apples parking lot business funds used for new machines or tools	Purchased toolbox and soldering kit

## AdamBots Continuity of Operations Plan

*How does the team continue to function and meet our business plan if something major happens to our plan?*

Strategic Goal or Plan	Risk Assessment	Alternatives or Actions	Has this happened in the past?
Human Capital	Loss of School Teacher	Work with the school administration to find another teacher who is willing to work with the team. Provide volunteer mentors to help with the administration of the team.	<p>In our history we've had several changes in teachers. In all cases, the school administration helped us find a replacement and we had to go through a training and restructure process.</p> <p>In 2010, Mr. Hildebrandt decided to retire. However he was willing to continue to be the school's official mentor. We approached school administration and they agreed to let him continue under a special arrangement.</p>
Human Capital	Loss of Engineering Key Mentors	If we lose a key engineering mentor, conduct a meeting with existing mentors and/or students to find a replacement. Especially important to make sure we have a non-engineering mentor trained to handle paperwork and travel arrangements.	<p>In some cases we lose a mentor when a student graduates. We have been very fortunate that many of our engineering mentors stay with the team.</p>
Human Capital	Loss of Non-Engineering Key Mentors	If we lose a key non-engineering mentor, conduct a meeting with existing mentors and/or students to find a replacement. Especially important to make sure we have a non-engineering mentor trained to handle paperwork and travel arrangements.	<p>We've been lucky to have the same non-engineering mentor on the team who handles travel, team communications, school administration paperwork, and FIRST administration. We have not had to worry about this so far, but need to prepare for when Mrs. Drummer eventually retires from this assignment.</p>
Human Capital	Separation of Stoney Creek from Adams	Work with the Stoney Creek H.S. Administration to form a new team. We are turning away students from Adams because the team is too large for our meeting rooms and build space.	<p>The current students from Stoney Creek will be "grandfathered" into the Adams Team next year, if they choose to stay with the team. New Stoney Creek students will have to join the Stoney Creek team, once it is formed. We have been working with the Stoney Creek principal on having them form their own team. They are currently looking at the FIRST Tech Challenge as a starting point instead of FRC.</p>
Facilities	Loss of Build Location	If we lose the CAD room, approach school administration of Adams High to find another location. If this is not successful, search the Rochester Hills area for a sponsor that would support us by giving us a build location.	<p>For years the team built the robot at the Siemens VDO machine shop when they sponsored the team. When Siemens VDO was purchased, they stopped sponsoring the team and we lost our location. Since then we have used the CAD closet and CAD room for our build, storage, CAD and programming work. To make this work with reduced space and equipment, we have some parts made by mentors who have machining capabilities at home. We also CAD the designs before we build to minimize space. We also use simple techniques due to lack of sophisticated equipment.</p>
Equipment	Loss of Computers	Make sure programs and CAD drawings are back-up daily or as changed. Also make sure the programming software is available for uploading to another computer.	<p>We had a computer hard drive crash in the past and lost our programming. Because it was not recently backed up, some of the programming had to be reconstructed.</p>
Communications	Loss of Previous Documentation for Communications	Store major information on the website so many have access to it in case of a personal computer crash. Use cell phones for quick communications.	<p>Not yet since the team information on personal computers has been backed up by the people who have it.</p>
Finances	Loss of Corporate Sponsors	If we lose a major sponsor, work with parents to contact additional companies. Also, make sure we have some money left over at the end of the year to at least cover the Michigan District registration and robot build. Make strategic decisions on other items to stay within our budget to keep the team fiscally strong.	<p>We lost several major sponsors in the past including Siemens VDO. We added GM, then Plex Systems, then SAIC, followed by the Chrysler Foundation, and then Magna Powertrain AG this year. We reassessed our plans including the elimination of out of state regionals and introduced the ≤50% payments for going to the World Championship events to compensate for the reduced funds.</p>

# Rochester Adams and Stoney Creek High Schools Robotics Team 245 Organization Structure

## Engineering - FIRST 2013



Engineering Structure  
Warren Hildebrandt

	<b>Project Management</b>	<b>Chassis Design and Build</b>	<b>Disc Shooter</b>	<b>Disc Acquisition</b>	<b>Climbing Arm</b>	<b>Programming</b>	<b>Controls and Electronics</b>	<b>CAD / Design</b>	<b>Field</b>	<b>Lambot Mentoring</b>
<b>Mentors</b>	Mr. Greg Cesiel Mr. Rick Drummer	Mr. John Savage Mr. Warren Hildebrandt	Mr. Rick McBride	Mrs. Janet McBride Mrs. Telva McGruder Mr. Andy Phillips	Mr. Gary Clark Mr. Mathew Anthony	Mr. Jim Micklas Mr. Mike Del Rose	Mr. Gary Sochanski	Mr. Steve Trachsel Mr. Werner Eckardt	Mr. Mike Merlo Mr. John Markel	Mr. Greg Cesiel Mrs. Maria Romero
<b>Student Leaders</b>	Lizzie Person	Jordan Phillips Anuja Dandekar	Tanay Patel Eric Celerin	Sydney Micklas Max Nakfoor	Andrew McBride Miles McGruder	Steven Ploog Ben Bray	Jason Merlo	Zach Zullivan	Maxwell Chappell Eric Hennessee	Darpan Sodhi
<b>Team Members</b>	Brian Savage Tyler Del Rose Jason Merlo Grace Nguyen	Zack Schaftrick Austin Braun Kathryn Cesiel Jizhou Zhang Dale Fultz Leo Gomez Kenny Mead David Shelton	Corey DeGasperis Diego Toral Justin Ripka Phillip L-M Vishnu Rengaraj	Katie Bueltel Maxwell Chappell Dylan Anthony	Myles Malanoski Margherita Bigossi Brendan Treanore McKinnon Hay Nick Start Erik Hicken	Jason Merlo Tyler Del Rose Curtis Fenner Nathan Fenner Jonathan Zarger Haden Wasserbaech Leo Gomez Simon Sun Vishnu Rengaraj Margherita Bigossi Justin Ripka Jizhou Zhang Robin Onsay	Steven Ploog Leo Gomez Jacob Wohlschlegel Robin Onsay Dylan Anthony Dan Alspach Rowan Barry Brendan Treanore Ryan Handley McKinnon Hay Haden Wasserbaech Tommy Bejin Zack Schaftrick	Nick Eckardt Tommy Bejin Austin Braun Max Nakfoor Lizzie Person Nathan Fenner Curtis Fenner Jonathan Zarger Corey DeGasperis Jordan Phillips Eric Celerin Phillip L-M	Nick Start Rowan Barry Ethan Martin Brian Savage Jeremy Start	Grace Nguyen Christine Weng Michelle Abramczyk Diego Toral Cameron Johnson
<b>Duties</b>	Responsible for overall engineering team project management including tracking of build process timelines and deliverables.	Responsible for chassis design and build during the build season. Responsible for updates to designs following FIRST rules.	Responsible for design and build of structure used to shoot the discs during the autonomous and teleoperated periods. This includes the use of the camera.	Responsible for design and build of mechanisms needed to acquire discs from the field to load into the shooter.	Responsible for design and build of mechanisms needed to climb the pyramid.	Responsible for programming the robot and attachments. Responsible for interfaces with the drive station and mechanized input to the drive team (cameras, etc.).	Responsible for controls and interfaces used to drive the robot and used by the programming team. Responsible for effective wiring strategies, battery placement input, etc.	Responsible for visual and engineering to ols used for design and build including Computer Aided Design and modeling tools.	Responsible for the design and build of practice mechanisms needed to test the design and build effectiveness to complete the game strategy.	Responsible for helping support the Lambot team through sharing of design or build ideas. This also includes any non-engineering support.

Other Engineering Mentors: Paul Slaby, Peter Pirozzo, Bob Schuster, Larry Garstick

# Rochester Adams and Stoney Creek High Schools Robotics Team 245 Organization Structure

## Business - FIRST 2013



Business Structure  
Grace Drummer

	Project Management	Business Plan	Marketing	Photo/Video	Animation	Scouting/Strategy	New Media	Craft Services
<b>Mentors</b>	Mr. Greg Cesiel Mr. Rick Drummer	Mrs. Susan Cesiel Mr. Rick Drummer	Mrs. Kim Twarozynski Mrs. Shelly Sochanski Mrs. Julie Alspach	Mr. John Savage	Mr. Steve Trachsel	Mr. Rick Drummer	Mr. Andrew Drummer	Mrs. Beth Markel
<b>Student Leaders</b>	Lizzie Person	Katie Bueltel	Joe Bolew itz	Cameron Johnson	Mia Sw anton	Lizzie Person	Grace Nguyen	None
<b>Team Members</b>	Brian Savage Tyler Del Rose Jason Merlo Grace Nguyen	Joe Bolew itz Cameron Johnson Eric Hennessee Carter Scott Brian Savage Darpan Sodhi Michelle Abramczyk	Darpan Sodhi Cameron Johnson Carter Scott Eric Hennessee Katie Bueltel McKinnon Hay Kaitlyn Whitefoot	Joe Bolew itz Dan Alspach Ethan Martin Jeremy Start Christine Weng Madison Rogers	Grace Nguyen Myles Malanoski Jacob Wohlschlegel Kenny Mead Deepak Thiagarajan Row an Barry Jizhou Zhang	Michelle Abramczyk Tyler Del Rose Janathan Zarger Kaitlyn Whitefoot Joe Bolew itz Cameron Johnson Maxw ell Chappell Eric Hennessee Christine Weng	Joe Bolew itz Cameron Johnson Darpan Sodhi Curtis Fenner Nathan Fenner Kathryn Cesiel Corey DeGasperis Christine Weng Madison Rogers Kaitlyn Whitefoot Dale Fultz Mia Sw anton Jack Person Simon Sun	
<b>Duties</b>	Responsible for overall non-engineering team development, project management, and awards submission tracking.	Responsible for overall documentation of team planning and development including update and submission of the business plan.	Responsible for marketing materials in pit or for others including judges, school administration, etc. Responsible for developing and giving presentations to schools, school board meetings, science fairs, scout troops, etc. when the robot is displayed.	Responsible for visual documentation of team events, team processes including build season, event documentation, and publication of videos and photos	Responsible for the development and use of animation.	Responsible for game plays strategy input to drive team, scouting of other teams on the field, game statistics, and possible team selection input to drive team captain	Responsible for website design, content, keeping information current.	Responsible for organizing and delivery of food for the students and mentors during the build season and at certain competitions.

## AdamBots Team 245

### Robotics Team Code of Conduct and Student Contract

All students will know, understand and comply with this Code of Conduct and *FIRST* team policies of fair play and Gracious Professionalism™.

All students will comply with reasonable requests made by teachers, engineers and team coaches at school, at all *FIRST* competition sites and any *FIRST* related activities.

All *FIRST* safety precautions must be followed at all times, including the proper use of safety goggles in all specified areas.

Prohibited behaviors during any and all Team related activities:

- › Inappropriate language toward adult and student team members
- › Disruptive or inappropriate conduct
- › Arriving late for group activities and travel
- › Inappropriate dress/attire (revealing or sexually suggestive clothing, clothing that has any reference to alcohol, drugs, sex or weapons)
- › Noncompliance with curfew and bed check rules
- › Leaving premises or assigned hotel rooms without permission from adult team member
- › Romantic involvement involving physical contact may not take place during Team activities.
- › Harassment of any type, including sexual, gender-based, or ethnic slurs.
- › Vandalism of any type at school, hotels, venues or at any Team related locations.
- › Using, possessing, selling or being under the influence of any and all illegal drugs, controlled substances, alcoholic beverages, or tobacco products (Violations of drug, alcohol and tobacco rules will result in immediate travel home, at parents' expense.)

I agree that I understand the information presented in the Team Commitment Expectations and understand the requirements outlined in this code of conduct. I understand that I must act responsibly and respectfully at all times, and that schoolwork comes before team work. I must maintain good academic standing in order to remain on the team.

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### Parents/Guardians

I understand that my student has chosen to be an active part of this team, and that while any level of participation is encouraged, my student must meet the team requirements in order to participate in team travel. I also understand that I am part of those requirements and agree to attend the parent information meeting, at least one team activity, and provide at least one meal for the team during the build season. I understand that parents can be a vital part of the team, and are a big help in getting many of the team activities accomplished. I will do my best to support my student and the team in this endeavor.

Parent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

AdamBots Team 245



## **Team Member Commitment Expectations**

AdamBots team members are expected to adhere to the following team commitments both within the school building and when in the community:

Team members shall commit to:

- Behaving in a positive and professional manner at all times
- Following all safety regulations (safety glasses, lifting, etc.)
- Treating oneself, other team members, team mentors, parent volunteers and visitors with dignity and respect
- Respecting and showing responsibility for the resources made available to all students on the team
- Using one's time wisely and in service to the goals of the team
- Cleaning up after themselves at all team functions (leave place cleaner than you found it),
- Actively participating in all aspects of team functions (meeting, training, build, fundraising, community service, and social) to productively support the team's mission statement
- Unless it is an emergency, refrain from using cell phones during team events
- Participating in robotics competitions and not playing cards, video games or listening to music devices through headphones unless at lunch time or with permission from the adult coach
- Presenting oneself professionally by wearing the team's uniform and being prepared at all required events
- Maintaining good academic and behavioral standing within the high school

# Alumni

We have been extremely successful in our business planning mission of inspiring our members in the areas of STEM and business. Many of our alumni have gone on to study and work in these fields. Listed below are AdamBots alumni and the colleges they went on to attend.

## Class of 2012

- Ryan Cesiel (University of Michigan)
- Kieran Cooper (Oakland Community College)
- Becky Everson (University of Rochester)
- Matt Juriga (Ferris State University)
- Ryan Rosenau (Kettering University)
- Chris Santella (Marquette University)
- Danielle Twarozynski (Oakland Community College)

## Class of 2011

- Emily Bolewitz (Penn State University)
- Matt Brisson (University of Windsor)
- Edna Chiang (University of Michigan)
- Ian Cosgrove (Michigan Tech University)
- Yutaka Iwasaki (Michigan State University)
- Dean Keithly (Oakland University)
- Jerry Lin (University of Michigan)
- Drew Markel (Michigan Tech University)
- Sidd Menon (Oakland University)
- Duy Mo (University of Michigan)
- Alex Shultz (Oakland Community College)
- Garret Sochanski (Oakland University)

## Class of 2010

- Eduardo Cerame (University of Michigan)
- Mark Derry (Oakland Community College)
- Chris Greene (Kettering University)
- Lucas Mitchell (University of Michigan)
- John Watkins (Oakland University)
- Jack Wink (University of Michigan)

## Class of 2009

- David Cesiel (University of Michigan)
- James Lindsay (Arizona State)
- Quentin Sheets (Purdue – North Central)
- Brett Garstick (Michigan State)

- Matt Li (Michigan State)
- Sean Losinski

## Class of 2008

- Anthony Curley (Michigan State)
- Bhajanpreet Kohli (University of Michigan)
- Danielle Smith (Grand Valley)
- Jonathan Immers (Kettering)

## Class of 2007

- Patrick Pannuto (University of Michigan)
- Braden Leinbach (Michigan State)
- Caitlyn Bolewitz (Grand Vally State)
- Kevin Kozlowski (University of Michigan)
- Kevin Tom
- Nolan Wyatt (Eastern Michigan)
- Patricia Schuster (University of Michigan)
- Tanya Das (University of Michigan)
- Kevin Schalte (University of Michigan)
- Kevin Huang (University of Michigan)
- Emily Thomas (University of Michigan)
- Scott Theuerkauf (US Air Force Academy)
- Scott Walls (University of Michigan)
- Chris Park

## Class of 2006

- John Dong (MIT)
- Alexander Piazza (University of Michigan)
- Bhajneet Kohli (University of Michigan)
- Grace Gahman (Oakland University)
- Jeremy Clemens
- Katie Pendock (Oakland University)
- Stephanie Roth (University of Michigan)
- Ye He (University of Michigan)
- Fiona Turett (Washington Univ. St. Louis)
- Chris Lee

### **Class of 2005**

- Richard Schuster (University of Michigan/Oakland University)
- Katrin Augustyniak (Oakland University)
- Matt Benoit (Oakland University)
- Jenny Stein (Oakland University)
- Hayley Lawson (Oakland University)
- Stephen Krause (University of Michigan)

### **Class of 2004**

- Riva Das (Duke/Penn State)
- Danny Demp (University of Michigan)
- Carrie Hauser (Eastern Michigan/Indiana State)
- Jason Lewer (Michigan State)
- Jim Liu (University of Michigan)
- Katie Olson (University of Michigan)
- David Pirozzo (Oakland University)
- Eric Plagens (Wayne State)
- Jeff Rogers (University of Michigan)
- Bill Stoffel (University of Michigan)

### **Class of 2003**

- Adnan Asif
- Christian Catalan (University of Michigan)
- Alex Drummer (Northern Michigan/Wayne State University)
- Carl Fristad (Minneapolis College of Art and Design)
- Edward Hong (Oakland University)
- Dan Krause (University of Michigan)
- Bin-Bin Mao (University of Michigan)
- John Morgan (University of Michigan)
- Steve Moy (Michigan State)
- Hunter Nie (University of Michigan)
- Lauren Olson (Michigan State)
- Kevin Smith (Michigan State)
- Kaylyn Soller (Michigan Tech)
- Jason Yee

### **Class of 2002**

- Amanda Armstrong

- Andrea Brown
- Joe Gothomy
- Brian Hamburg (Michigan State)
- Nathaniel Johnson (Oakland University)
- Kevin McCulum
- Max Peters
- Mou Sangupta (University of Michigan)

### **Class of 2001**

- Mike Albertus
- Kirsten Fristad (Macalester College/University of Oslo)
- Nicholas Goodard
- Jeremy Gouldy
- Vicky Wilson (Albion College/Purdue)

### **Class of 2000**

- Karen Ault
- Lauren Davenport
- Cindy Drebus
- Andrew Drummer (Carleton College/Oakland University/Wayne State)
- David Hockey (University of Michigan)
- Dan Hulme (University of Michigan)
- Niko Kanagawa (Albion College)
- Nicole Nelson
- Ben Palmer (Case Western)
- Bryan Wilson (Western Michigan)

### **Class of 1999**

- Paul Albertus (University of Michigan/Berkley)
- Philip Smith
- Edward Vollenweider
- Robert Gable (Central Michigan)
- Nicholas Czechowski
- Derek Herbert
- Ken-Pei Leung (Michigan Tech)
- Nicholas Reeck (University of Michigan)
- Joseph Pirozzo (Oakland University)
- Sean Hallid

# Awards

## Award Quick Facts

- 34 *FIRST* Awards
- 1 *FIRST* Chairman's Regional Award
- 1 *FIRST* Woodie Flowers Award
- 5 *FIRST* District/Regional Championships
- 1 *FIRST* Division Championship (and Einstein appearance)
- 76 *OCCRA* Awards
- 3 *OCCRA* Foundation Awards
- 4 *OCCRA* Championships
- 3 *OCCRA* Women's Tournament Championships

## *FIRST* Awards

### 2013

- Safety Animation Award

### 2012

- Winner – Indiana Robotics Invitational
- Finalist – Michigan State Championship
- Quality Award – Niles District
- Best Website – Michigan State Championship
- Best Website Award – Troy District
- Best Website Award – Alamo Regional
- Entrepreneurship Award – Michigan State Championship
- Entrepreneurship Award – Troy District
- Entrepreneurship Award – Alamo Regional

### Off-Season Events

- Finalists – MARC Competition
- Champions – Indiana Robotics Invitational

### 2011

- Best Website Award – Championship
- General Motors *FRC* Team of the Year
- Finalist – Michigan State Championship
- Entrepreneurship Award – Troy District
- Best Website Award – Troy District
- Best Website Award – Detroit District
- Imagery Award – Detroit District
- Finalist – Detroit District
- Best Website Award – Alamo Regional
- Finalist – Alamo Regional

### Off-Season Events

- Finalists – MARC Competition
- Champions – TARDEC IGVC Invitational

### 2010

- Imagery Award – Kettering District

### Off-Season Events

- Finalist – TARDEC IGVC Invitational

## 2009

- Motorola Quality Award – Kettering District
- Best Website Award – Kettering District
- Champions – Kettering District
- Motorola Quality Award – Lansing District
- Finalist – Lansing District
- *FIRST* Teacher of the Year Award (WWJ) – Mr. Hildebrandt

## Off-Season Events

- Champions – MARC Competition
- Champions – TARDEC IGVC Invitational

## 2008

- Best Website Award – Detroit Regional
- Best Website Award – Great Lakes Regional

## OCCRA Awards

### 2012

- Foundation Award
- #1 Seed – County Championship at Holly
- Semi-Finalist – County Championship at Holly
- Spirit of the Competition Award – County Championship at Holly
- 3<sup>rd</sup> Place – Birmingham Seaholm
- Spirit of the Competition – Birmingham Seaholm
- 1<sup>st</sup> Place – South Lyon
- Beautiful Bot Award – South Lyon
- 2<sup>nd</sup> Place – Waterford Kettering
- Technical Excellence – Waterford Kettering
- 1<sup>st</sup> Place – Rochester
- Strategic Design Award – Rochester

## 2006

- Chairman's Award – Davis-Sacramento Regional
- Woodie Flowers Award – Mr. Hildebrandt – Davis-Sacramento Regional

## 2005

- Judge's Award – Detroit Regional
- Champions – Detroit Regional
- Champions – Davis-Sacramento Regional
- Finalist – West Michigan Regional
- Champions – Archimedes Division – World Championships

## 2003

- Champions – West Michigan Regional
- Champions – Midwest Regional

### 2011

- Foundation Award
- Semifinalists - County Championship at Holly
- #1 Seed – County Championship at Holly
- Quality Award – County Championship at Holly
- 1st Place – Birmingham
- 3rd Place – Brandon
- VEX Award – Brandon
- 1st Place – Roeper
- Spirit of the Competition Award – Roeper
- 3rd Place – Royal Oak
- Strategic Design Award – Royal Oak

**2010**

- Foundation Award
- Champions - County Championship at Holly
- Strategic Design – County Championship at Holly
- Spirit of the Competition Award – Birmingham
- Spirit of the Competition – Roeper
- 2nd Place – Roeper
- Technical Excellence Award – Waterford
- 2nd Place – Waterford

**2009**

- Beautiful Bot Award – Walled Lake
- Quality Award – Birmingham Seaholm
- VEX Award – Diversity (Royal Oak) Tournament
- Spirit of the Competition Award – Waterford Kettering
- Technical Excellence Award – County Championship at Holly
- Champions – County Championship at Holly
- Foundation Award Finalist – County Championship at Holly

**2008**

- Spirit of the Competition Award – Walled Lake
- Judges Award – Birmingham Seaholm
- Judges Award – County Championship
- Semi-Finalist – County Championship
- Safety Award
- Teacher of the Year Award – Mr. Hildebrandt

**2007**

- Judge's Award – Walled Lake
- Quality Award – County Championship
- Foundation Award Finalist – County Championship

**2006**

- Best Play of the Day – Walled Lake
- Quality Award – Women's Tournament
- Spirit of the Competition – Detroit Catholic Central
- Spirit of the Competition – County Championship
- Champions – County Championship

**2005**

- Judge's Award – Hazel Park
- Semi-Finalist – Women's Tournament

**2004**

- Spirit of the Competition – Holly
- First Place – Berkley
- Best Play of the Day – Berkley
- Champions – County Championship
- High Score – Women's Tournament
- Strategic Design – Women's Tournament
- Champions – Women's Tournament

**2003**

- Second Place – Berkley
- High Score – Berkley
- Spirit of the Competition – Berkley
- General Motors Technical Excellence Award – Lamphere
- Judge's Award – Holly
- Spirit of the Competition – County Championship
- Semi-Finalist – County Championship
- Spirit of the Competition – Women's Tournament
- Champions – Women's Tournament

**2002**

- Spirit of the Competition – Rochester
- Champions – Women's Tournament
- Judge's Award – Women's Tournament

**2001**

- Spirit of the Competition – West Bloomfield
- Spirit of the Competition – Troy
- Spirit of the Competition – County Championship

**2000**

- Spirit of the Competition – Brandon
- Best Play of the Day – Brandon