Allendale Robotics

2023-2024 Season Sponsor Packet

K-1st Grade | 2nd-3rd Grade | 4th-5th Grade | 6th-8th Grade | 9th-12th Grade

Allendale Robotics

VEX 123 VEX GO CHALLENGE VEX IQ CHALLENGE VEX ROBOTICS COMPETITION FIRST ROBOTICS COMPETITION

Allendale Robotics offers a unique opportunity for students in Allendale and surrounding communities to gain a better understanding of engineering concepts through FIRST and VEX Robotics programs. Our highschool team, The TriSonics, faces the challenge of building a full-sized robot in six weeks. FIRST (For Inspiration of Science and Technology) students are taught to use principles of CAD, programming, web design, graphic animation, marketing, and communication. Through the robotics programs, students will have opportunities to work on real-world problems with software such as Java and SOLIDWORKS. This helps students learn skills that they can later apply to college and the workforce.

In the fall of 2021, Allendale Robotics decided to transition all of the lower elementary and middle school robotics teams to VEX Robotics. Our intent is to have more teams with fewer students per team. Smaller teams mean more students will have more hands on with assembly and programming, thus empowering more students with confidence. We have several teams geared for all grade levels: VEX 123 (K-1st Grade), VEX GO (2nd & 3rd Grade), VEX IQ (4th& 5th Grade), VEX Robotics Competition (6th- 8th Grade).

To offer these programs to the students in your community, we need your help through funding and sponsorship. Your organization has the opportunity to donate through a monetary gift or a donation of various resources, as well as volunteer-based mentors to help our students grow and succeed. If you or your employees would like to donate their time, please feel free to contact us.

Thank you for your time and consideration. We look forward to working with you and your company towards our goal of creating a more open minded and hard working generation.

Sincerely,

Chad J. Potinsky
Allendale Robotics Coach
Sr. Advanced Manufacturing Engineer (ODL, Inc.)
Allendale High School
10760 68th Avenue
Allendale, Michigan 49401

Sponsorship

Robotics teams are supported by a strong network of corporations, foundations, educational and professional institutions, and individuals. This support, including financial contributions, in-kind donations, employee volunteering and mentoring, provides vital resources for our programs.

With the support of great organizations like yours, we can make the opportunities, offered through FIRST and VEX Robotics, available for the students of the Allendale, Jenison, Homeschool, and surrounding communities.

Running a FIRST and VEX Robotics team(s) takes funding, mentors, facilities, equipment, and materials. It is through sponsors that we are able to provide these resources to the team. Funding for the Allendale Robotics helps reduce the competition fees, travel expenses, materials for the robot, team uniforms, and support.

Investing in the future is always a great opportunity. As we invest in the students on the Allendale Robotics team, we are investing in our future. We will inspire students to pursue careers in science, technology, and engineering. It is this investment that ensures our community, state, country, and world of a better future.

Benefits of Sponsoring

External / Marketing

- Helps to inspire the future engineering and technical workforce
- Provides renewed inspiration to company engineers and employees
- Creates partnerships between corporations and schools
- Provides brand / corporate awareness
- Demonstrates community commitment
- Networking opportunities
- Strengthen company reputation in the community

Internal Benefits

- Provides a talent pool for internships
- Provides employee volunteer opportunities
- Improves employee attitudes about company
- Helps to attract and retain good employees
- Creates a pipeline for interns and future employees

Benefits to Students and Community

- Inspires students in science and technology
- Makes a connection between classroom learning and real-world application
- Provides opportunities by developing technical skills
- Encourages careers in science and technology
- Teaches teamwork
- Encourages communication skills
- Builds self esteem
- Builds skills that can be used in the real world
- Builds a technologically literate workforce
- Teaches creativity and problem-solving skills
- Helps to get students to try things outside of their comfort zone
- Teaches about time / project management

Sponsorship Opportunities

- Provide financial support
- Supply parts, equipment and/or facilities
- Involve employees as mentors and/or volunteers
- Provide internships to students
- Offer scholarships

Allendale Robotics

VEX 123 | VEX GO CHALLENGE | VEX IQ CHALLENGE | VEX ROBOTICS COMPETITION | FIRST ROBOTICS COMPETITION

Who we are:

Allendale Robotics has several teams geared for all grade levels: VEX 123 (K–1st Grade), VEX GO (2nd & 3rd Grade), VEX IQ (4th& 5th Grade), VEX Robotics Competition (6th– 8th Grade), and FIRST Robotics Competition (9th–12th Grade).

Even though we are based in Allendale, we reach out to other school districts. We have students from local school districts such as Allendale, Coopersville, Homeschoolers, Hudsonville, Jenison, Reeths–Puffer, and other surrounding schools.

What we learn:

Leadership Skills:

- Workforce Training
- Responsibility
- Public Speaking
- Team Relationships
  -Communication
  -Working with Adults
- Critical Thinking
- Problem Solving

Technical Skills:

- 3D SolidWorks
- 2D Detailing
- Programming in Java & Python
- Electric Wiring
- Pneumatic Plumbing
- Machining
- Machine Assembly

Business Skills:

- Applying STEM Principals
- Marketing
- Business Development
- Budgeting/Money Management
- Connecting with Community
- Outreach

How you can help:

There are many costs associated with running each team. We look for grants and sponsorships to help us fund the programs and provide opportunities for students that will last a lifetime. Help us reach our goal by supporting Allendale Robotics. All donated money can be tax-deductible.

Allendale Robotics

Community Sponsorship provides the Allendale Robotics teams the opportunity to mentor and inspire a growing number of students in the Allendale, Coopersville, and Jenison school districts along with Homeschool students. Please consider making an investment in the future of business and industry, and the individuals who will lead the way. All contributions may be made through Allendale Public Schools and are tax-deductible.

Sponsorship Levels:

Diamond - $5,000 – Company Name announced at each competition
Platinum - $2,500 – Company logo and name placed on the robot
Gold - $1,000 – Company name listed on T-shirt
Silver - $500 – Company name on all promotional materials
Bronze - $250 - Company name and logo on website

**Returning sponsors receive one level higher benefit than the amount received.*
**Sponsors receive the specific benefit listed after the selected sponsorship amount, as well as all items for all levels below the selected amount.*
**If you cannot support us financially, check out our website to donate needed materials.*

Please complete and return the form below with your contribution
Checks can be made out to "Allendale High School" with a note in the memo "Allendale Robotics"

Contribution Amount: $ _____
And/or
Materials/Resources: _____

(receipt and W-9 will be sent upon receiving the contribution if requested)

Sponsor Name: _____
(please list company/business name as you want it to appear on website, shirt & PR material)

Sponsor Contact: _____

Phone: _____

Address: _____

City/State/Zip: _____

E-mail: _____

Corporate URL: _____

Please e-mail a high-resolution logo to:

Chad Potinsky: chad@allendalerobotics.com Cell: (616) 836-2938

Checks payable to: Allendale Public Schools - Allendale Robotics - 10760 68th Ave. - Allendale, MI 49401

Allendale Robotics

VEX 123 | VEX GO CHALLENGE | VEX IQ CHALLENGE | VEX ROBOTICS COMPETITION | FIRST ROBOTICS COMPETITION

Thank you for choosing to sponsor Allendale Robotics. If you cannot support us financially, please consider these equally important alternatives.

Room Supplies:

- Laptops
- Printers
- Video Equipment

Community Contribution:

- Detail Machining
- Food and Meals
- Store Discounts
- Gift Cards
- Volunteer Mentoring
- 3D Materials

Raw Materials:

- ⅛ inch Wall Tube Stock
  - 1x2 inch, 6061 aluminum
- ⅛ inch Wall Angle
  - 1x1 inch, 6061 aluminum
- ⅛ inch Bar Stock
  - Various width, 6061 aluminum
- 3/16 Polycarbonate Sheets
- Button/Flat Head Cap Screws

BHCS	FHCS
8-32 x ¼	8-32 x ¼
8-32 x ⅜	10-32 x ¼
8-32 x ½	10-32 x ⅜
10-32 x ⅜	10-32 x ½
10-32 x ½	¼-20 x ½
¼-20 x ⅜	
¼-20 x ½	

FRC: The TriSonics

What is FRC?

FIRST Robotics Competition (FRC) is an annual robotics program. Students are guided by mentors in the fields of **S**cience, **T**echnology, **E**ngineering, and **M**athematics. Every January teams receive a challenge that must be completed by building a working robot within six weeks. During this time, students strategize, design, prototype, build, program, and test the robot. The team must work together to solve challenging problems with limited resources, materials, time, and budgets. This teaches real-life scenarios that businesses and organizations face.

After this six-week period, Michigan teams compete in district events that measure the effectiveness of the robot. FRC teams compete to earn points to qualify for the Michigan District Championship. If teams rank high enough at the District Competitions, they qualify for the FIRST Championships in Houston, TX. There they will compete against FRC teams from around the world.

Who We Are

Team 4003 is based in Allendale, Michigan. Founded in 2012, we include students from Allendale and the surrounding communities. Since 2012, our team has grown dramatically with over 35 students. Young men and women, working alongside mentors, dedicate their time to the success of the team. Students work an average of 20 hours a week, showing passion for what they do.

About the Team

Our program emphasizes student involvement in all aspects of the team's development of strategy, planning, communication, design, fabrication, and programming. Students can specialize in one or more subgroups within the team.

In 2023, the team had twelve volunteer mentors working with the team of 27 students. They inspire and encourage the students to develop skills and take risks.

Anyone can volunteer to assist the team. Everyone is encouraged to attend the free competitions.

Our teams are more than robots. Students develop a business plan, seek sponsors and present a positive image of our team. The students are given hands-on experience providing them with skills that can lead to opportunities and success for the future.

K-1st Grade **2nd-3rd Grade** **4th-5th Grade** **6th-8th Grade**

Allendale Robotics pioneered VEX IQ to our 6th grade students in our 2019-2020 Season. In 2021-2022 Allendale Robotics decided to convert all our Elementary and Middle School students to VEX teams. Our approach is to form smaller teams that will allow more students to have hands-on building and programming skills. VEX is also structured differently allowing teams to compete more often in leagues and tournaments. This allows teams to make continuous improvements to their robots between competitions.

K-1st Grade

These students are given a 123 robot that is programmable without a computer! Using the VEX Coder and physical cards, students can learn real programming away from screens. They learn how to program their robot to do specific commands from moving left and right to playing different sounds! This past spring was the first time we had a VEX 123 team launch. Below are our students learning and programming their robot!

(Robot image from vexrobotics.com)

2nd-3rd Grade

The VEX GO Competition is a competition that takes place right in the classroom. The students will go head-to-head in online challenges that drive them to put their STEM skills to the test in a uniquely engaging setting. Along the way, they'll learn scientific concepts, teamwork, and perseverance. We had one team last spring but with more students interested we have two teams this fall! VEX GO teams! Below are pictures of the teams learning more about their robot.

(description and image from vexrobotics.com)

4th-5th Grade

In the VEX IQ program, students will work with the VEX IQ building system to create a robot to achieve the game challenges. Students will build and program the robots to work both autonomously (using only robot code and sensors) and student operated with controllers. Teams will compete in a League environment with other local VEX IQ teams. Last year we had 3 VEX IQ teams, one of which advanced to the State championship and won the Think award advancing to the world championship. This year Allendale is projected to have 5 VEX IQ teams!

6th-8th Grade

Last year we had 7 teams; one of which was an all girls team. This year our program is projected to have 6 VRC teams. Teams average 4 students per team giving them all more hands-on experience. Students, with guidance from parent mentors, build innovative robots and can compete year-round. These robots incorporate motors, sensors, vision and other elements to help the robot achieve point scoring tasks. Teams will compete in 1) Skills challenges (independently). 2) Autonomously (programmed routines) & 3) Driver operated competitions. The teams will participate in local league competitions and compete at tournaments. Last year, six of our teams advanced to the State championship and four advanced to the World Championship in Dallas, Texas. Our teams won awards from Event Champions to Build, Skills, Amaze award winners and more.

The TriSonics 2023 FRC Robot

Meet our 2023 Robot that was designed, built, and competed in the 2023 Season of FIRST Robotics Competition - Charged Up. Student team members learned building, design, and programming skills as they worked in a collaborative environment to fully create the robot in just six weeks.

Mechanical Facts

- Horizontal and vertical cascade systems
- Unique design
- Entire robot modeled and

Programming Facts

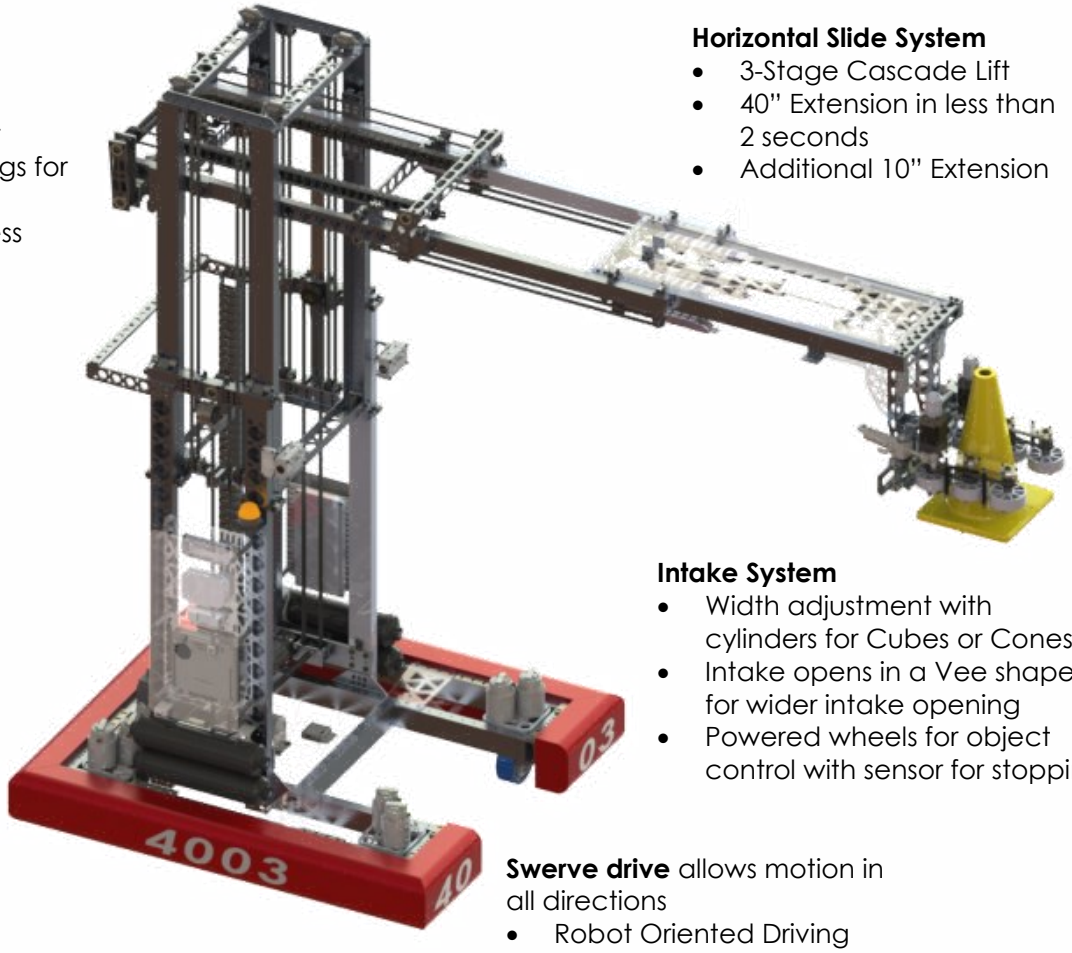
- Multiple Unique Autonomous routines
- Motion profiling used to autonomously drive pre-

Vertical Lift System

- 2-Stage Cascade Lift
- Constant Force Springs for Counterweight
- 44" Lift Extension in less

Horizontal Slide System

- 3-Stage Cascade Lift
- 40" Extension in less than 2 seconds
- Additional 10" Extension



Intake System

- Width adjustment with cylinders for Cubes or Cones
- Intake opens in a Vee shape for wider intake opening
- Powered wheels for object control with sensor for stopping

Robot fully retracted

Swerve drive allows motion in all directions

- Robot Oriented Driving
- Field Oriented Driving

The TriSonics: 12 Years of Winning

Every year, the TriSonics students and other FIRST teams are introduced to a new game and challenge they must complete. These games require teamwork and dedication from each and every team to test the skills of each individual member. Founded in 2012, our rookie program got off to a great start; here are some of our recent accomplishments.

For more information regarding the games and details visit: www.usfirst.org/frc

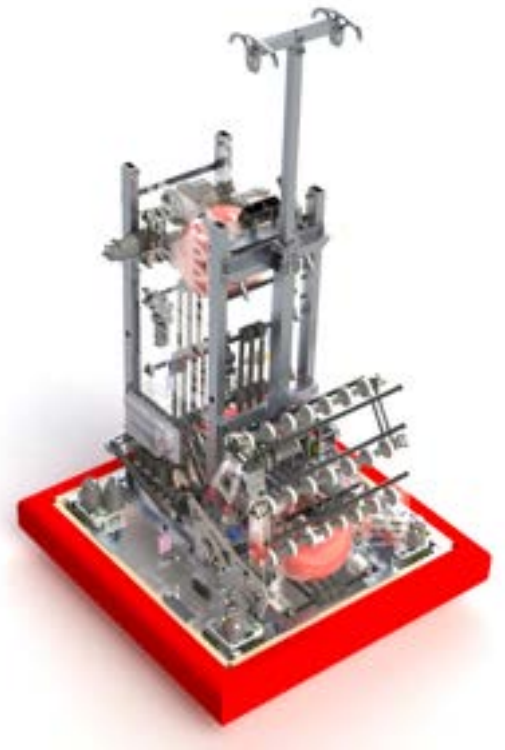
2023-Charged Up

Standish-Sterling District Event
- Ranked 13th in Qualifying
- Industrial Design Award
- District Event Semifinalist

West Michigan District Event
- Ranked 3rd in Qualifying
- Quality Award
- District Event Semifinalist

Michigan State Championship
Consumers Energy Division
- Ranked 4th in qualifying
- Excellence in Engineering Award
- District Event Semifinalist

FIRST Championship Houston (Worlds)
Curie Division
- Ranked 41st in Qualifying
- Subdivision Semifinalist



2022-Rapid React

Saint Joseph District Event
- Ranked 6th in Qualifying
- Industrial Design Award
- District Event Winner

West Michigan District Event
- Ranked 2nd in Qualifying
- Quality Award
- District Event Winner

Michigan State Championship
Consumers Energy Division
- Ranked 11th in qualifying
- District Event Semifinalist

FIRST Championship Houston (Worlds)
Turing Division
- Ranked 21st in Qualifying
- Subdivision Quarterfinalist

TriSonics at Worlds in Houston, TX

The TriSonics: 12 Years of Winning

2021-Infinite Recharge

At home challenge

Virtual Competitions against teams from around the country and world

- Ranked 5th out of 29 teams in our group
- Excellence in Engineering award
- Competed with video submissions and time trials
- Modified the 2020 robot to compete as needed for the skill challenges.

Game design challenge

Team members created a new FRC game design and submitted a description of the game, rules, and point structure.

2020-Infinite Recharge

Saint Joseph District Event

- Ranked 11th in Qualifying
- District event Semi- Finalist
- Covid ended the season pre-maturely

2019-Deep Space

Saint Joseph District Event

- Ranked 10th in Qualifying
- Engineering innovation award
- District event Finalist

West Michigan District Event

- Ranked 4th in Qualifying
- Autonomous Award
- District Event Semifinalist

Michigan State Championship

- Ford Division
  - Ranked 26th in qualifying
  - District Event Quarterfinalist

FIRST Championship Detroit (Worlds)

- Daly Division
  - Ranked 4th in Qualifying
  - Subdivision Winning Alliance

The TriSonics: 12 Years of Winning

2018 – FIRST Power Up

Kettering #2 District Event
- Ranked 1st in Qualifying
- District Event Winner
- Innovation in Controls Award

West Michigan District Event
- Ranked 7th in Qualifying
- District Event Winner
- District Chairman's Award Winner

Michigan State Championship – Ford Division
- Ranked 3rd in Qualifying
- Division Winning Alliance
- State Championship Winning Alliance

FIRST Championship Detroit (Worlds) – Archimedes Subdivision
- Ranked 4th in Qualifying
- Subdivision Winning Alliance
- Autonomous Award

2017 – FIRST Steamworks

Lakeview District Event
- Ranked 11th in Qualifying Matches
- District Event Winner
- Innovation in Controls Award

West Michigan District Event
- Ranked 5th in Qualifying Matches
- District Even Finalist
- Quality Award

Michigan State Championship - DTE Energy division
- Ranked 15th in Qualifying
- Division Quarterfinalists
- Innovation in Control

World Championship - Carson Subdivision
- Ranked 10th in Qualifying
- Subdivision Quarterfinalists

2016 – FIRST Stronghold

Waterford District Event
- Ranked 8th in Qualifying
- District Event Finalists
- Innovation in Controls Award

West Michigan District Event
- Ranked 12th in Qualifying
- Quarterfinalists
- Innovation in Control

Michigan State Championship
- Ranked 4th in Qualifying
- Semi-finalists
- Innovation in Controls Award

World Championship - Archimedes Subdivision
- Ranked 2nd in Qualifying
- Subdivision Semi-Finalists
- Excellence in Engineering Award

The TriSonics: 12 Years of Winning

2015 – Recycle Rush

Howell District Event
- Ranked 6th in Qualifying
- Creativity Award
- District Event Finalist

West Michigan District Event
- Ranked 4th in Qualifying
- Semifinalists
- Judges' Award

Michigan State Championship
- Ranked 44th in Qualifying
- Quarterfinalists

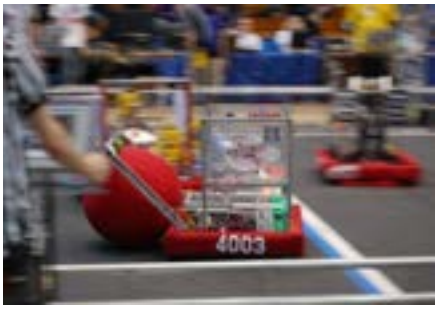
World Championship – Tesla Subdivision
- Ranked 28th in Qualifying
- Subdivision Quarterfinalists

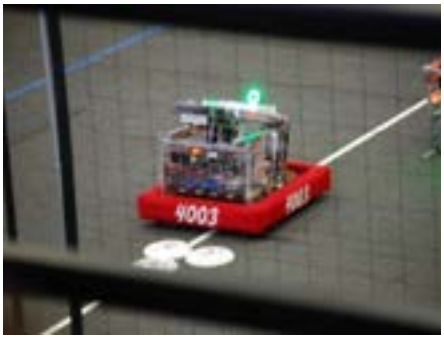
2014 – Aerial Assist

Gull Lake District Event
- Ranked 7th in Qualifying
- District Finalists

West Michigan District Event
- Ranked 8th in Qualifying
- Quarter Finalists

Michigan State Championships
- Ranked 28th in Qualifying





2013 – Ultimate Ascent

Traverse City District Event
- Ranked 21st in Qualifying
- Quarter Finalists

West Michigan District Event
- Ranked 19th in Qualifying
- District Finalists
- Team Spirit Award

2012 – Rebound Rumble

Traverse City District Event
- Ranked 2nd in Qualifying
- Rookie All Star
- Highest Rookie Seed
- District Event Winners

West Michigan District Event
- Ranked 17th in Qualifying
- Quarter Finalists

Michigan State Championship
- Ranked 25th in Qualifying

The TriSonics: 12 Years of Winning