

2018-2019 Business Plan



Hybrid Hornets #5150

Kearsley High School

Flint, Michigan

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1.0 Executive Summary

1.1 MISSION STATEMENT: “Strong Alone; Stronger United.”

We are strong in our grit and determination, strong in our commitment to each other and the values of *FIRST*, including Gracious Professionalism and Coopertition. We may come from a largely impoverished area, and we may not have access to resources like machining equipment, but we outweigh these weaknesses with our strength of character, our work ethic, and our integrity to our team, our community, and ourselves

Hybrid Hornets’ Goals & Objectives:

- Respect for teammates, leaders and mentors at all times
- Foster curiosity and give all students a chance to excel and innovate.
- Learn time management and goal setting strategies
- Promote *FIRST* values and STEAM within our community

1.2 Team Facts

Team Name: **Hybrid Hornets FRC #5150** from Kearsley High School – Flint, Michigan
 Rookie Year: 2014
 Team Members: 15 students, 11 mentors
 Website: www.HybridHornets.weebly.com
 Email: HybridHornets5150@gmail.com

2018-19 Team Members

Seniors	Juniors	Sophomores	Freshmen	Mentors
Richard Herta Chiny Miles Braden Schott	Conner Earegood Jared Haack Brooke McCulley Kelsea Wright Vincent Zamora Cole Zemore	Megan Herta* Marianna Martin Marisol Martin Quiad McArthur Nicholas Moyer	Jacob Callahan*	Greg Burke* Maureen Callahan* Cindy Carnes Gabe Carnes Jean Herta Tim Herta* Dylan McIntyre Lindsay Nofs* Steve Nofs Kristie Zamora Stephanie Zemore*

* New team member, 2018-19

Volunteer Mentors’ Roles

- Greg Burke – Programming
- Maureen Callahan – Parent – Team Management
- Cindy Carnes – Parent of Alumni – Communication & Outreach
- Gabe Carnes – Alumni – Team Management
- Jean Herta – Parent – Lead Mentor
- Tim Herta – Parent – Mechanical & Fabrication
- Dylan McIntyre – Alumni – Mechanical & Electrical
- Lindsay Nofs – Alunmi – Communication & Outreach
- Steve Nofs– Parent of Alumni – Build Team & Programming
- Kristie Zamora – Co-Lead Mentor – Parent – Business Team & Safety
- Stephanie Zemore – Parent – Fundraising

Workshop	Contacts
<p>Jane Burgtorf Building 4160 Underhill Dr. Flint MI 48506</p> <p>Build & Competition Season: January-April M-Th.: 6:00-8:00 p.m. S: 1:00-9:30 p.m. Sun.: 1:00-9:00 p.m. Off-Season: May-December M & W: 6:00-8:00 p.m. Advanced notice for weekend events</p>	<p>Jean Herta, Lead Mentor jherta@spsd.net</p> <p>Kristie Zamora, Co-Lead Mentor kristiezamora@comcast.net</p>

2.0 TEAM HISTORY & GROWTH

2.1 Past

Hybrid Hornets FRC team was formed by Kearsley science teacher Brandi Schmidt and parents, supported by a 2014 grant from the State of Michigan. Our team focused primarily on building a strong robot that could complete tasks in each game. Little thought was given to the future, budgeting, or awards outside of the bare necessities. We qualified for the Michigan State Championship and *FIRST* Championship-St. Louis twice in these early years.

In the fall before the 2018 season, our team built a parallel team focused on outreach, business, and award submissions. We felt our weaknesses were in planning for the loss of organizational memory as members and mentors moved on from team 5150. Looking to unite in preparation for subsequent years, we created a business plan that won the Entrepreneurship Award at both of our 2018 district events. We also submitted for the Chairman's Award last year for the *FIRST* time and felt great about how we had enriched our story's business side.

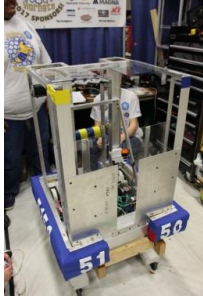

2.2 Present & Future



Just before the season started in December 2018, two of our longtime coaches stepped down to become caregivers to several of their family members. With support from our schools' administration & dedicated parents, Hybrid Hornets implemented our Action Plans and Risk Mitigation from our 2018 Business Plan.

We are working together to be competitive, successful team this season. We submitted for the Woodie Flowers and Digital Animation awards for the first time this season. Also, we are increasing our use of resources, including: sensors, 3D printing, and networking with other FRC teams to fundraise cooperatively.

We share the value of STEAM to our community, paving the way for our district to offer coding clubs and classes, as well as to hold FTC qualifiers at our local middle school. We plan to hold resume-building workshops for our students in the future, helping show employers and colleges that our students are truly skilled. We want all of our teammates to succeed and shine in their careers, and many have returned to help as mentors. We also plan to increase our education in programming and CAD, making sure our members can use software and ensuring all can perform critical tasks for our team. **We see opportunity in the loss of our programming mentor to stress team members' familiarity with coding.**

2.3 Team Growth & Performance

Year & Game	Events and Awards	Robot & Info
2018-19 DEEP SPACE	Kettering University #1 FiM Event Week 1 <i>February 28-March 2, 2019</i> Alpena #2 FiM Event Week 5 <i>March 28-30, 2019</i>	
2017-18 POWER UP!	Kettering University FiM Event Week 1 <ul style="list-style-type: none"> • 12th Seed • 4th Alliance 1st Pick • Entrepreneurship Award Sponsored by Kleiner Perkins Caufield and Byers Lansing FiM Event Week 4 <ul style="list-style-type: none"> • 11th Seed • 3rd Alliance 1st Pick • Entrepreneurship Award Sponsored by Kleiner Perkins Caufield and Byers Michigan State Championship Ford Division <ul style="list-style-type: none"> • Rank 18 	Robot: <i>Hornet V</i> <ul style="list-style-type: none"> • Able to reach the scale, switch & exchange • Operate scale & switch in Auton • 115 lbs.
2016-17 STEAMWORKS	Kettering University FiM Event Week 1 <ul style="list-style-type: none"> • 10th Seed • 2nd Alliance 1st Pick • District Event Finalist Marysville FiM Event Week 6 <ul style="list-style-type: none"> • 19th Seed • 5th Alliance 1st Pick • Semi-finalist • Quality Award Michigan State Championship Dow Division <ul style="list-style-type: none"> • 12th Seed (37th at MSC) • 7th Alliance Captain • Semi-finalist FIRST Championship - St. Louis Carson Division <ul style="list-style-type: none"> • 42nd Seed • 7th Alliance 3rd Pick • Sub-division Quarter-finalist 	 Robot: <i>Buzz LightGear</i> <ul style="list-style-type: none"> • Gear Manipulator • Climber • 6 Wheel Drive 4" Traction Wheels • 24.5" long x 23" wide x 35.75" tall without bumpers; 71.7 lbs.
2015-16 STRONGHOLD	Kettering U. FiM Event Week 1 <ul style="list-style-type: none"> • 1st Seed Captain • Semi-finalist • Team Spirit Award Marysville FiM Event Week 4 <ul style="list-style-type: none"> • 13th Seed • 5th Alliance 1st Pick • Semi-finalist • Quality Award Michigan State District Championship <ul style="list-style-type: none"> • 4th Seed Captain • Finalist FIRST Championship – St. Louis Newton Division <ul style="list-style-type: none"> • 5th Seed Captain • Sub-division Quarter-finalist 	 Robot: <i>Sir Buzzbee the Third of Robotis</i> <ul style="list-style-type: none"> • Low Goal Shooter • "Anti-Tortuga" Arm/Ball Intake/Class A Manipulator • Outer Works Extraordinaire • 6 Wheel Drive 8" Pneumatic Wheels • Modified AndyMark KoP chassis • Low Bar Capable - 14" Tall • 30" wide x 28" long; 72 lbs.

<p>2014-15 RECYCLE RUSH</p>	<p>Kettering University FiM Event Week 2</p> <ul style="list-style-type: none"> • Rank 30 • Avg. Qualification Score of 29.33 <p>Livonia FiM Event Week 5</p> <ul style="list-style-type: none"> • Rank 25 • Avg. Qualification Score of 69.67 • 6th Alliance 2nd Pick • Semi-finalist <p>Great Lake Bay Bot Bash</p> <ul style="list-style-type: none"> • H.H. Dow High School, Midland • Fire Up Bot Award 	 <p>Robot: <i>Hornet II</i></p> <ul style="list-style-type: none"> • Able to stack totes & cans • Elevator system power by two BAG motors on 100:1 VersaPlanetary gearbox per side • 4 Wheel Drive 6" Mecanum • Modified AndyMark KoP chassis • 41" wide x 27" long x 67" tall, 119 lbs.
<p>2013-14 AERIAL ASSIST</p> <p><i>Rookie Year 2014</i></p>	<p>Kettering University FiM Event Week 2</p> <ul style="list-style-type: none"> • 8th Seed Captain • Quarter-finalist <p>Great Lakes Bay Region FiM Event Week 4</p> <ul style="list-style-type: none"> • Rank 19 	 <p>Robot: <i>Hornet I</i></p> <ul style="list-style-type: none"> • "Up and Over" Ball Intake • Pneumatic ball passer • 6 Wheel Drive 4" Traction Wheels • AndyMark KoP chassis • 29" long x 27" wide x 34" tall

2.4 Award History

Hybrid Hornets have earned the following awards at competitions and off-season events:

- 2017-28 Power Up! – Kettering University FiM Event Week 1, Entrepreneurship Award Sponsored by Kleiner Perkins Caufield and Byers
- 2017-18 Power Up! – Lansing FiM Event Week 4, Entrepreneurship Award Sponsored by Kleiner Perkins Caufield and Byers
- 2016-17 Steamworks - Marysville FiM Event Week 6, Quality Award
- 2015-16 Stronghold - Kettering University FiM Event Week 1, Team Spirit Award
- 2015-16 Stronghold - Marysville FiM Event Week 4, Quality Award
- 2014-15 Recycle Rush - Great Lake Bay Bot Bash, Fire Up Bot Award

3.0 Team Members & Structure

3.1 Hybrid Hornets Core Values

Our core values are aligned with *FIRST* and Kearsley High School's mission statement & Be Code:

Kearsley High School will promote life-long learners by demonstrating - PRIDE
Perseverance | Responsibility | Integrity | Dedication | Excellence

Kearsley students are expected to follow the **Be Code** at all times and in all locations while coming to school, in school and going home -
Be Ready | Be Responsible | Be Respectful

We believe, honor and follow *FIRST* Core Values:

- We are a team.
- We do the work to find solutions with guidance from our coaches and mentors.
- We honor the spirit of friendly competition.
- What we discover is more important than what we win.
- We share our experiences with others.
- We display Gracious Professionalism® and Coopertition® in everything we do.
- We have FUN!

Hybrid Hornets are a diverse team in race and gender. We strive to make our workshop inviting to all and a safe place for anyone interested in robotics. We do this by moderating discussion between teammates and making sure all points of view are respected. We give all students a chance to excel and innovate.

We are more than just robotics students. We are boy scouts, band members, chess players, quiz bowlers, journalists, NHS members, future problem solvers, LGBTQ supporters, and employees. We give back to our community, scrubbing veterans' headstones at the Great Lakes National Cemetery and tutoring our peers after school. No challenge is too great and no task is too small for us to unite in solving.

3.2 ORGANIZATIONAL STRUCTURE

The Hybrid Hornets are divided into two teams with smaller groups, Build and Business. Our Team Structure with tasks was shared in January 2019 with the team. Members were asked to pick the groups they would like to work on. They were encouraged to pick a role on the Build Team AND a role on the Business Team. We are cross-training for sustainability, growing skills and more leadership opportunities. Mentors have been assigned to each group. (Team Structure, Appendix 1)

3.3 Project Management

We have a large calendar in our workroom, and one on our website, listing important deadlines and upcoming team events. Hybrid Hornets discuss upcoming deadlines and the tasks needed to be completed at the beginning of each week. Team Management members are researching the benefits of using Project Management software, such as Trello and Asana, for next year.

3.4 Member Benefits

Participating on our robotics team, Hybrid Hornets are able to:

- Apply engineering principles to the design, build and operation of robots for competitions
- Learn and use CAD and other engineering software
- Hands-on experience with multi-disciplinary collaborative problem solving
- Program robots for both autonomous and human operated modes
- Travel to competitions
- Apply for scholarships
- Network with professionals that serve as mentors
- Volunteer in our community
- Earn a Varsity Letter for participation

3.5 Human Resources

Team Members – Our team members come from diverse backgrounds and bring a wide-range of skills to the group. We value academic success along with team success. Our students must:

- Maintain grades and school attendance
- Follow the team’s Member Expectations and Core Values
- Learn in training seminars and be knowledgeable of shop safety and tools
- Attend and actively participate in workshop meetings
- Support all team workgroups
- Participate in team fundraising and outreach efforts

Hybrid Hornet Mentors – Our 11 mentors are parents of current team members or alumni. Our mentors focus on:

- Serving – They give freely of their time and skills to support the team
- Safety - Background security checks have been made through FIRST and Kearsley Community Schools
- Learning – They have attended workshops at Kettering; those offered by regional FRC teams; and FIRST training through Schoology

Parents/Family Members – Hybrid Hornets has an amazing support system of parents, grandparents, aunts/uncles and siblings. They assist us by:

- Transporting team to workshops, competitions and community events
- Providing team meals
- Helping team fundraise
- Supporting with outreach and community service

3.6 Location

Hybrid Hornets had several workshop locations in our early years. With support from Kearsley Community Schools, we have settled into the Jane Burgtorf Building with two rooms, one for building and one for programming. Kearsley provides our team with Wi-Fi, custodial services and utilities. We also have a store room available for our use.

- 2013-14 Aerial Assist | KHS Cafeteria; off-site at Fitzgerald family’s garage; local antique store backroom
- 2014-15 Recycle Rush | Kearsley Community Schools Burgtorf - 1 room
- 2015-16 Stronghold | Kearsley Community Schools Burgtorf - 1 room
- 2016-17 Steamworks | Kearsley Community Schools Burgtorf - 2 rooms (relocated)
- 2017-18 Power Up! – Present | Kearsley Community Schools Burgtorf - 2 rooms + 1 storeroom

3.7 Schedules

Build & Competition Season: January-April

Monday through Thursday: 6:00-8:00 p.m.

Saturday: 1:00-9:30 p.m.

Sunday: 1:00-9:00 p.m.

Off-Season: May, September-December

Monday & Wednesday: 6:00-8:00 p.m.

Advanced notice for summer and weekend events

3.8 Team Communication

Hybrid Hornets use the app, SLACK, as the primary communication tool for the team. It is used to communicate at competitions and brainstorming. Direct messages are sent to channels created in the app, i.e. Mentors, Programming, Chairman's Award team. SLACK proved to be a great safety asset to the team. In 2017, the power at the Marysville competition went out. We were able to locate and communicate with all of our team members and instruct them to meet at our pre-designated safety spot.

Email is used for more detailed and important communications to parents/guardians and students. Our mentors will use email to send out information about travel for competitions and they typically include required attachments. Our team's email address is HybridHornets5150@gmail.com. Team documents and photography are shared in GoogleDocs. The team also has a Shutterfly account for creating team books and thank you cards.

We also share information on a private Facebook group with our Hybrid Hornet family.

3.9 Off-Season Events

Our first off-season event was the 2015 Great Lake Bay Bot Bash at H.H. Dow High School in Midland. We look forward to participating in Lapeer's RoboCon and the Kettering Kick-off, and have done so for the past four years. We have a goal to compete in Indiana Robotics Invitational.

4.0 RISK ANALYSIS

4.1 Strategic Planning Process

The Hybrid Hornets completed a SWOT analysis for the first-time in January 2018 and again in 2019, to identify team strengths, weaknesses, opportunities & threats. Each student team member and mentor had the opportunity to participate and share observations. (Action Plans & Risk Mitigation, Appendix 2)

4.2 SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> - Proud of our team, attended 2 Championships - School support - Diverse team members and skill sets - Dedicated mentors and supportive parents - Alumni assisting as mentors - Strong FTC team – future Hybrid Hornets - Developed process for brain storming & strategy - Team members are supportive and have a good sense of humor 	<ul style="list-style-type: none"> - Cell phone use in workshop - Students not showing up - Students’ other commitments, jobs & activities - Not focused in brainstorming - Clustering of friends/not including themselves - Funding - Restricted internet
Opportunities	Threats
<ul style="list-style-type: none"> - Scholarship opportunities - Identify new sponsors & fundraising events - Gain new skills & experience - Recruiting new students & mentors - Travel - Establish a new FIRST team – FLL - Learning how to be part of a team - Volunteering & outreach 	<ul style="list-style-type: none"> - Losing a sponsor - Loss of mentors - Natural disaster/Snow days - School stops giving support - Students cannot travel to competition because of grades - Injury in the workshop or at competition - No/Weak internet in workshop

5.0 MARKETING

The team is deliberate in our marketing efforts. We focus on developing long-term relationships. We use our website, Facebook & Twitter to draw in potential members and sponsors. We present at school board meetings, elementary & middle school Science Nights. Our school district newspapers *The Eclipse* and the *Connection* show our team and achievements. Hybrid Hornets march in our homecoming parade & support our school in the ABC12’s Spirit Cup. We also use volunteerism to help our community while raising brand awareness.

5.1 Target Audiences

Hybrid Hornets have identified several audiences we would like a stronger relationship with, including: new student team members and their families; our partners (school district, sponsors and community organizations); FIRST teams; and finally our team members, families, mentors and team alumni.

5.2 Team’s Digital Footprint

- Website: www.HybridHornets.weebly.com
- Facebook: Hybrid Hornets | <https://www.facebook.com/HybridHornets/>
- Twitter: @FRC5150 | <https://twitter.com/FRC5150>
- YouTube: <https://www.youtube.com/channel/UCYfNKsQGv9cRQYszJVhntiA>

5.3 Branding

Team members early in our history developed the branding of Hybrid Hornets. They were active participants in Kearsley’s DECA chapter.

Logo: Hybrid Hornets has two logos – the Hornet and also HH & team number. Both of our logos are used on team wear, website, social media, stationary and spirit.



Team Colors: Blue - #0152be and Yellow - #f2ce3a

Graphic Standards: Title text - Rod 24 pt.
 Body text - Sitka Text 12 pt.
 Photo captions - Narkisim 8 pt.
 Decorative - JLS Space Gothic RNC >24 pt.

Team Shirt: Light gray heather t-shirt for competitions & outreach
 Mechanic button-up shirt for final day of competition – *New*

6.0 FINANCIALS

6.1 Fundraising

We use fundraising opportunities to spread the message of FIRST and to make community partners. Through fundraising and friend-raising, we have partnered with many local businesses & orgazations. Flexible Automotion has given us thousands in tools and parts, but more valuable are the internships given to some of our students. We also get Kroger community points from supporters shopping at Kroger. We hold bottle drives, bake sales, and worked the Holly Renaissance Festival generate income. (Budget, Appendix 3)

6.2 Sponsors

Our team distributes a sponsorship letter to all team members to share in the community. It includes our budget and sponsorship levels, beginning at Steel (\$1-99) to Platinum (\$2500+). All sponsors will be thanked on our team website, banners, and social media messaging.

Hybrid Hornet’s Sponsorship Levels*

Platinum - \$2500+	Tournaments: Your company will be thanked during competition alliance selection Banner: Large logo on banner displayed at events and tournaments Large logo on team shirt & robot Memorabilia: Thank you letter and team photo
Gold - \$1000-2499	Banner: Medium logo on banner displayed at events and tournaments Medium logo on team shirt & robot Memorabilia: Thank you letter and team photo

Silver - \$500-999	Banner: Small logo on banner displayed at events and tournaments Small logo on team shirt & robot Memorabilia: Thank you letter and team photo
Bronze - \$100-499	Banner: Line of text on banner displayed at events and tournaments Line of text on team shirt Memorabilia: Thank you letter and team photo
Steel - \$1-99	Memorabilia: Thank you letter and team photo

*All sponsors will be thanked on our team website, social media messaging.

We are grateful for support we have received from:

Our Financial Sponsors

Financial Corporate	Goyette
ABB Inc.	Heritage Veterinary Clinic
Applegate Chevrolet	Huron Web Printing & Graphics
Best Value Realty	Kearsley Lake Terrace
Broneman and Peterson, Inc.	Lambaria & Lambaria
Creative Foam	Lear Corporation
Custom Personalized Lawn Care	Magna
Dewpoint	Plumbers /Pipe Fitters Union
Financial and Tax Planning	Rockwell Automation
Flexible Automation	Tompkin's Ace Hardware
Flint Auto Upholstery	
General Motors	

Sponsors Donating Goods & Services

Bob's Pizza	Michigan Lumber Co.
Brown & Sons	Mid-State Bolt & Screw Co.
Construction Fasteners Inc.	Motown Automotive
Fastenal	O'Reilly Auto Parts
Flint Fire Department	Security First Insurance Agency
Heritage Comfort Dental	SolidWorks
IntelLiDrives	Staples
Interstate Batteries of Flint	University of Michigan-Flint
Michigan Electric Supply & Advance Glove & Safety	

6.3 Member Contributions

Hybrid Hornets also contribute to the team individually within their means. There is no activity/participation fee to belong to the team. But, members are responsible for food and some of the hotel costs when we travel. Our mentors work with those that need assistance.

Our parents and families have been very supportive and generous of their time. They drive us to our competitions and team events, prepare tasty team meals during build season, donate tools to the workshop, and share their skills.

Our alumni are helping the team by volunteering as mentors. They cheer us on at competitions and have been our required team volunteer and/or photographer.

We truly are "Strong Alone; Stronger United."

7.0 Relationships: Outreach and Partnerships

7.1 Friend-raising: Community Outreach

Hybrid Hornets spread the message of *FIRST* and STEAM in our community by participating in:

- **ABC Channel 12 & ELGA Credit Union Spirit Cup**, January 2018– Demonstrated our robot when Channel 12 visited our school. It was televised on the morning news.
- **Armstrong FTC Qualifier**, Nov. 2017 – Hybrid Hornet’s Safety Captain created a **safety** display, posters and handouts for the event. Our team members, mentors and parents took **leadership volunteer roles** for this event, including: Pit Administrator, Judge’s Assistant, FTA Assistant, FTAA, Inspection, Referees and Score Keepers.
- **Great Lakes National Cemetery** Fall Clean-up, October 2017 – Team members cleaned tombstones in preparation for Veteran’s Day.
- **Factory Two** Maker’s Space – Bartered equipment for team membership and the opportunity to work alongside innovators in Flint.
- **Flexible Automation**, yearly – Visit and thank the company for their sponsorship. In summer 2017, Hybrid Hornets received a very sizable gift of material from Flexible. Our relationship with this company has resulted in a summer job for one of our students.
- **Baker College’s Hot Rod High** showcase Flint’s **Back to the Bricks** downtown festival, August 2017 - We taught children and senior citizens how to drive our robot and had hands-on STEAM activities for participants.
- Lapeer’s **RoboCon**, yearly – Teach attendees how to drive our robot and issue “Driver’s Licenses”
- **Kearsley Community School’s Board Meetings**, twice a year – Give presentations on the team’s activities
- **Kearsley Armstrong Middle School’s Science Night**, yearly – Our robot was demonstrated and students learned to drive it.
- **Kearsley Homecoming Parade**, yearly – We walk in the parade and hand out flyers for the team.
- **Hybrid Hornet Open House**, yearly – Invite sponsors, Kearsley Community and local charter schools to visit our workshop.
- **Flint Fire Department**, last two years – Visit the firefighters to thank them for their supporting our safety education.

- **Wreaths Across America**, December 2015 – Placed wreaths on Veterans’ tombstones at the **Great Lakes National Cemetery** in Holly for the winter holidays.
- LittleBits at the **Flint Public Library**, June 2016 – STEAM demonstration coordinated with the donation of toys from the LittleBits corporation to the library for elementary students.
- **FabLab** at Mott Community College, June 2016 – Summer camp with Hybrid Hornet and Armstrong FTC team members learning how to use equipment.

7.2 Mentoring and Assisting Other Teams

Hybrid Hornets are honored to be mentors to our school district’s two FTC teams – **Kearsley Clockworks #8206** and **Kearsley ScrapRats #10813**. Each year several of our team members work with the teams in the Fall. This past year we had five Sophomore and Freshman students attend their workshop meetings and help with strategy. They held mock-Judge’s Presentations and taught the middle school team members how to introduce themselves and shake hands. Hybrid Hornets attended their qualifiers and cheered for the teams.

We are proud to be a part of the *FIRST* community and have assisted teams in Michigan:

- **Annual Kearsley Armstrong FTC Qualifier** held in November– Our team members, mentors and parents took **leadership volunteer roles** for this event, including: Pit Administrator, Judge’s Assistant, FTA-in-training, FTAA, Inspection, Referees and Score Keepers. Each team member volunteered approximately 20+ hours at the event.
- Our team members helped Carman-Ainsworth Robotics Team **#314 The Megatron Oracles** (Big Mo) with scouting when they competed at Kettering University FiM Week #2 for Stronghold and Steamworks. We complete at Kettering in Week #1.
- We also helped **Big Mo** in August 2017 at Back to the Bricks. We transported their robot, carpet and tent to the event and setup our shared space.
- We teamed up with **Titanium Tigers #5114** and **Livonia Warriors #2832** for scouting at the FIRST Championship-St. Louis, April 2017.
- Our mentors have assisted the mentors of Ovid-Elsie **Marauderbots #5234** and shared our team information.

8.0 Appendix

- I Hybrid Hornets Team Structure
- II Action Plans and Risk Mitigation
- III Season 2018-19 Hybrid Hornet Budget

Action Plans and Risk Mitigation

<i>Action Plan</i>	<i>Responsible</i>	<i>Estimated Completion</i>
1. Develop Excellent Team Financing and Partner Relationship		
Continue fundraising efforts, including working at the Renaissance Festival for 8 weekends Aug.- Sept.	Fundraising Mentor	Secured Summer 2018
Give presentations and share our Business Plan with our current/past sponsors	Business Team Members	Off season each year
Seek new sponsors – 2 each year	Business Team	Fall
Give presentation to Kearsley School Board	Entire Team	Spring
2. Spread the Message of FIRST		
Establish an FLL team in Kearsley elementary schools – Presentation to school principals and school board	Lead Mentor	2019-20 season
Demo robot & hands-on activity at the Genesee County Parks Makers Faire	Communication & Outreach Team	Summer 2019
Demo robot & hands-on activity at the Henry Ford Makers Faire	Communication & Outreach Team	Summer 2019
Create Chairman's Award entry and Business Plan	Team Management	Winter
3. Develop Strong Team Leadership through Team and Community Outreach		
Host workshops on Social Media Safety and Tool Safety	Fabrication & Safety Team	Fall 2019
Volunteer at Flint Fire Department Summer events	Communications & Outreach Team	Summer 2019
Create a Facebook group for First in Michigan, District 8 to encourage communication between local teams	Communications & Outreach Team	Spring 2019
Continue local volunteering, especially in the City of Flint – i.e. Back to the Bricks; Great Lakes National Cemetery	Entire Team	Ongoing
4. Grow a Model Team		
Schedule Friday Night Fun Nights at Burgtorf, i.e. dance party or game night	Mentors plan with Team Members	Fall 2019
Continue mentoring Kearsley's FTC teams & Volunteering at Armstrong FTC Qualifier	Entire Team	Fall
Create agendas for workshop meetings	Mentors	Ongoing
Adhering to the team's core values and not tolerating bullying	Entire Team, Led by the Mentors	Ongoing
Make team-building activities a priority	Mentors and Parents	Off season, monthly
Mentor participate in training and workshops	Mentors	Spring and Fall
5. Learn and Continuously Improve by Building a Successful Robot		
Learn new skills at Flint's Factory Two maker-space	Entire Team	Off Season
Compete in Indiana Robotics Invitational	Lead Mentor	Summer 2020
Programming workshops at Burgtorf	Programming & CAD Mentors	Winter 2018
Game strategy and prototyping	Build Team	Winter
Safety Training	Safety Captain	Winter
Scouting strategy and matrix	Scout Captain	Winter

2018-19 Hybrid Hornets Budget			
REVENUE	Cash	In-kind	Total
Team Carry-Over from 2017-2018	2400		
Grants			
State of Michigan	2500		
FIRST in Michigan	2000		
Corporate Sponsorship			
10 Business Sponsors – estimated total amount	10000		
Flint Fire Department – safety equipment		100	
Bob's Pizza - meals		100	
Partnerships & Community Support			
Kearsley Community Schools	4000		
Factory Two – team membership		550	
Fundraising			
Renaissance Festival	2400		
Can & Bottle Drive	1200		
Bake sale at KHS FLVN	250		
Kroger Community Points – 9/5/2017	1200		
Individuals			
20 Individual Sponsors – estimated total amount	2000		
#5150 Contributions – travel 25 people @ \$300	7500		
TOTAL INCOME	35450	750	36200
EXPENSES	Cash	In-kind	Total
Competition			
Registration Fee & Kit of Parts (2 District Events)	5000		
Registration Michigan State Championship	4000		
FIRST Championship - Detroit	5000		
Off-Season Events (RoboCon & Kettering Kick-off)	1500		15500
Robot and Game Field Construction			
Robot parts	2500		
Game field construction supplies & game elements	2000		
Safety equipment & supplies	550	100	5150
Travel			
Hotel	6000		
Meals - Alpena, State & Championship	1500	100	
Rental U-Haul Trailer & Gas- State & Championship	750		8350
Business & PR Materials			
Lead mentor stipend - <i>pd. by Kearsley Schools</i>	1000		
Team shirts	1100		
Laptop Computer - 3	2200		
Outreach	550		
Office Supplies – Award Entries	500		
End of the Year Banquet & Varsity Letters	600	550	
Banners & Spirit	700		7200
TOTAL EXPENSES	35450	750	36200

Each team member assists with fundraising efforts and is listed as a team requirement in the Team Member Expectations.

Kearsley Community Schools' administration assists the team with accounting and budgeting. All team moneys – sponsorship, grants, fundraising and individual gifts are processed by Dara Rife, Finance at Kearsley Community Schools, 4396 Underhill Drive, Flint MI 48506.