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APRIL 14, 2023

**EAST CENTRAL INDIANA ROBOTICS
PHYXTGEARS TEAM 1720**

2023 MARKET RESEARCH REPORT

INDIANA FIRST ROBOTICS TEAMS OUTREACH AND MARKETING

OVERALL SUMMARY

Financial sustainability of an FRC robotics team is one of the more challenging aspects of running a robotics team. It's hard work and doesn't seem to be relevant to building a competitive robot, however fundraising is vital to the sustainability and longevity of the team. It's important to realize that FRC teams are, for practical purposes, a small business. Also, the financial needs of high school FRC teams are far greater than junior high FTC and VEX robotics programs and elementary FLL teams. This is due to the complexity of the robot and the technology required for construction along with event registration fees and travel expenses.

To give an idea of the impact of financial sustainability on FIRST FRC teams, the latest rookie team number is 8899, and as of 2023 there are only about 3200 active teams. COVID had a devastating impact on FRC teams. Between 2020 and 2021 the number of teams fell from 4700 down to 3100. The number of FRC teams is beginning to recover and in 2023 the number has risen slightly from the low in 2021.

OUTLINE

This document consists of three parts.

1. Observations and Trends
2. Notes and research gathered from FIRST Robotics, FIRST Indiana (FIN) and teams at the state robotics competition in Anderson Indiana on April 7-8, 2023
3. Images of sponsor banners and t-shirts displayed at the event.

FRC TEAM FUNDRAISING AND OUTREACH

I was interested in learning how other FRC teams managed fundraising and outreach. I also wanted to share some of the challenges we face at PhyXTGears and compare notes. At the Indiana state competition on April 7-8, 2023 I interviewed a number of FRC team members. I also had the opportunity to meet with FIRST Indiana, FIN, representatives.

INFORMATION COLLECTED

The conversations were free form and wide ranging on how teams conduct outreach and fundraising. The notes and research are featured below along with the names of team members I interviewed. The generous offering of information speaks highly of the integrity of FRC and the values it promotes. The conversations reflect our common concerns about team finances and providing long term service to students that participate in FRC programs. We all shared a passion for the vision and values of FIRST and individually want to see it continue far into the future, but at the same time share concerns about near term viability.

OBSERVATIONS & TRENDS

SCHOOL BASED TEAMS

Most of the teams were school based. This gives them access to a facility and shop equipment, however many times teams do not have dedicated space and are relegated to a "closet." In many cases, this also means they do not have dedicated space for a practice field. School teams sometimes have access to booster club fundraising with sports teams. In general, it seems that if a team doesn't have a champion among the teachers or administration, they will not get much support. Robotics would be considered an extracurricular activity and meet on weekdays after school, similar to sports teams. Some schools may have access to STEM programs such as Project Lead the Way, <https://www.pltw.org/>.

OUTREACH

Much of the fundraising falls to the mentors, and smaller teams do not have students for media or marketing, outside of posting on social media. Most FRC teams have a website, however many struggle to keep it updated. I found a few teams that don't have a website. Their only web presence is on thebluealliance.com. Team websites are listed below for reference.

For some teams, email outreach is more cost efficient than mailing or personal visits. One team uses <https://www.snapraise.com/> for fundraising. Another team mentioned a fundraising resource called Benevity <https://benevity.com/causes>.

SPONSORS

As expected, larger teams have, and need, more sponsors. Teams located in or near large cities have an advantage with access to large corporate sponsors. Below are pictures of sponsor lists, including large corporations such as Lilly, Carrier, APTIV, Caterpillar, Bayer Fund, UPS, Haas, and Toyota. Toyota and Caterpillar seemed to show up frequently.

Fundraising through local franchises can be productive. Local restaurants may have programs or funds available for fundraisers. Crew car wash was mentioned.

Teams can receive in-kind donations of raw materials and equipment. Lists of equipment needs allow donors to pick specific items that fit the level of giving they are comfortable with. Tiered sponsor levels is not unusual.

I came across a couple of teams that required their students to find sponsors on their own in order to cover or offset their yearly team fees. Typically the students would contact their parent's employer.

Inviting sponsors to personally visit during team meetings can be an effective means of outreach. Having a video tour available on the website can also be effective. Regarding brochures and printed materials, Canva ([canva.com](https://www.canva.com)) was commonly mentioned for creating designs. One mentor said it is important for marketing materials to include a clear call to action.

LOCAL ORGANIZATIONS

A few of the teams have close ties to organizations such as FFA and 4-H. This gives them additional means for raising funds at events such as the state fair. Some events pay students for work they do at the event. Connections to FLL, VEX and FTC teams provides a source of future students for FRC teams.

I found one team that had developed close ties to local Kiwanis clubs. Another has success with the American Legion and another connects with the local Rotary Club.

Organizations such as the local Chamber of Commerce and growth councils have regular meetings of community business leaders. There are opportunities for teams to make presentations. These organizations also have regular newsletters which can be used for outreach.

EVENTS

Local festivals and fairs are a means of outreach, and one team has had success at a local ballon festival. Another team gets exposure by displaying their robots at a local car dealership.

Working concession booths at sporting events is another means of raising funds, and in some cases it can raise several thousand dollars. One student remarked that customers would add an additional tip when they learned it benefited robotics.

ALUMNI

FIRST alumni can be a source for mentors and donations. The prime age for alumni giving is in their mid-30s, after their career and family are established. Small recurring monthly gift campaigns may be productive. For example, team 1720 may ask for \$17.20/month.

GRANTS

While most all teams depend on sponsors, not all have experience writing grants. I was able to share the IN-MaC grant contact with them, and also suggested they connect with their local community foundations. Some received grants from large corporations such as Haas and I learned that Space Force has grant opportunities. Many teams are following progress of Indiana bill 1382 which will provide grant funds for robotics teams through the Indiana DOE. Team 5010 visited the statehouse to show support for the bill. There was some confusion as to whether community teams such as PhyXTGears would be eligible for funds.

ELECTED REPRESENTATIVES

I didn't get the sense that there was much connection with elected representatives, other than Team 5010 visiting the statehouse.

MENTORS

Finding mentors is another source of concern. Parents are the primary source for mentors. Some parents continue to mentor students after their kids have graduated from high school. Retirees are another source of mentors, but are harder to find. Long term mentors are less common. One mentor said they create special documentation to help with the transition of new mentors onto the team.

FIRST has a mentor network that teams can take advantage of, but may be underutilized.

COLLEGES

Several educational institutions were represented, however Kettering University had scholarships and programs that are geared specifically for FIRST students. Their program was also unique in that its quarterly schedule requires students to intern at a company during one of the yearly quarters. This type of hands-on learning model mirrors the students' FIRST robotics experience.

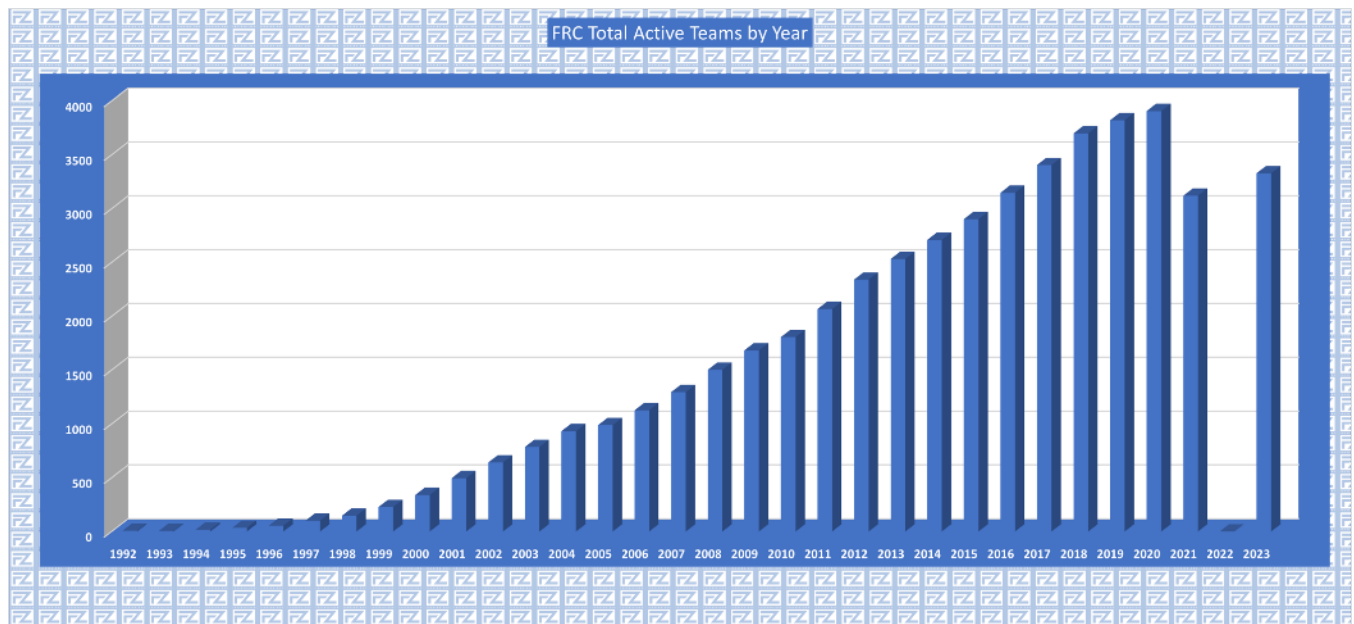
SPONSOR CORPORATIONS & DONORS

The images shown below in section three list sponsors and donors displayed by teams at the FIRST Indiana state competition. Some of the sponsor names show up on multiple teams, such as IN-MaC, AndyMark, Gene Haas, Carrier and Toyota. Interestingly, only a few listed individual non-corporate donors.

DETAILED INTERVIEW NOTES & RESEARCH

I met with a number of teams, along with members of FIRST Indiana. The teams appreciated the trading of information about fundraising and grants. They liked the gear key ring and brochures we had designed (shown below).

Chart of active FRC teams from 1992 to 2023



https://www.reddit.com/r/FRC/comments/11vxuxm/the_number_of_competing_frc_teams_by_year_tba/

Chris Osborne - Vice President of Programs FIRST Indiana Robotics.

Met Chris Osborne from FIRST Indiana. He mentioned the FIRST Mentor Network and mentor profiles as a way to locate mentors from FIRST Robotics.

Team 5484 Wolfpack <https://team5484.com/> Email outreach is the most cost effective and lowest cost. <https://www.snapraise.com/> is one program used by Team 5484 (Rachel)

Met Erica and Dave with Team 1501 - Team THRUST. <https://www.facebook.com/search/top?q=robotics%201501> and <https://www.thebluealliance.com/team/1501> Huntington County 4-H Robotics Team 1501.

They are connected with 4-H and have had success meeting with the local Rotary club. They also mentioned Space Force.

Team 868 TechHounds <https://www.techhounds.com/> (website nicely done) are a school based team out of Carmel. Talked to Larry Giggs and Piper (HS senior). They can be reached at techlead@techhounds.com. This is very large team with about 119 active students. Piper said they may start with 150 students, but it drops down after the season starts. They meet during the week after school, similar to a sports team from 4:30 to 6:30 or 4:00 to 8:30 including a meal. Occasionally they meet on Saturdays from 8am to 12pm.

As a large team they have a more significant outreach and list of sponsors <https://www.techhounds.com/sponsors.html>. They have a booster club and charge student fees which are offset by sponsors. They write grants. For fundraising they connect with local restaurants and Crew car wash.

Talked to Team 3147 Munster Horsepower, Larry Hudsinger and Peter. They talked about booster club fundraisers. They have a tiered sponsorship program. They also mentioned showing robots at local car dealerships to promote the team. <https://www.thebluealliance.com/team/3147> Using [thebluealliance.com](https://www.thebluealliance.com) for team information.

Talked to Team 3494, Chris. Quadrangles <https://www.thequadrangles.org/> They have had luck with local Kiwanis Club. They also use a local Ballon festival to reach people.

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They do in-kind donations <https://www.thequadrangles.org/support> and also have success with a "needs list" of specific items donors can purchase for the team.

Talked to Team 3176 Purple Precision <https://www.thebluealliance.com/team/3176/2022>
Promoted team at State Fair, FFA. They get paid for work they did at state fair to benefit the team. They also require students to find sponsors.

Met Michael, Emily and Brent from Team 7657 ThunderBots from Evansville. <https://www.thebluealliance.com/team/7657/2023> They mentioned having a clear call to action in their outreach.

Talked to Kevin at Team 234 Cyber Blue <http://cyberblue234.com/> He mentioned PLTW, Project Lead the Way <https://www.pltw.org/>

PLTW - Every Teacher Deserves a STEM Ally: Created by teachers and led by educators, PLTW motivates, prepares, and supports teachers as they strive to make every child in every grade STEM-successful. From the first day to the last day, we're the STEM ally you and your teaching staff can count on.

Talked to Rosalynn at Team 4580 Conductors <https://www.thebluealliance.com/team/4580> They don't have a web domain and are using [thebluealliance.com](https://www.thebluealliance.com) for basic team information.

They talked about the importance of documentation for smoother transition of mentors.

They are an Indianapolis team and have access to large sponsors such as Carrier. They host VEX competitions as feeders for their FRC team. They mentioned a newsletter for sponsors.

Talked to CJ and Matt at team 6956 SHAM-ROCK-BOTICS <http://www.shamrockbotics.com/> based in Fishers. They are school based out of Westfield High School. They have about 20 students and 5 mentors. They mentioned something about showcasing their skills. They work closely with an FLL Explore team in the Fall.

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Talked to Kaleb and Jack (& Kieren?) at Team 5010 Tiger Dynasty <https://www.tigerdynasty.org/about/> out of Fishers High School. They have levels of sponsorships detailed at <https://docs.google.com/document/d/1B7oOeXfXxVNfWdwESoiFPu-li-c227-8HzleUHdcGX4/edit>. Donations are listed in specific forms such as tools, mill,, robot, transportation and registration.

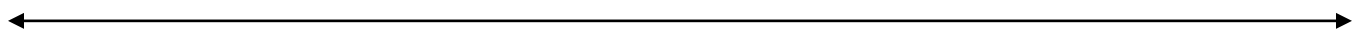
They mentioned Benevity <https://benevity.com/causes> for fundraising and have sponsor outreach in the Indianapolis area. They post regular updates and are active on social media and try to have at least weekly posts and updates. They also mentioned phone calls as being more effective than non-personal emails.

They mentioned a productive connection with the American Legion.

Nicely done 2023 season video at <https://www.tigerdynasty.org/current-season/>.

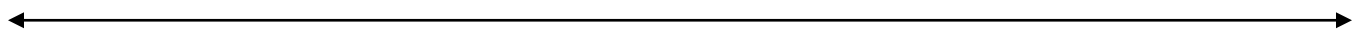
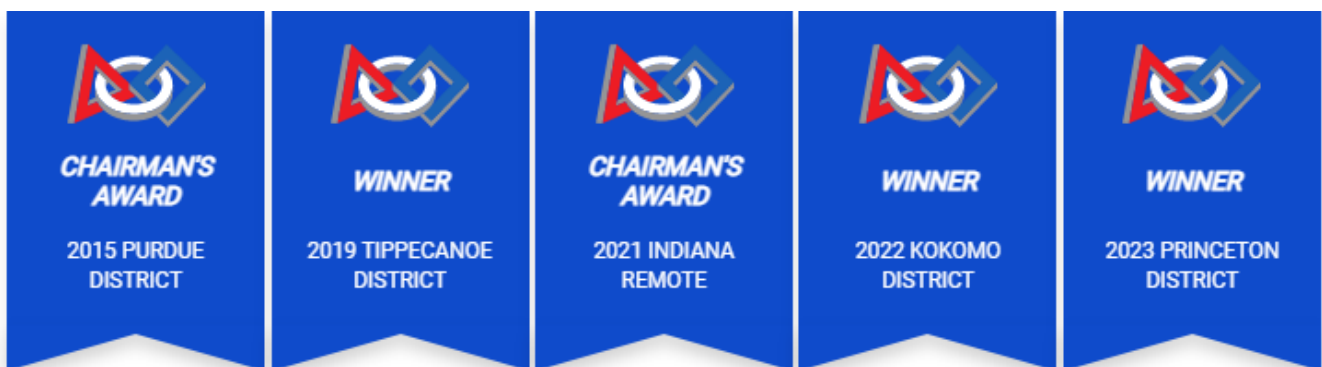
They mentioned MOBS, Media Outreach Business Spirit, but I can't find reference to it anywhere.

On their website they mentioned visiting to the Indiana Statehouse to support bill 1382 in early 2023 <https://www.tigerdynasty.org/2023/02/01/tiger-dynasty-5010-support-of-hb1382/>



Talked to Ms. Leo and Kieren at Team 4272 Maverick Robotics (another contact is Eric Sells) <http://www.team4272.com/site/> They rely on parent mentors and use Canva for brochure design.

Nice badges on their website.



Talked to Destiny and Tyson Chase from Superior STEAM <https://www.facebook.com/steamsuperior/> and <https://www.superiorsteam.org/>. They are affiliated with Bedford 4-H in Lawrence County. Tyson was demonstrating FLL Lego robots for younger kids. They raise funds from running concessions at sporting events. They have newsletters and showed a notebook with lots of graphs, numbers and metrics from their group.

Talked to Nathan Kober from Kettering University <https://www.kettering.edu/> 810-762-9839, nkober@kettering.edu from Flint, MI

Kettering has a unique 4 1/2 year engineering program. Based on a quarter system, students use one of the quarters to intern with partner employers. It allows them to gain experience and begin their career while earning money during their college years. Most of the students are regional, but they also draw from other parts of the US. They were initially started by GM. They draw heavily from FIRST Robotics students and offer a variety of scholarships.

Judges/inspectors table.

They mentioned that grants are available from DOD Spaceforce. <https://dodstem.us/>

Charity Bailey (former director of Grant County Economic Growth Council, <https://www.grantcounty.com/>) discussion April 11, 2023

A video tour would be a good way to introduce potential sponsors and parents to PhyXTGears, since they may not be able to visit in person.

Upland, Gas City and Marion Chambers of Commerce have merged. They have a regularly published newsletter we should be mentioned in. <https://www.facebook.com/mariongrantcountychamberofcommerce/>

The GCEGC, Grant County Economic Growth Council, also has a newsletter. <https://www.grantcounty.com/>

MISC

One of the teams talked about working concessions at sporting events and earning money from the tips.

Some of the teams had pokemon cards.

Canva, <https://www.canva.com/>, commonly used for graphic design.

Most of the teams were school based.

Most school based teams have to work out of a small room (closet) and don't have a practice field. Some have access to shop class tools.

Everyone was impressed with the PhyXTGears keychain and sponsor desk piece. Seems like these are good ideas for sponsor thank you gifts.



ROBOT TEAM SPONSORS

The images below show lists of sponsors and donors displayed by teams at the FIRST Indiana state competition. Some of the sponsor names show up on multiple teams, such as IN-MaC, AndyMark, Gene Haas, Carrier and Toyota. Interestingly, only a few listed individual non-corporate donors.

