

Chairman's Award - Team 2052

[Print](#)[Close](#)

2016 - Team 2052

Team Number

2052

Team Name, Corporate/University Sponsors

Medtronic/Groves Foundation/Best Buy/Pentair Foundation & Irondale Senior High

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2015/2016 year and the preceding two to five years

FRC 2052 students build character that continues to benefit them long after they graduate. Our students expand their technical knowledge and professional skills. 75% of our students go into STEM-related jobs, and 99% go on to postsecondary education. Events like MN Splash, Summer Robotics Summit, and Lifescience Alley improve our presentation abilities. Through meetings, competitions, and service, we develop teamwork skills. We are also pushed to develop self-reflection via group feedback.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2015/2016 year and the preceding two to five years

We support our high school at sporting events with our Knight-themed t-shirt cannon. In our school district, we've presented to cub scout troops and assisted at Summer Academy. Our team gives robot demos at the MN State Fair and Children's Museum. This September, we ran our inaugural FIRST Fair, which educates youth about STEM and FIRST. Locally, we have walked in around fifteen parades in the last five years. We volunteer at Feed My Starving Children and take part in the Walk to End Hunger.

Team's innovative or creative method to spread the *FIRST* message

Team 2052 innovatively spreads FIRST by advocating in Washington D.C., consistently volunteering in our community, and hosting a team-organized FIRST Fair for our school district. We created a weekly YouTube show about FIRST during the build season. We've featured over 25 teams and did a collaboration with Team 93. We also live stream FRC events. Our team made a scouting app that's been downloaded in 10 countries, by 561 people & we've assisted 11 teams with using it.

Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate

We were presented with the Gracious Professionalism award at the 10,000 Lakes regional in 2014. In competitions, students are strongly encouraged to assist teams, whether it's lending a simple part, or helping fix untimely code issues. We assist over 25 teams at every regional we attend. Outside of competition season, our students have presented on 7 different topics at Minnesota Splash and MN robotics workshops at middle schools since 2012.

Describe the team's initiatives to help start or form other FRC teams

The Twin Cities area has many FRC teams, so we focus on supporting struggling teams. Our team has provided five different teams with business advice within the last year. We've sent our business plan and member registration process to teams so that they can ensure team efficiency. We share our scouting structure and discuss scouting structure both via email and during presentations. In order to ensure the success of struggling teams we offer reduced fees for our Week Zero event.

Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)

We have started two FTC teams in our community. The first is Team 8826, who operate through Edgewood Middle School. We created this team to expand STEM at the school and strengthen outreach in our school district. The second is Team 10112. They work directly with our FRC members. In an effort to ensure equal opportunity, we created 10112 so new students have a less stressful environment to hone their skills. Because of our efforts, over 20 students now have an opportunity to engage in STEM.

Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program

As a team, we feel that helping other teams, in many ways, is one of our top priorities. Throughout the season, we are determined to provide assistance to teams around us by inviting them to our team meetings in order to help them with

programming as well as mechanical advancements. We have strong connections with FRC teams 1816, 2177 , 2846, 3407, 3454, 2472, 3699, 4536. We have also been mentoring FLL Team 11584. We volunteer and demo at all FLL

tournaments in order to help FIRST thrive.

Describe how your team works with other FIRST teams to serve as mentors to younger or less experienced FIRST teams (includes Jr.FLL, FLL, FTC, & FRC teams)

Team 2052 KnightKrawler mentors teams in FLL, FTC, and FRC. We mentored FLL team 11585 for the past two years in areas of programming and presenting. We mentor FTC teams in both programming and build concepts. Last year we helped mentor FTC team 8826, and this year we are mentoring FTC team 10112. We have begun mentoring FRC team 4536 in the areas of design, build, code, and business.

Describe your Corporate/University Sponsors

Team 2052's biggest financial sponsors are Medtronic, Groves Foundation, Best Buy, Irondale and Pentair. We have presented to over half of our corporate sponsors at different events throughout the years. Best Buy and Medtronic have provided us with mentor support throughout our team's history, while our school donates space for our meetings and has recently supplied transportation money.

Describe the strength of your partnership with your sponsors with special emphasis on the 2015/2016 year and the preceding two to five years

FRC Team 2052 strongly believes in creating and maintaining close relationships with sponsors of all levels. Our sponsors receive updates following each of our seven major events, in addition to invitations to our five local competitions and showcases throughout the season. Depending on the sponsor's commitment level, we send out end-of-year thank-you packets and our business plans. With permission, we display sponsor logos at ten different events, on our robot, and on our website.

Describe how your team would explain what FIRST is to someone who has never heard of it

FIRST is a program in which students have the opportunity to explore science , technology, and problem solving in a friendly, competitive setting. Not only does this program teach students about the fields of STEM, but also teaches them non-technical skills essential to their success in the career field--such as soft skills and gracious professionalism. Outside of STEM we encourage student to be active and help around their community.

Briefly describe other matters of interest to the FIRST judges, if any

FRC 2052 has grown 400% in 4 years. Towards the end of build season, we along with FRC 2472 hosts a Week Zero event which 32 teams attend. A few students have helped make the Blue Alliance app; it is a resource used by dozens of teams for their strategy. Our team diversity mirrors that of our school. We teach leadership & teamwork skills. Our team has over 10 student leaders, half of which are girls. 2052 is well known in our community, and has received recognition from US Rep Betty McCollum.

Team Captain/Student Representative that has double-checked this submission.

MaryEllen Matusovic

Essay

FIRST Robotics Team 2052 KnightKrawler was founded in 2006 by two Irondale High School students. Since then our organization has strived to make FIRST and STEM programs more accessible to students in our local community and across the globe. Team 2052 achieves this by creating new FIRST Teams, helping pre-existing teams, giving prepared presentations, and supporting other STEM organizations.

Our success in making FIRST accessible within our local community is easily seen in our 500% increase in student membership over the past 4 years. However, this growth came with a decline in equal opportunity for first year members. After noticing this problem, we decided to create a first year FTC team. This FTC team allows members an incredible opportunity to learn the engineering principles and strategies while working together in a smaller group to create a competition robot with student and adult mentorship that have similar skill strengths, and since FTC allows for continuous modifications on the robot and code, students are able to continuously build upon established skills. Our FTC team 10112 NanoKrawler is the second FTC team we have created in the past year along with FTC team 8826 Mekka Eagles.

We are currently helping to rebuild two struggling FLL teams from YingHua Academy into one stable team. Last season, 4 students volunteered to become lead mentors on YingHua Academy's FLL Team 11585. Our mentorship allowed the team to run successfully for another season, this year they lost meeting space and it looked like they would be unable to be a team. Fortunately, after working with lead parent volunteers on both of YingHua Academy's FLL teams, we were able to merge the two teams creating a stable team that will be able to function beyond this season. In order to ensure functionality, multiple KnightKrawler students have volunteered to be mentors again this season.

KnightKrawler has been hosting and running a Week Zero event with Team 2472 Centurions for the past 3 years. The creation of a Week Zero event came about when we noticed there was no Week Zero event in the northern suburbs of

the Twin Cities Due to already established events. While organizing this event we were unable to find gym space within our own school, so then reached out to the FRC 2472 hoping to create a partnership. Since its beginning, week zero's team attendance has more than doubled, with over 20 teams attending in 2015.

Week Zero is an all day event that takes place on the last Saturday of build season this allows teams to test out their robots on a game field built by 20 parent volunteers. This event was created to encourage assistance between FRC teams by allowing them to test and improve their robots alongside teams with various skills and experiences. Because so many teams have found this event advantageous, we take great measures to ensure any team who wants to can attend. Since our registration fee is to cover costs of running the event, last year, we sought out a grants and company donations. These grants and donations helped us to lower our cost.

We strive to guide teams by assisting them with our prior experience in order to spread our experiences to help as many teams as possible. In the course of Regionals Events and off-season competitions we are approached by other teams looking for advice in both technical and non-engineering areas of our team. We willingly share our methods which the team has found to be successful. We bring extra business plans and team business cards to Regional and Championships Events for teams looking for help on team structure. We often follow up via email to inquire if our information was helpful and send electronic versions of items asked for.

In order to share our experience with multiple teams at once, we have presented on topics such as pneumatics, programming, scouting, marketing, prototyping, and robot inspection during the Summer Robotics Summit and Minnesota Splash events held at the University of Minnesota Twin Cities campus hosted by the GoFirst Robotics organization. We are working towards providing a presentation at FIRST Championships in an area we have not seen presented at championships.

The presentation skills students gain by giving prepared presentations are used to inform business professionals about FIRST. By getting adults excited about FIRST we are able to generate a significant amount of potential mentors for all FIRST programs. KnightKrawler has regularly presented at LifeScience Alley and Best Buy the past 3 years, and within the last year we have begun presenting to Target and Robotics Alley.

With more interested mentors, we are able to connect more kids with FIRST teams. KnightKrawler attends a variety of fairs during the summer in order to display our robot and talk to kids about the opportunities of FIRST. This year we attended two local fairs, one county fair, and the state fair. Our attendance to these fairs allowed us to spread our influence beyond our own high school, into our school district, our county, our state, and even to a family from Seattle. We also created a FIRST FAIR within our school district that was about FIRST with some added STEM fun. At our FIRST FAIR we took parents and students names and email address for those who are interest in other FIRST programs. The FTC list generated 5 students which could start a new team. The FLL list generated 10 students which could start 2 new FLL teams. We are currently working with parents to organize these teams, and have invited them all to the FLL event we are assisting with, and the FTC competition our FTC team is attending.

Essay - page 2

This year we attended the National Advocacy Conference sponsored by FRC Team 27 RUSH in Washington D.C. in order to spread our influence throughout the country. The point of this conference was to support the 50th anniversary of the Elementary and Secondary Education Act (ESEA) and education bill with the Franken-Kirk-Murray Title II STEM Amendment. This amendment calls for federal funds to be allocated to states for after school mentor based programs such as FIRST. By joining forces with FRC and FTC teams from across the country we were able to advocate to both House of Representatives and Senate on the impact of programs like FIRST on students across the nation. Our team was able to coordinate meetings with both our Senators, as well as 3 Congressional representatives from two Minnesota congressional districts. Our attendance to this event to help influence Senators and Congressional representatives will help make FIRST more accessible to students all across America, no matter their geography or socioeconomic status.

With the expansion of FIRST, comes the responsibility of helping to better FIRST. FRC 2052 and FIRST are truly volunteer organizations, KnightKrawler believes that volunteer efforts are the best way to ensure FIRST's success. This has caused us to strive to volunteer whenever possible. Our team is based off of volunteer mentors, and our team advisor who was offered a stipend, turned it down to decrease student costs. Our team volunteers in a number of positions at events such as FIRST Regional and Championship events. At FIRST Regional, KnightKrawler mentors, students, and parents volunteer in a variety of positions including FIRST Technical Advisor, Game Announcer, Pit Administration, Lead Robot Inspector, Safety Glasses, Team Queuer, Field Reset, A/V crew stream/monitor the SD feed to NASA, A/V crew stream/monitor our HD GoPro feed with FMS overlay and A/V crew for the remote camera. From local off-season competitions, to the FIRST Robotics Championship, KnightKrawler strives to volunteer at all levels of FIRST.

KnightKrawler is becoming a social awareness leader by helping students across the globe pursue STEM careers through the Kiva organization. Kiva.org allows people to lend money via the Internet to low-income / underserved entrepreneurs and students in 82 countries. Similarly to KnightKrawler and FIRST, Kiva Microfunds is a 501(c)(3) non-profit organization. Through donations we have raised over \$100 which have gone to 2 engineering students from Paraguay and Jordan. We continue to raise and recycle funds on our team to promote opportunity for those who are in need and pursuing STEM careers.

With laying the foundation in creating a school district FIRST fair, attending national advocacy conferences, KnightKrawler partakes in significant variety of events in order to ensure that FIRST reaches a broad variety of people.

From local FLL tournaments to FRC regionals; from off season competitions, to FIRST Championships, KnightKrawler assists in as many FIRST events as we can. We even support STEM outside of FIRST by regularly using Kiva and bringing STEM activities to students throughout our local community. KnightKrawler promotes the value of FIRST and STEM education as the way to a better future.