

Chairman's Award - Team 3381

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2018 - Team 3381

Team Number

3381

Team Name, Corporate/University Sponsors

Jagemann Stamping/Lakeshore Community Foundation/Vollrath Co./Green Bay Packers Foundation/Nextera Energy/Sargento/CP Feeds/Burbey CPA/Ameriquip/Ariens/Solidworks/Fastenal/West Foundation/Nash Family Foundation & Valders High

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2017/2018 year and the preceding two to five years

Droid Rage 3381 works to create a positive environment that fosters a love for learning and growing in the field of STEM, but also in creating leadership skills to create the next generation of innovators and leaders. In a recent survey, 62.8% of our Alumni are currently in college pursuing STEM careers or have already graduated with a STEM degree. In the survey, our alumni reported \$211,000 in college scholarships over the past 5 years due to their experience in FIRST.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2017/2018 year and the preceding two to five years

May 20th is the grand opening of the Lakeshore FIRST Education Center in Manitowoc, with the intent of creating a source of inspiration for both current members of FIRST, and those who have an interest in the field of STEM. By teaching Summer Camps, we will increase our exposure to the community and get students introduced to FIRST. We will include benefits such as full playing fields for FTC and FRC teams set up year round and an advanced fabrication center for all of our teams to share.

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

Droid Rage created the Lakeshore FIRST Robotics Program to encompass all FIRST teams in Manitowoc County. Coordinating this network of teams and volunteers allows us to have students and their parents better understand each step in their path through FIRST. The program also helps all four levels to be directly involved with a consistent inspiring community to help spread the message of FIRST.

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

The older and more experienced students on Droid Rage help the younger students to grow their skills both inside and outside the shop. Droid Rage has captains' positions for each subgroup to ensure the less experienced students have a student leader to help them grow during their time on the team. To help with leadership skills, 18% of Droid Rage members volunteer as "Junior Mentors" for FTC and FLL teams.

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

Droid Rage has helped to start three FRC teams in Manitowoc County (STEMpunk, Bond Brigade, and Robo Remedy) since our rookie year in 2010 and two other FRC Teams in nearby counties (Sensored in Green Bay and Red Raiders in Sheboygan). We have begun working with Lincoln High School to start another FRC team in the 2018-2019 season. To help the growth of the teams, Droid Rage volunteers at multiple events in our community to spread the word of FIRST with the public and to bring in new members.

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

Droid Rage has started 5 FIRST Tech Challenge teams, 15 FIRST Lego League Teams, and 13 FIRST Lego League Jr. teams since 2010. Droid Rage & the Lakeshore FIRST Robotics Program host 1 FTC Regional, 2 FLL Regionals, and and 2 FLL Jr. Expo competitions each year. Our structure allows us to pool funding to create additional teams in Manitowoc County. Droid Rage also participates in the Manitowoc County Fair, Nextera Energy Days, and parades to promote FIRST to the younger generation.

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

Droid Rage helps other teams in the area by providing the funding, donating parts and resources, and mentoring the students in the younger programs. Students from Droid Rage speak to sponsors during the summer to secure money and resources for all the teams that are a part of the Lakeshore FIRST Robotics Program. Approximately 20% of Droid Rage students mentor teams from the three younger levels each year. This helps our students gain leadership skills to be used during the FRC season.

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)

This year 18% of Droid Rage team members are junior mentors for the younger programs to inspire them to succeed in what they are trying to accomplish. Droid Rage also volunteers to help new FRC teams in the area. This year Droid Rage started the Robo Remedy FRC team in Manitowoc, providing 100% of their funding, loaning them parts, having parts waterjetted for them, and providing tips to help them perform well during their rookie year a give them a good foundation to build on.

Describe your Corporate/University Sponsors

Droid Rage created a advisory council for our gold and platinum level corporate partners to guide our program and discuss our present and future plans. Droid Rage and the Lakeshore FIRST Robotics Program would not be where it is today without them. The Lakeshore Community Foundation and Jagemann Stamping believe so strongly in our goal of having 10% of all students involved in FIRST that they are providing us 14,000 sq.ft. for the next 5 years to start the Lakeshore Robotics Educational Center.

Describe the strength of your partnership with your sponsors with special emphasis on the 2017/2018 year and the preceding two to five years

Droid Rage has created a unique partnership with our sponsors by asking for the opportunity to have our students work in summer co-op positions alongside engineers. One position for each FRC team in Manitowoc county provides an outstanding student an opportunity to explore their career path while learning skills they can use in their future careers. Showcasing the strong leaders that FIRST programs create allows for Droid Rage and our sister teams to have a strong partnership with our sponsors.

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

FIRST is not just a program aimed at introducing students of all ages to the world of STEM. It is a means of creating the next generation of not just engineers, but the next generation of innovators and leaders. FIRST may be known mainly for students working together and building a robot capable of many tasks, but should also be recognized for its purpose of guiding today's students to become a generation that knows how to communicate and interact with the world and their peers.

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

Droid Rage created the Lakeshore FIRST Robotics Program. It is up to us as high school students to secure funding for all the levels of FIRST throughout the program (Jr FLL, FLL, FTC, FRC). We meet and present to our sponsors each year to continue the strong relationships that Droid Rage has with our corporate partners. We also reach out to potential sponsors to find funding and volunteers, and to share the mission of FIRST to have a greater opportunity to expand the program.

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

Cara Steiner

Essay

INCEPTION - The Lakeshore FIRST Robotics Program started out as only Droid Rage in 2009-10, but has expanded rapidly in the past eight years. In the very beginning, nobody knew if the small schools and rural community around Manitowoc could sustain a single FIRST Robotics Team. Once Droid Rage understood what FIRST could do for everyone involved, the goal quickly became to drive FIRST to as many students in our community as possible. The Lakeshore FIRST Robotics Program now encompasses all four levels of FIRST with a goal of 10% of all Manitowoc County students being on a FIRST team by 2027.

INCREASING - In 2010/11, six FLL teams were started to introduce younger students to STEM, many of them younger siblings of team members. In 2011/12 four more FLL teams were added. In 2012/13 our numbers grew and we started a second FRC team in our county, STEmpunk. Droid Rage helped apply for grants, provided funding, and gave guidance that helped them win the Rookie All Star Award for Wisconsin. In 2013/14, we started two FIRST Tech Challenge teams for 7th to 9th grade students. In 2014/2015, two more LEGO League teams and a third FRC team, Bond Brigade, were added in our county. We helped them find mentors and funding and provided CAD training. We were excited when they won the Rookie All Star Award in Wisconsin and at the FIRST World Championship. In 2015/2016, we started three FIRST LEGO League Jr. teams so students of any age could be a part of FIRST. We also found mentors to start another FTC team and three more FLL teams. In 2016/2017 three FLL teams and two FLL Jr. teams were started. This school year, we received two grants to help launch eight more FLL Jr. teams and two more FTC teams in our county, including an all girl FTC team which is the first of its kind for the Lakeshore FIRST Robotics program. Droid Rage also started a fourth FRC team in Manitowoc this season - 7103 Robo Remedy. We have provided funding, helped them win the NASA Grant, and loaned them numerous tools to get them started. We are extremely excited for what they've created and hope to see them succeed.

INSPIRING - The Lakeshore FIRST Robotics Program that Droid Rage created has now grown into a system that includes 4 FRC, 5 FTC, 15 FLL and 13 FLL Jr. teams and has 4.2% of Manitowoc County students involved, nearly halfway to our goal of 10%. And our efforts have rippled outward, as Droid Rage has also helped start 2 FRC teams outside of Manitowoc County: 5552 SENSORED in Green Bay and 6381 Red Raiders in Sheboygan.

INERTIA - We are working hard to make FIRST a household name throughout Manitowoc County. Our momentum has increased, and we have several projects being implemented this year. The first project is adding another FRC team at Manitowoc County's largest high school - Lincoln in 2018/19. The word is out and we simply have to keep up with the demand for more FRC teams in the area by starting the 5th in our county.

INSTITUTION - Our second project is opening the Lakeshore FIRST Robotics Education Center with the support of our corporate sponsors. Having our own building will have more benefits than we have space to mention in this essay. It will allow us to host additional summer camps to increase exposure to STEM. It will be home to a STEM Fair to show off all of the opportunities FIRST has to offer for students of all ages. It will be the site where we host mentor training for new volunteers aimed at preparing them to lead their teams. It will become home for teams that don't have schools to meet in, such as 4H teams or Homeschooled students. It will also be a shared resource center for all teams along the lakeshore, with full FTC and FRC fields set-up year round to practice and to continue to design robots throughout the off season. It will also be the place where we can bring prospective sponsors to help them understand the scope of our program.

INTRODUCTION - To introduce new students to FIRST & provide funding, we are starting summer camps for students in 4th through 8th grade that have an interest in STEM. All summer camp programs will be held in the Lakeshore FIRST Robotics Education Center where classes will be taught by the students, mentors, and alumni of Droid Rage. Classes will include CAD & 3D printing, Intro to Programming, FIRST LEGO League in a Week, and Graphic Arts & Movie Making.

INCLUSION - Droid Rage understands the importance of including all students if they are eager to learn and work hard, regardless of age, gender, religion, or financial position. Everyone deserves to have a chance to be on a FIRST team to develop STEM and life skills to use in the future. There is a place for everyone on our team, and a cohesiveness that it provides. Students with autism and social anxiety disorder work alongside the class clowns and honor club students, because in our careers, we know we will be working with people from all backgrounds.

INFRASTRUCTURE - The Lakeshore FIRST Robotics Program was created to share the work that it takes to run an organization of this size and to get views from all levels of the program. Members of Droid Rage invited leaders from other area teams of all levels of FIRST to meet monthly to complete tasks, such as setting a budget, preparing for events, and coordinating communication to the community. A united effort helps us to pool resources to make hosting large events such as the two Lakeshore FLL and the FTC tournaments possible just weeks apart. Our mentors also meet annually with our corporate sponsors and educational partners to ensure that we all share, understand, and support the same goals, such as areas of growth and the annual budget.

INVESTMENT - It is especially important to understand that it's us, the high school students, who are responsible for fundraising for ALL the teams in Manitowoc County. Droid Rage students work in cooperation with STEmpunk and Bond Brigade students to provide funding for not just our own teams but all of the younger levels as well. We create a presentation and modify it to suit every sponsor we meet. We show the robot and the engineering skills that it takes to create the robot, as well as the leadership skills that we have learned in the process. Making us responsible for finding our own funding lets us know that it's OUR program and makes us even more dedicated to making it great.

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INVOLVEMENT - Droid Rage hosts several competitions each year to keep FIRST close to home and accessible to students and parents to experience. For FLL and FLL Jr. we have a complete robotics weekend at Lakeshore Technical College. We host a LEGO League Jr. Expo where teams win trophies and awards and each student earns a LEGO medal. We also have two Lakeshore FIRST LEGO League Tournaments on Saturday and Sunday totalling nearly 60 teams. Well over half of Droid Rage students, mentors, and parents volunteer to make these events possible. The students that attend the Lakeshore FIRST LEGO League Regional are also able to experience the upper levels of FIRST and have the opportunity to see what lies in the future. We have both FTC and FRC fields set up and several matches run throughout the day. The younger students also get the opportunity to drive some of the robots on the field during the matches. This event is the only regional competition in Wisconsin that has all four levels of FIRST in one place, which is one of the proudest accomplishments of Droid Rage.

INAUGURAL - New this year, we hosted the Lakeshore FIRST Tech Challenge Regional tournament at Valders High School - home of Droid Rage. There were fourteen teams in attendance this year, with hopes to have an attendance of twenty-four teams next year. It took coordination of volunteers from around the state to make it happen.

INSPIRE - Droid Rage spreads FIRST in the community throughout the entire year to inspire Manitowoc County. Every summer we participate in both the Chilton and Valders parades to show the community the students' creations and share the message of FIRST. Droid Rage and STEMpunk also host the Nextera Energy Days event each year at the Point Beach Nuclear Plant to give kids a first-hand experience with STEM through various demonstrations and projects. We also attend Robofest and Summerfest, where mock competitions are held and students are present to answer any questions. Droid Rage also has a booth at the Manitowoc County Fair which shows the community what FIRST is and the accomplishments of the teams in the previous season. It also gives parents an opportunity to see what kind of impact FIRST can have on their child. Droid Rage also hosted two food drives including the local Humane Society and Peter's Pantry. Manitowoc County has continually supported FIRST Robotics, and Droid Rage works to give back to the community.

INSTILLING VALUES - Each year, approximately 20% of Droid Rage students help mentor one of the younger programs within the Lakeshore FIRST Robotics Program. This gives younger students an inspiring role model and a relatable source for any questions, as well as instilling FRC students with valuable leadership skills. Allowing for FRC members to become "Junior Mentors" encourages younger students to follow their lead and use Gracious Professionalism in everything they do inside and outside the program. Having "Junior Mentors" helps students develop soft skills such as communication, leadership, teamwork, and problem-solving and shows that anybody has the potential to accomplish what seems to be the impossible.

INDUBITABLY - Since 2010, Droid Rage has made a significant impact in FIRST by creating the Lakeshore FIRST Robotics Program and starting 5 FIRST Robotics Competition teams, 5 FIRST Tech Challenge teams, 15 FIRST LEGO League teams and 13 FIRST LEGO League Jr. teams, and we are still growing. Droid Rage has made a huge impact on the community for the past eight years, and is working to grow the impact for years to come.