Chairman's Award - Team 4607

Print Close

2019 - Team 4607

Team Number

4607

Team Name, Corporate/University Sponsors

Becker Public Schools/Saint Cloud State University/Liberty Paper Inc./Becker Robotics Booster Club/Xcel Energy/Exhibit Partners/Darter Plastics/Dahlheimer Beverages/Clear Lake Lions/Franklin Graphics/Santiago Lions/Longhaul Trucking, Inc./Central Minnesota Manufacturers Association/Vern Jurek Construction/Midcontinent Communications/Great River Energy/Sherburne State Bank/Jurek Brothers Construction/Luth-AR/Manufacturing Partners Inc/Elk River Winlectric/Monticello Lions/Becker Furniture World/STARCOR Credit Union/Becker Lions/TJ Potter Trucking, Inc./Country Lumber/Joe's Bobcat and More/Central Minnesota Robotics Hub/COR Robotics&Becker Senior High

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2018/2019 year and the preceding two to five years

FIRST is the catalyst that produces the leaders of tomorrow. C.I.S. provides team members with pre-professional opportunities that enhance leadership and gracious professionalism. Because we are a pre-professional program, our members have been successful in their careers past high school. They have received internships, started their own businesses, and hold important roles in the military.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2018/2019 year and the preceding two to five years

The most significant impact we make on our community is through our schools. We do this by enhancing opportunities for youth to experience and be inspired by STEM. This includes the $6,000 purchase of TETRIX robotics curriculum which has introduced 331 students to robotics and programming in only 2 years. Likewise, our partnership with COR Robotics provides robotics camps to over 350 young students. C.I.S. has inspired many children through these camps, introducing them to FIRST and STEM.

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

C.I.S. founded and coordinates JUMPSTART, a free training initiative. In 2018, JUMPSTART at SCSU grew to 52 sessions and 861 participants. Because of this success, we have extended the JUMPSTART initiative to include FLL, FTC, and FIRST Mentors. In addition, we created the FIRST Robotics Night with the MN United, and we partnered with the MN Twins to hold an event in 2019 called STEM Day. Both of these events introduce people to FIRST who would not ordinarily come into contact with robotics.

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

We inspire other FIRST teams to collaborate through our open build sessions and Programming Help Desk. C.I.S. team members also mentor FIRST teams while presenting themselves in a professional, responsible, and respectful manner while embodying FIRST ideals. We have mentored 38 FIRST teams in the past 5 years. These initiatives create a healthy and positive environment where we can achieve our common goals and sustain the growth of our team while being a model for other teams.

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

We created the Central MN Robotics Hub in 2015. The CMNRH is a coalition of 21 FRC teams used to start, assist, and mentor other teams while creating partnerships and sharing valuable information. We aided in the creation of the West Central Hub and the Northern MN Robotics Conference which encompasses a total of 33 teams. In the 2018 season, C.I.S. mentored three rookie teams, all of whom won a Rookie All-Star Award and competed at the FRC World Championship.

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

In 2015, C.I.S. founded the Becker Robotics Booster Club to fund successful robotics programs in Becker and surrounding communities. In a town of 5,400 people, Becker now has 1 FRC, 6 FTC, 5 FLL, and 2 FLL Jr. teams. We sustain the youth programs through our help and facilitation of STEAM Day and Day of Code in Becker Schools. We make it a priority to register teams of interest in off-season events while providing the entry fee, guidance, and a robot to compete in the event.

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

Through our weekly hub meetings and open shop, we knock down silos. This culture extends to our younger FIRST teams. They work with and are mentored by FRC 4607. Following this culture, our annual Kickoff event consisted of 33 FRC teams and sessions tailored to the 2019 game manual. Our end of the build season SpecCheck is a mock inspection that doubles as a training event for LRIs and CSAs. In 2018, 25% of the teams at SpecCheck were found to be in violation of R03, prompting a rule change.

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)

We have mentored 15 rookie FRC teams including 7432, 7530, and 7893. C.I.S. members also host FTC events and scrimmages for teams to gain experience. C.I.S. started the Vermilion League, the first FTC League in MN. We have used the Vermilion League to assist teams by hosting league events and by providing the key volunteers to run these events. We directly mentor and work with our FTC, FLL, and FLL Jr. teams to ensure continued interest in STEM and membership within BeckerFIRST programs.

Describe your Corporate/University Sponsors

C.I.S. is grateful for all of our sponsors, who contribute to C.I.S. in a unique and impactful way. Our university sponsors are SCSU, NDSU, and the University of St. Thomas who provide us with assistance and resources to host JUMPSTART sessions on their campuses. Because our sponsors understand the impact FIRST has on our team members and community, they provide us with mentors, funds, training opportunities, and materials.

Describe the strength of your partnership with your sponsors with special emphasis on the 2018/2019 year and the preceding two to five years

C.I.S. recognizes that in order to have a team that creates an impact, strong partnerships with insightful sponsors are needed. Our sponsors have provided us with the resources to build competitive robots, participate in FRC events, and create a sustainable team. Along with providing mentors, sponsors also offer engineering and business internships to C.I.S. and other CMNRH team members. In return, we showcase our team's facility to sponsors and recognize their commitment through sponsor awards.

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

FIRST is an organization that provides its participants with real-life experiences, steering new generations of leaders toward STEM and business-related industries. FIRST team members immerse themselves in a problem-solving culture and learn from exposure to numerous subdivisions that are found in today's most successful businesses and STEM careers. FIRST revolves around coopertition, a combination of cooperation and competition, a unique aspect which is not found in other sports and activities.

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

C.I.S. is a FRC team that embodies FIRST ideals and acts as a role model through enhancing education, expanding FIRST, and developing strong community partnerships. We are a pre-professional program, and our members actively pursue a growth mindset to continue expanding and achieving success.

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

Gavin Murphy

Essay

C.I.S. and Our Mission

FRC 4607 is a student-run robotics team that produces the leaders of tomorrow. We are a pre-professional program that offers members a wide variety of opportunities to build the skills required to achieve future success. We are able to accomplish this by enhancing education, expanding FIRST, and developing strong community partnerships. These ambitions continue to lead us to be a role model for other teams and empower us to be the catalyst for world culture change through STEM and robotics.

Enhancing Education

Our goal of enhancing education leads us to improve all levels of education, creating new generations of students who thrive in a world that is continuously changed by STEM. FRC 4607's most substantial effort to enhance education occurred within Becker Schools when we purchased $6,000 worth of TETRIX robotics curriculum which has introduced 331 students to robotics and STEM in only 2 years. We further added to the robotics curriculum by donating 6 TETRIX Competition Kits last year.
We have a strong presence in our school, where varsity robotics is highly celebrated. C.I.S. members are involved in various activities, and many are leaders in the school and the community. For example, C.I.S. team members hold critical roles in the Becker High School student news. Every week C.I.S. has a segment in the news program, which spreads STEM and gains team exposure throughout our high school of approximately 1,000 students.
In addition to our exposure in the student news, we continually focus on our school appearances and involvement. We present information at school board meetings, strengthening our partnership with Becker Schools. We showcase our robots at multiple school events which creates inspiration and enthusiasm for robotics throughout our district. C.I.S. also facilitates S.T.E.A.M. Day and coding clubs, where younger students are introduced to FIRST, programming, and robotics.
From 2015 to 2018, we hosted NDSU's collegiate robotics team, Bison Robotics, to complete their "Robot in 3 Days" project in our own shop. They used our materials, equipment, and space, to create successful and efficient robots. Bison Robotics' Ri3D project not only showed C.I.S. members the most efficient way to build the particular season's robot but the robot creation and reveal was recorded and posted online for the FIRST community.
Our partnership with COR Robotics has brought Robocamps to over 350 students last year. COR Robotics was started by C.I.S. alumnus Ryan Swanson. The Robocamps are used as a for-profit fundraiser for both the team and team members who help host.

Expanding FIRST

Alongside our impacts in enhancing education, we expand all areas of FIRST. We are able to achieve this by hosting various events while mentoring and strengthening FIRST teams. We created the JUMPSTART initiatives which has a large variety of sessions relating to engineering, programming, marketing, safety, team organization, and other aspects of the FIRST program. JUMPSTART at SCSU hosted 861 participants and 45 teams in 2018. JUMPSTART at SCSU was originally held in 2015, and since has grown to six different JUMPSTART initiatives.
JUMPSTART at Becker had 84 participants and provided 6 sessions geared towards FTC. Moreover, our JUMPSTART at NDSU consisted of FLL sessions in 2018 and is expanding to all levels of FIRST in 2019. JUMPSTART for Mentors is another event hosted by C.I.S. which was first held in 2017. This event aims to strengthen Minnesota's FIRST mentors, with activities and sessions including team administration, sustainability, and core value training.
To complement our JUMPSTART programs, we have hosted a Kickoff event at Becker High School since 2014. In 2019, 33 FRC teams and 394 participants attended. After the game reveal, the Central Minnesota Robotics Hub hosted breakout sessions tailored towards the game manual.
The Central Minnesota Robotics Hub was created in 2015 by C.I.S. with 6 initial teams. Now, the CMNRH currently has 21 teams. Our hub offers teams a platform to share and teach ideas at weekly build season meetings. This builds strong partnerships and practices the FIRST ideals of coopertition and gracious professionalism. Besides creating the CMNRH, C.I.S. has mentored and aided in the creation of the West Central MN Robotics Hub, the Northern MN Robotics Conference, and is now working with teams in southern MN to create a new hub. Through our development and support of these hubs, FRC 4607 initiated the MN Robotics Coaches Association. This organization is set up to support mentors and their quest to provide the best robotics opportunities possible for their students.
To help advocate for more STEM opportunities in small communities and rural teams, C.I.S. works with our local legislators as well as participates in STEM Advocacy Day at the Capitol. The sole representatives of out state teams, we have been involved in this initiative since 2016.
To help prepare FRC teams for the competition season, we host an annual event called SpecCheck. At this event, teams undergo a full robot inspection by CSAs and LRIs. This inspection prepares teams for competition and, in 2018, this event was the catalyst for the R03 frame rule change as 25% of the teams were in violation of this rule. SpecCheck also acts as a training opportunity for the CSAs and LRIs as it is the first time they inspect robots per the current manual.

Essay - page 2

C.I.S. practices an open build concept that encourages teams to visit our facility. This ideal allows teams to use our build space, resources, materials, and assistance from C.I.S. to build strong, competitive robots. Our open build mentality facilitates new pathways for us to mentor other teams. Currently, we mentor rookie teams 7432, 7530, and 7893.
The Vermilion League, created by FRC 4607 in 2017, is the first FTC League in MN. This league consists of a scrimmage, 3 league events, and a league qualifier. The 5 events rotate between BeckerFIRST and Elk River. The importance of these events was to allow teams to compete in at least 25 matches, resulting in more chances at re-iteration of design and building relationships. FRC 4607 members helped to facilitate the league events as well as improved the production value. This experience has opened up opportunities to facilitate league qualifiers as well as the State Tournament.

Developing Strong Community Partnerships

To broaden our impact, C.I.S. continually develops strong partnerships with businesses and organizations in our community. An example of this is Trunk or Treat, an event hosted by C.I.S. for children to Trick or Treat in a safe and fun environment at Becker Furniture World. Hosted originally with 10 participants and 7 trunks three years ago, the event has now grown to over 800 participants and 27 trunks. Not only have we utilized Trunk or Treat to benefit Becker's youth, but it has also served as a donation center for Justin Morneau's Winter Warm-up Coat Drive. C.I.S. is also involved in Becker's winter expo, Celebrate Becker, where local organizations showcase their talents to the Becker community. We volunteer at this business expo as well as display our teams.
In addition to helping local charities, C.I.S. displays other causes on our team badge. This cause changes on a yearly basis. We have included charities such as 65 Roses, an Evening for Ivan, and Pain Free Patriots. To recognize local veterans, we host the annual Veteran's Day Breakfast prior to our district's Veteran's Day programs.
Another way C.I.S. partners with our community is through the Becker Freedom Days which consists of a full week of events. C.I.S. provides a float in the parade, volunteers at various games, and host the Bike Rodeo. Our presence at Becker Freedom Days creates recognition for Becker Robotics, while also inspiring youth to become involved in our many FIRST teams. Outside of Becker Freedom Days, 4607 participates in the Robotics Showcase at the MN State Fair. C.I.S. participates in a robot demonstration and drives our robot in the MN State Fair parade.
We coordinate facility tours for our sponsors and partners. In these tours, we exhibit our shop, robot, and engineering processes. The marketing and media team provides weekly video updates as well as newsletters to keep the sponsors and community engaged in our progress. To thank our sponsors, we host an open house where we honor a Sponsor of the Year and a Partner of the Year. During the holiday season, 4607 delivers sponsor gifts. These gifts range from holiday ornaments to shadow boxes displaying our accomplishments.
In 2018, C.I.S. helped to create Robotics Day with Minnesota United FC at TCF Bank Stadium. Prior to the Minnesota United soccer game, FIRST Robotics teams and High Tech Kids members carried out the Loon's 100-foot scarf for the pre-match festivities. Robots from all levels of FIRST were involved. Through Robotics Day with Minnesota United FC, we were able to spread FIRST Robotics to the largest audience that the United ever had— over 15,000 fans. Now, we have partnered with the Minnesota Twins and the MN Robotics Coaches Association to help provide various stations and programs related to STEM education for the Twins' second annual STEM Day.

Innovation Cannot Happen in Isolation

Our team motto is "Innovation Cannot Happen in Isolation." We remain a lasting force that represents FIRST ideals such as coopertition and gracious professionalism. C.I.S. aims to inspire and create culture change through enhancing education, expanding FIRST, and developing strong community partnerships. Our team acts as a nucleus to the ever-expanding FIRST program, exponentially sharing the best practices of robotics on a growing scale.