

# Chairman's Award Team 2080

2016 Team

**Team Number 2080**

**Team Name, Corporate/University Sponsors**

H Rocker Electric/Lockheed Martin/NASA & Hammond High School

**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**

Torbotics is not just a team, we are a family. It is important to support and learn from one another. Through our engineering curriculum, members learn *FIRST* ideals and skills that will help them in their career paths. It is through community support and sponsorships that our members have the opportunity to advance their futures in STEM. As a team, we work towards one goal: to submerge ourselves in environments that value the ideals of *FIRST*.

**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**

Five years ago, *FIRST* was foreign to our community. Through performing helpful tasks, such as building handicap ramps, we have developed into an essential element of our surrounding area. Our team understands the importance of the community's youth. By taking part in youth activities, such as hosting 4H field trips to our facility and creating interactive activities for children at a local pet parade, 2080 creates opportunities for children of all ages to get involved with *FIRST*.

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

"Ask me about *FIRST*" is the leading component of our campaign and initiative to spread the *FIRST* message. We display this slogan on all team gear, such as shirts, jackets, and buttons. This year, we've furthered the campaign by placing the slogan on candies that were given at parades, demos, and youth outreach activities, such as Southeastern University's "You Be The Chemist" Day. The slogan instantly triggers curiosity and leads others to ask about *FIRST*.

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

The members of 2080 understand the importance of teamwork and assisting others. We are always eager to lend a hand to those in need. Assisting teams with C++ programming, distributing personalized team posters at each regional, and helping other teams repair their robots in the midst of competition are a few examples of our helpfulness. Within the last two years, we have had the honor of receiving three Gracious Professionalism Awards.

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

Team 2080 is always looking for opportunities to facilitate other FRC teams. During the 2013 *FIRST* Championships, we were able to work with students who were interested in starting an FRC team. With our support, Team 5169 Roadkill Robotics was established. At a districtwide teacher's conference, our team provided the information required for incorporating engineering into their schools. By providing a curriculum model, other school districts will be able to start *FIRST* teams in their schools.

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

Gaining the interest of communities, locally and internationally, is vital to forming other *FIRST* teams. Torbotics provides community members with the inspiration and necessary information to form teams through robot demonstrations at events such as a Girl Scout Event (Believe In Girls) and Tangipahoa STEM day. Torbotics also assisted teachers in finding innovative ways to ensure the sustainability of new *FIRST* teams through their curriculum at a Tangipahoa Parish Teacher Development Day.

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

Torbotics recognizes that newly formed teams will encounter difficulties. In 2014, we hosted the annual Jumpstart for rookie teams, where over 150 people attended. The four present veteran teams offered many resources, and we offered the ten rookie teams sample bumpers, driving chassis, and a seminar led by an expert in pneumatics. We strive to be a resource team and as of such, our members began creating youtube videos geared towards teaching C++ programming in FRC.

**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)**

Since its inception ten years ago, Torbotics has helped establish a multitude of *FIRST* teams. An example being an FLL and FTC team located across the world in Tirana, Albania. To ensure their success as a team, we served as mentors throughout their build season over Skype calls and emails. Within our own community,

we also mentor three FLL teams we established at local elementary schools. FLL Team 4053, The Bayou Builders, is another team that we've established and currently mentor.

#### **Describe your Corporate/University Sponsors**

Partnerships of all types are important to the progression of Torbotics, but sponsorships are most integral to our success. Since inception, our team has had the opportunity to cherish founding partnerships with H. Rocker Electric and The Rotary Club of Hammond. Within the last five years, Torbotics has also had the chance to form partnerships with Lockheed Martin, Shell Oil Company, Automotive Parts of Louisiana, Spangler Engineering, KConstruction, and Hammond's Kiwanis Club.

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

The relationships Torbotics have fostered surpass the usual relationship of a sponsor and the sponsee. Sponsors provide 2080 with tools to assist entering STEM related career fields. For example, as a result of 2080's partnership with Automotive Parts of Louisiana, this sponsor has provided 2080 with a yearround mentor since 2012. We have also received professional advice from sponsors, such as H. Rocker Electric, and our members have volunteered at Rotary's annual Shamrock Run.

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

Through our "Ask Me About FIRST" campaign, we've had much practice answering this question. We found that the best way to describe a FIRST regional is comparing it to a combination of the energy of a Mardi Gras parade, intensity of a football game, and the intelligence at a science fair. Adding this southern flare allows individuals to imagine a festive competition and an arena filled with robots. 2080 explains that FIRST is more than just robots, it's an experience that'll last a lifetime.

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

For the 2016/2017 school year, our main mentor/teacher, Shelly Gaydos, has been promoted to vice principal. Filling her shoes are Justin Morgan and Jac Lyn Owenby, who are incorporating AutoCAD and C++ into the curriculum. We're excited to take the engineering design process to the next level with the use of new technology, such as an industrial CNC machine. With the addition of these two new mentors, our team has taken a step forward in the face of adversity.

#### **Essay**

##### **Introduction**

We are 2080. Driven by passion and resolve, we are dedicated to spreading the ideals of FIRST into our school, community, and throughout the world. With a curriculum tailored towards STEM, our members are preparing themselves for brighter futures and lifelong achievements. We are more than just a team. We are Torbotics.

##### **Schools**

Torbotics strives to capture the attention of the community's youth and spark their interest in STEM by being highly interwoven with our school system. Interactive field trips, FRC robot demonstrations, and a fouryear Engineering curriculum are only a fraction of our educational contributions. We are passionate about spreading the ideals of FIRST and do so at every opportunity, whether it be at showcases, pep rallies, or career fairs throughout the year. In the classroom, we have begun a new chapter in our book with the expansion of FTC programs in our curriculum and a partnership with the International Baccalaureate Program. We have partnered to create the International Baccalaureate Career Certificate (IBCC) which is an internationally recognized diploma oriented towards STEM fields and provides collegiate opportunities throughout the world for our students. The first classes will begin in the fall of 2016 and our first graduating class to receive the Engineering Career Certificate will be the class of 2018. Within the last year, we have also connected with a local airport to have a six week educational program focused on informing students of aeronautic technology. Students had the opportunity to experience radio controlled flight first hand and were able to participate in flight classes. We understand that a foundation in STEM can last a lifetime and we are integrating FIRST into every grade level within our school system. At Hammond Junior High Magnet School, we have had the opportunity to assist them with adding an engineering elective to their curriculum. We are continuing our work on the elementary school level by establishing three FLL teams. Many of our members currently mentor these teams through our Passion Project Program. This season we have also established a field trip series for one of the FLL teams to visit our facility and observe the processes of build season. These field trips allow students to gain "FIRST" hand experience and spark their interest in our program.

##### **Community**

Torbotics is extremely fortunate to have the support of its community and takes every opportunity to pay it forward. During the summer and throughout the year, we are the hosts of many educational camps for the youth. These camps provide the perfect opportunity to expose younger community members to the ideals of FIRST. Campers bring home not only constructed projects but also a strengthened love for science and technology. This innovative method of spreading the FIRST message has affected more than onethousand

children over the span of four years. Along with our annual camps, our members have had the opportunity of volunteering and demoing the robot at events such as the Special Olympics, Zephyrs Science Day, North Cypress Fitness Summer Camp, Tulane University Engineering Day, and Relay for Life. However, we are also looking forward to hosting our own Color Run! Over the years, we have noticed that there was a need for a personal take on volunteering which led to one of our new innovations for the 2016 year, Passion Projects. This program allows for students to pursue their individual passions. At the beginning of the school year, each student selected an individual volunteer project to work on during the school year. This inspires students to get involved within our community.

We are very grateful to have received extensive support from our community since our team's founding. Torbotics has been featured on local news station, WAFB, and has participated in Louisiana's PBS Live Chat on the topic of STEM education. Our 2011 field team and robot were also featured on the front pages of CNN and the FRC website. By having public leaders embrace the ideals of FIRST, we have inspired those from local officials to those at higher levels of government. Our team has had personal visits from previous mayor of Hammond, Mason Foster, the Hammond Economic Development Board, the Hammond Industrial Board, the Hammond City Council, the Leaders of Tangipahoa, Rotary, Kiwanis, Tangipahoa Parish School Board members, Tangipahoa Parish Superintendent, Mark Kolwe, Louisiana Representatives, Steve Pugh and Chris Broadwater, Senator David Vitter, Parish President Gordon Burgess, and the Louisiana Superintendent of Education. In addition to continuing these partnerships, we fostered a connection with Lieutenant Governor Jay Dardenne. While visiting Hammond High Magnet School, Dardenne experienced a tour of 2080's engineering facility. He was blown away during his visit, later reporting to the Daily Star that such a record of accomplishments was "unbelievable." This visit concluded with an invitation for us to showcase the 2012 robot at the state capitol. It was there that we received an official proclamation declaring June 5, 2013, as "Team 2080 Day" in Louisiana.

#### Alumni and Sponsors

Torbotics would not exist if it weren't for the extensive support of our community and our founding sponsors. We have received professional development advice from H. Rocker and toured other sponsor's engineering facilities, such as Intralox and Shell. As a result of these connections, our team has also had the opportunity to visit the Kennedy Space Center and attend an engineering conference held by Boeing at Xavier University. These tours allowed for our team members to gain further insight into a variety of STEM-related careers paths. Along with this career information, sponsors also provide many resources such as a \$1,000 memorial scholarship in memory of a Hammond High alum, Jason Thompson, from Spangler Engineering Firm. With the support of our sponsors, our members are able to experience FIRST in its entirety. Our alumni take the message of FIRST and continue to advance the ideals throughout their life. With the connections of our alumni, we've been able to establish a very successful FLL and FTC in Albania! Our alumni have been integral to the implementation of an after school robotics program at a government school in India. We supplied this program with Lego Mindstorm kits and a written curriculum, enabling program sustainability for years to come.

#### FIRST

Over the past five years, Torbotics has established a combination of FTC and FLL teams on both the local and international levels. In 2011, Torbotics assisted in the formation of local FLL team, 4043, The Bayou Builders. Since its inauguration, the Bayou Builders have participated in numerous regional competitions and have won two Champion's Awards. These prestigious awards enabled them to attend the FLL World Championship which was a once-in-a-lifetime experience. As previously stated, we have also started FLL and FTC teams in Albania. To ensure the Albanian teams' success, Torbotics' members virtually mentored the students through weekly Skype calls. Here in Louisiana, our team was able to recreate their robot, so we could troubleshoot the problems they could possibly encounter. We were fortunate enough to help them prepare for their first regional where the team advanced to the final round and won the Judges Award. Last season, they were finalist at their local regional!

Torbotics partnered with DOW, Panthrobotics, and Bayou Builders to give demonstrations at teacher conferences, and with ROBOSHOP and Wildcat Robotics at NOLA Tech Week. We also participated in Engineering Week at John C. Stennis Space Center alongside Team Fusion and Northshore. Torbotics has also partnered with fellow FIRST teams at events such as volunteering at the National World War II Museum in New Orleans, Louisiana. In the past few years, we have had the opportunity to play at the offseason event, Robot Remix, in Houston, Texas. At this event, our team created various connections and was able to reach the semifinals.

Along with participating in these events, our team organized an annual Triple Robot Reveal. Here, we connected with FLL team, the Bayou Builders, and a FTC team from our sophomore classes to reveal our 2015 competition robot and demonstrate each level of FIRST to our community. Our team has planned another robot reveal day for the 2016 season. Though competition is an important part of FIRST, our members understand that bettering one's self and helping those in need are of utmost importance.

#### Vision

We have evolved into more than just an after school robotics program. By instilling the ideals of FIRST into our daily lives, Torbotics is leading the way to a brighter tomorrow. Team 2080 has left an impact through connections with children, young adults, professionals, and international classrooms. We have laid a foundation of FIRST's principles that will be built upon in the years to come. Our story is only beginning to unfold.