

High School Robotics/Technology  
Competition Team

Sponsorship Proposal

Spring 2013



# TechFire

TechFire is a FIRST Robotics competition team based in the York, PA area that encourages students to pursue STEM (Science, Technology, Engineering, and Math) career paths. FIRST Robotics is a global program with over 2,000 teams worldwide. FIRST was founded to change our culture's perception of engineering education.

TechFire includes students from both York and Lancaster counties from multiple high schools, both public and private. The team is a year-round extracurricular activity that focuses on inspiring students to embrace working with science and technology concepts.

The team is built like a small business, with different students focusing on different aspects of the program. Students have opportunities to do computer-aided design, fabrication, software, and publication work while being mentored by parents, engineers, and educators.

## Inspiring Students

Each year, a new design challenge is released. Students must design and build a robot to compete in an original game designed by industry professionals. After the robot is designed, built, and programmed, the team competes in upwards of seven competitions to showcase the robot and compete for a variety of engineering and business-focused awards. This year's game, "Rebound Rumble", had students design a robot to play a basketball-like game. Common engineering problems such as calculating the trajectory of an object were solved, and students worked hand-in-hand with adult mentors toward producing quality awards submissions, a robot to be proud of, and team publication material.

On TechFire, students have opportunities to gain experience with many different types of technology. Students can work on each of these with experienced mentors:

- Computer-Aided Design
- Electrical design and wiring
- Component fabrication
- Component assembly
- Robot programming
- Web design
- 3D animation
- Team marketing and publicity
- Team business development
- Photo and video documentation



Tech Fire 2012 Robot, 'Longshot'

*"Our mission is to create a world where science and technology are celebrated... where young people dream of becoming science and technology heroes"*

**Dean Kamen**

*Founder, FIRST Robotics Competition*



Katie uses the lathe to make a part

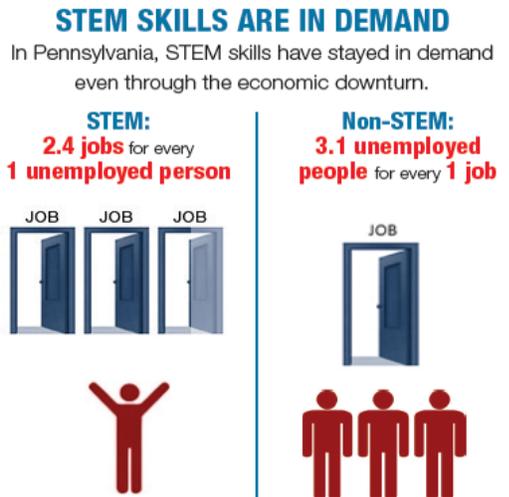
The students on Tech Fire also work to inspire others to look into science and technology careers. The team performs regular demos at community events, and some students on the team have mentored other robotics teams seeking assistance.

Through the FIRST program, over \$14 million in scholarships was awarded to FIRST students last year. Besides providing monetary support to students, the program also has potential to change students' lives. FIRST teaches students to not settle for a low-quality product, and it teaches them to strive to reach their goals.

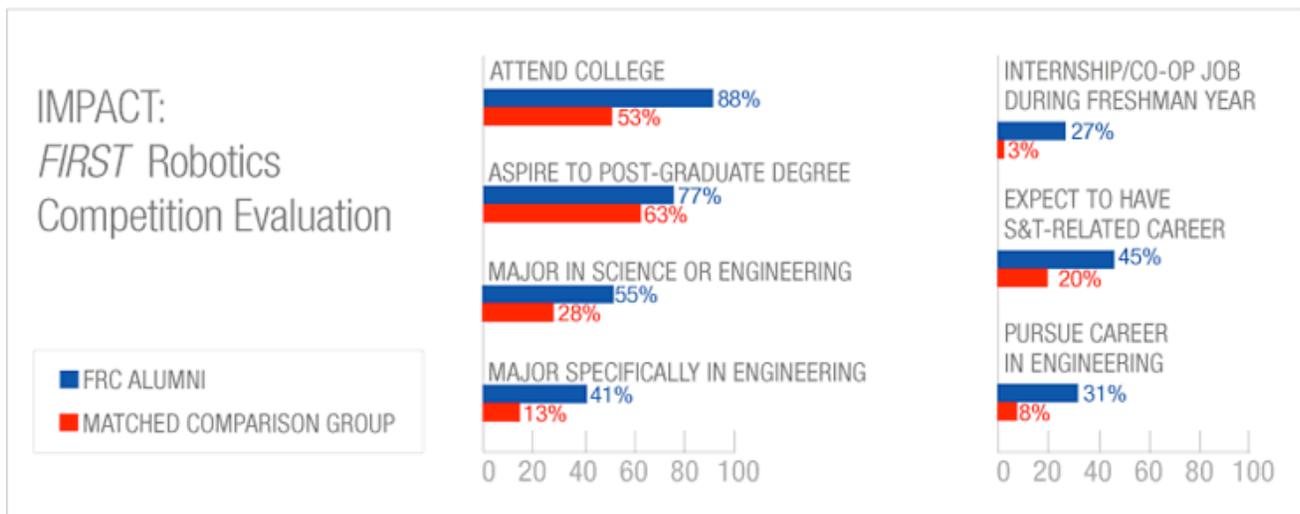
## Importance of STEM

Educating students in the sciences, technology, engineering and math (STEM) will foster the next generation of leaders who are capable of designing and implementing solutions to many of the world's problems. For example, at the local and international scale, young people with STEM degrees are working to develop treatments for diseases as well as generating ideas for sources of energy. Ultimately, their work will help to improve our lives. **It is critical that interest in these areas be encouraged at a young age, and sustained. We need challenging and engaging programs that nurture innovative thinkers. FIRST robotics is such a program.**

According to a recent study, "Business leaders in Pennsylvania have sounded an alarm. They cannot find the science, technology, engineering and mathematics (STEM) talent they need to stay competitive. Students' lagging performance in K-12 is a critical reason why. Pennsylvania needs to ensure that schools and students have opportunities to meet higher expectations: Not enough students—least of all minorities—have the chance to learn challenging content to prepare them for college and careers. Students have made real gains in math and science, but racial and ethnic achievement gaps are among the very largest in the nation, and low-income students are least likely to have access to science labs or teachers who say they have the resources they need. The state also has troubling gender gaps. Girls lag behind in 4th-grade science, and the gaps widen dramatically later on. In college, women earn fewer than a third of STEM degrees or certificates in the state. Business leaders stand ready to work with educators and states to promote greater equity." (Source: [www.changetheequation.org](http://www.changetheequation.org))



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Independent Brandeis University study, 2005

# Sponsorship

Maintaining a robotics program is an expensive endeavor. TechFire can have a budget of up to \$31,500, depending on the requirements for a given year. Support extending beyond the budget is always appreciated as well, and it is typically put towards better equipping the team with new computers, tools, and machines.

<b>Item</b>	<b>Cost</b>
Initial competition entry fee	\$5500
Region championship entry fee	\$4000
Championship entry fee	\$5000
Off-season competition entry fees	\$1000
Travel costs	\$10000
Material costs	\$3500
Tool costs	\$2000
Team publicity/branding costs	\$500
<b>Total:</b>	<b>\$31,500</b>

Team mentors and students loan their own tools to the team to allow the team to manufacture components. All computers used by the team are also loaned by team mentors and students to help with CAD, programming, and web design work. All mentors who help the team are unpaid volunteers, and they may work up to 30 hours per week on top of a day job for the team. Mentors can be anyone; engineers, parents, scientists, educators, or even college students.

**TechFire is currently over \$25,000 shy of our \$31,500 goal, and we need your help. With your support, Tech Fire can provide more opportunities to students in York and Lancaster counties and expand our program to reach more students.**

TechFire is looking to build partnerships with a greater number of companies to increase mentoring opportunities for students and help companies identify strong prospects for future employment. Sponsors are recognized in the team name to be read at competitions, on the robot, and referenced in team literature. Competitions are often publicized in newspapers and on television.



**Team drivers Operate the Robot in Competition**

*"Ten years from today, one of these students is going to be out in the world having done something extraordinary for a major global problem."*

*Dean Kamen*

*Founder, FIRST Robotics Competition*

# Sponsor Us

Help us build the future!

**TechFire Robotics of York utilizes The St. Onge Foundation, a 501 (c)(3) nonprofit, and acting fiduciary agent for Team 225. All donations and sponsorships are tax deductible and are used solely for the support of our team. No salary or compensation is given to any of the individuals associated with TechFire.**

If you are interested in becoming part of our team, our student team members would be happy to meet with your organization and provide a formal presentation of our program as well as information on how financial resources will be put to use. All partners will receive an annual TechFire expenditure report detailing how financial resources are allocated to support our program. In addition, your company logo will be displayed on our team website and t-shirts, on the actual robot used in competition, and on the team backdrop in our competition pit area. Thank you for your consideration!

*The official registration and financial information of The St. Onge Foundation may be obtained from the Pennsylvania Department of State by calling toll free, within Pennsylvania, 1 (800) 732-0999. Registration does not imply endorsement.*



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**For more information, visit our website**

[www.Techfire225.com](http://www.Techfire225.com)



*Watch a video about FIRST through this QR code!*