

## **FIRST Robotics Occupies Students with Many Talents**

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"Ensuring that the next generation of Americans possesses critical science, technology, engineering, and math skills is vital to our country's economic wellbeing and national security," said Jody Trapasso, senior vice president of Chrysler's External Affairs.

"In addition to providing valuable lessons on STEM subjects, FIRST Robotics also helps students develop important life skills such as leadership, teamwork, and problem-solving.'

"There are 2,716 FIRST teams around the world," Alpert said. "And in Michigan, there are 280 teams. That's 10 percent of the world total here in the state."

Alpert said Gov. Snyder has been a strong supporter of what FIRST has been doing. Last year, he pledged \$3 million to high schools throughout the state.

"The money has really paid off," Alpert said. "We got a lot of new teams from schools around Michigan that hadn't sent teams in the past. These are rural schools in the Upper Peninsula and some schools around Benton Harbor."

While it's fun to have competitions, the goal is to teach students about engineering, Alpert said. That's why one of the awards given is the "gracious professionalism" competitor award. It's given to the team that does the most to help other teams.

"The goal is to have all the teams' robots up and running," Alpert said. "If some team breaks an axle, all they have to do is ask for help and the other teams will do things like lend them another axle.'

There will be more competitions this month, culminating in the state championship that will be held at Eastern Michigan University in early April, Alpert said. The top 32 teams in the state will go to the national championship in St. Louis in late April.

"The reason FIRST is so powerful," Alpert said, "is that we're training the next generation of engineers. These are the people businesses need and colleges want.

"FIRST has more than \$19 million in scholarships that it will give to participants next year. The FIRST members get handson mentoring from people in the business. They get guidance and learn what it takes to be an engineer."

One of the mentors is Scott Freeman, manager of Product Planning, Process and Tools for Chrysler. He is one of nine mentors on Cardinal Mooney's "Robosapiens" FIRST team.

"I have twins, Adam and Moniwho attend Cardinal ca. Mooney," Freeman said.

"Adam is heading down the path to engineering and Monica is looking at industrial design. Last year, they joined the Robosapiens.'

After talking with them about what they were doing, Freeman decided to become a mentor. In his second year, he said the reason they have nine mentors for one team is that the project involved so many different disciplines.

They get parts for a robot and they have to meet certain requirements in terms of size and power. But they can make additions and that means mechanical engineering comes into play.

They have to program the robot, which means computer engineering. The robot uses batteries, which means electrical engineering.

Teams also need sponsors to help pay for expenses and to promote what they're doing. That requires business expertise. The result, Freeman said, is a lot of mentors. There's plenty to occupy students with different talents and interests.

"What's surprised me most," Freeman said, "is seeing someone who maybe knows what a screwdriver is become good at using tools and pick up the knowledge needed to get the robots to work.

"These days, a lot of kids don't have the opportunity to get hands-on experience like they did in the past. It used to be you could work on a car in your garage with your dad.'

That isn't the way things work these days, Freeman said. He said Alpert wasn't kidding when talking about how gracious the other teams are. He was very surprised his first year at just how helpful the other teams were. He said that's something to be admired and called the experience eye-opening.

The resources that some of the Robosapiens' mentors have have proven to be very useful, Freeman said. Credit should be given to Phil Pelsos, owner of Triton Automation in Port Huron for making his work space available to students, and to Bill Drake, owner of Advanced Care Pharmacy for lending a hand on the business side of things.

"I suspect that once my children leave the competition, I'll remain a mentor," Freeman said. "I've seen people whose kids left high school 10 years ago who are still mentoring.'

