

Robotics Competition Grooms Future Engineers

Many Indiana high school students are bringing science to life – literally – as part of the annual U.S. FIRST Robotics Competition (FRC).

FIRST equals For Inspiration and Recognition of Science and Technology. The goal is to generate interest in engineering and technology among teens while cultivating skills they can parlay into careers, especially important in Indiana as the state faces shortages in those fields.

Teams comprised of students and business or community mentors construct – in six weeks – a remote-controlled robot (weighing approximately 120 pounds) to perform a specific task or series of tasks. All participants receive an identical assembly kit to which they can add approved parts.

This year's theme, FIRST Overdrive, has a racing focus. Regional events lead up to the championship at the Georgia Dome in Atlanta on April 17-19.

BizVoice® first explored the FRC in its July/August 2003 issue. Since then, the competition's size has nearly doubled from 800 participating teams to 1,500 this year that includes schools from the United States, Brazil, the United Kingdom, Mexico and the Netherlands. Representing Indiana in 2008 are 27 teams from throughout the state.

Dan Ward is president of Indiana FIRST and chairs the design technology program at Ivy Tech Community College of Indiana's Kokomo campus. He notes that Indiana is gaining teams, but not at the pace that has been taking place nationally.

"It's growing, but more slowly than in the past," Ward states, observing that an average of one to two teams are added each year. "More teams are dropping out now (whereas) six or seven years ago, the growth was exponential." He says that steep entry fees (approximately \$6,000 per regional event) can be a deterrent.

Rolls Royce is a corporate sponsor of Perry Meridian High School's Cyber Blue robotics team, located on the south side of Indianapolis. The company offers financial support and avails resources such as its training center for design review.

Chris Fultz, program director of helicopter engines (and Indiana FIRST vice president), declares, "Most of the better teams operate like a small business. It's a very expensive program (so) the students have to raise money, work together as a team, develop communication skills and work on a tight timescale."

To mirror that professional atmosphere, interviews are

part of the Cyber Blue Team member selection process. Further, Kokomo High School's TechnoKats team members must meet academic standards.

And the winner is...

Taking top honors at the national championships were the School City of Hammond's Team Hammond (1997, 2001, 2002 and 2004), as well as the TechnoKats (1998). Plus, Hoosier teams garnered 158 awards in categories such as leadership in control/innovation and team spirit through 2005.

"Indiana may not be a powerhouse in terms of number of teams, but we have strong teams," Ward asserts.

A study conducted by the Brandeis University Center for Youth and Communities illustrates the FRC's impact. Among findings: Participants are more than three times as likely to expect to major specifically in engineering; nearly four times as likely to expect to pursue a career specifically in engineering; and more than twice as likely to expect to pursue a career in science and technology than their non-participating counterparts.

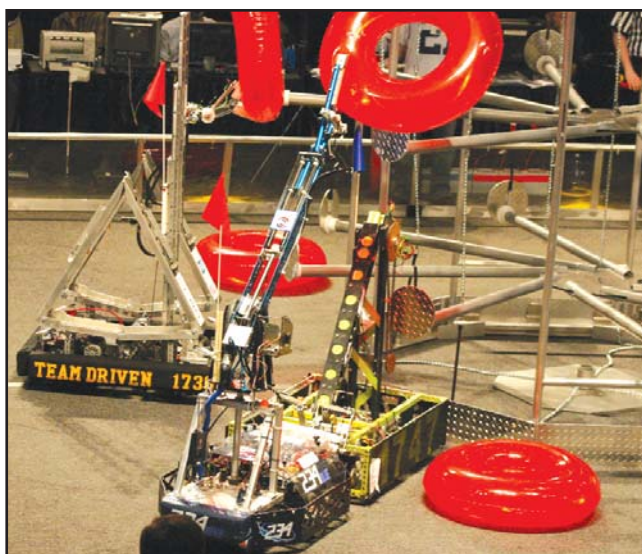
Fultz remarks, "It helps us provide the pipeline of future talent that we will need to maintain our status as a leading company in the aerospace business. At Rolls Royce, there are probably 45 students either as interns, co-ops or full-time employees that we can attribute

directly to our involvement with FIRST."

To view the July/August 2003 *BizVoice*® story on FIRST, go to the archives section of www.bizvoicemagazine.com.



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The 2007 Cyber Blue robot prepares to score a pool tube during a match at the Boilermaker Regional at Purdue University.

INFORMATION LINK

Resources: Chris Fultz, Rolls Royce, at Christopher.B.Fultz@rolls-royce.com

Dan Ward, Ivy Tech Community College of Indiana-Kokomo, at dward@ivytech.edu

Indiana FIRST at www.indianafirst.org

U.S. FIRST at www.usfirst.org

Story by Symone Salisbury