

Using FIRST Robotics to Create a Pipeline of Qualified Employees

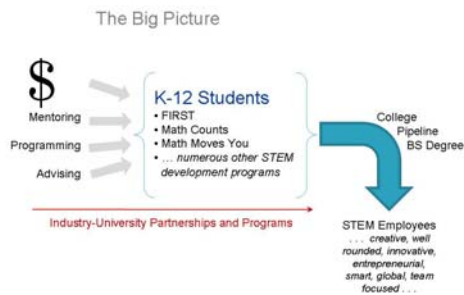
Paul Schoch, FRC Team 1493 – Albany High School, FRC Team 20 – Shenendehowa High School
Rensselaer Polytechnic Institute

Issue: STEM Pipeline

Build a technology literate society.
Develop an entrepreneurial workforce.
Create a pipeline of qualified employees.

Approach: FIRST Robotics

University – Industry Partnership
Work with area high school teams
Mentors are from industry and academia



Slide provided by Fred Looft, WPI

Why Robotics?

- There is a large body of students with interest in robotics.
- This year, over 35,000 high-school students are competing in the FIRST Robotic Competition this year.
- About 100,000 kids aged 9-14 competed in FIRST LEGO League robotics in the fall of 2007.
- Botball robotic soccer has had over 34,000 middle and high school students and 2500 teachers to date, while Boosting Engineering, Science and Technology (BEST) Robotics has 8,000 students yearly
- And there are others such as Battle Bots IQ and Robocup Junior (numbers unknown)

RPI and CATS

Corporations

Host Rocket
National Grid
BAE Systems

Teams supported

Team 1493 - Albany High School
Registration fees
Robot design, construction, testing
Travel support
Mentoring
Team 20 - Shenendehowa High School
Registration fees
Team shirts

Group effort

Full size practice field in Rensselaer Tech Park

I. Vision

WHY FIRST?
FIRST – one of the most successful and visible partnerships between industry and universities.

MISSION
To inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering, and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

Information provided by FIRST and Fred Looft, WPI

Does FIRST work?

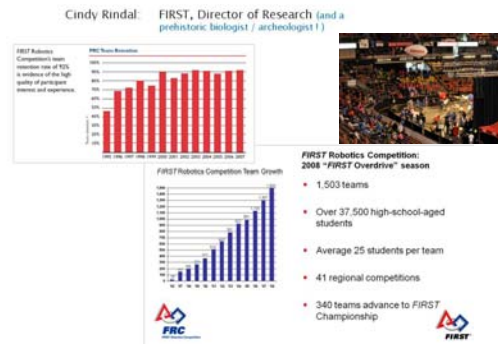
University-Industry Partnering and Industry Support/Involvement



Team 1493 – Albany High School



Team 20 – Shenendehowa High School



Team 1493 – Albany High School

Outreach activities

- Participated in the Joseph Henry Science Fair, interacting with middle/elementary students. Activity covered engineering, problem solving, math and science.
- Worked with Team 20 and RPI to set up practice field
- Hosted a exhibition at the practice field, 5 teams attended
- Demonstrated at the NY State legislature building.
- Sponsored FLL team
- Demonstrated the robot at various open house events
- Represented FIRST Robotic Teams at a screening of "2 Million Minutes", a documentary comparing high school students in the US with students in India and China.



Team 20 – Shenendehowa High School

Outreach activities

- Helped start 3 other FRC teams, sponsored a FLL team
- Worked with Team 1493 and RPI to set up practice field
- Hosted a exhibition at the practice field, 5 teams attended
- Demonstrated at the NY State legislature building.
- Raised money for Katrina victims
- Robotics workshops for 3-5 grade students
- Participate in many community events including school open house, town 4th of July parade, town board meeting, and many more.
- Graduates are now mentoring other teams across the country
- So much more, please ask.

