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2009 FIRST *Hotshot!* Tech Challenge

FIRST (For Inspiration and Recognition of Science and Technology), an organization founded by inventor Dean Kamen to inspire young people's interest and participation in science and technology, has launched its 2009 FIRST Tech Challenge (FTC) season with an online kickoff event unveiling this year's game, *Hotshot!*

The FIRST Tech Challenge is an intermediate robotics competition designed for 14- to 18-year-old high school students, where teams of up to ten students work alongside mentors, applying real-world math and science concepts to solve the annual challenge. Students compete and cooperate in team alliances at high-energy regional tournaments that reward the effectiveness of each robot, the power of collaboration, and the determination of students. Through their FIRST involvement, students discover the rewarding and engaging process of innovation and engineering.

Hotshot! was developed with the input of professional robotics designers, engineers, and sensor experts from across the country to provide a relevant engineering challenge. The use of sensors to track and target, manipulators to collect objects, and launching mechanisms to score those objects are all part of the challenge. Coupled with uneven playing surfaces and challenging goal locations, *Hotshot!* emulates many things real-world robotics designers face.

More than 13,000 high-school-aged young people are expected to participate in this year's competition, in which robots will develop and execute both offensive and defensive strategies to score balls into a rotatable center goal and off-field goals in the last 30 seconds of a match. Using a combination of sensors – including infrared tracking (IR), line following, ultrasonic, touch, and more – students will program their robots to operate in both autonomous and tele-operated modes. The *Hotshot!* matches will last two minutes and thirty seconds, and will begin with a 30 second autonomous period followed by a two-minute tele-operated period.

More details are at www.usfirst.org.