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Robot soccer players learning the 'beautiful game'

By Juergen Voges, Associated Press

Konrad Meier adjusts his humanoid robot 'Juergen' at the RoboCup German Open. The world's leading fair for industrial technology, with about 5,100 exhibitors from 62 nations, opened to the public on Monday.

HANNOVER, Germany — They're not quite the automatons and androids of popular culture, but the small sporting robots on the field in Germany this week are no less entertaining. Some move about on three wheels; others plod slowly and deliberately on two or four legs. These robots come in a multitude of designs — ranging from thumb-sized midgets to over 2½-foot giants. Their common aim? To win the annual RoboCup German Open at the Hannover Trade Fair by getting the ball into their opponents' goal. The contest, which began Tuesday and concludes Friday, is part of a wider effort to educate the public about how far robot technology has developed and how it is used in everyday life. The RoboCup — now in its seventh year — is part of a the "Mobile Robots & Autonomous Systems" showcase for the technology. Other robots on display offer everything from security to faster manufacturing. "Our robots are supporting people in museums and public places, giving them information on certain interesting things. So, this is what we believe will be the applications in the very near future," Roko Tschakarow of System Solutions Unit Mechatronics told AP Television News. However, the robo-soccer players — which started with warm-up laps in a spacious exhibition hall — remain the main draw. Some 850 robots were signed up, alongside 350 university students and computer engineers from 14 countries. Their 49 teams are competing in six different kinds of robot soccer, said Ansgar Bredenfeld of the Fraunhofer Institute for Intelligent Analysis and Information Systems (IAIS), the organizer. There is also the RoboCupJunior Competition for high school students — with 116 teams from four countries. Stefan Kohlbrecher, a member of the Technical University of Darmstadt's Darmstadt Dribblers team, said the process of getting six tall robots on wheels to play each other was not as complicated as it looks. "It works with this camera, he can see with this regular webcam. He can look around, and when he sees the ball these data are processed," he told AP Television. "We tell him that what is orange and round is the ball." The two-legged robots playing in the Humanoid League are much slower and, frankly, not much good at the game. However, Bredenfeld said they've made a lot of technical progress recently. "They have to open doors, recognize faces and reach for items," he said. Ultimately, Kohlbrecher says, the aim is to field a team of robots against people. "The goal of the RoboCup is to compete against human world champions with robots by the year 2050," he said. "We're still a little far from it, but there is a lot of time to reach it."