

Robots for playing soccer through to disaster relief

At the international RoboCup, maxon motors featured in robots playing soccer and in mock recovery operations.

At the end of July 2017, more than 3,000 participants from 42 countries participated in the annual RoboCup competition held in Nagoya, Japan.

maxon had inbuilt motors and controllers in a rescue robot developed by the Carinthia University of Applied Sciences that placed seventh out of 20 competitors. Scoring high marks for the light design and system approach, the robot contained several DC motor, gearbox and encoder combinations. Using the EC-4 pole brushless motor with 200W power as a base, the motor operated the chains propelling the robot forward. The camera arm of the robot also contained eight maxon DEC 50/5 modules on circuit boards and four 70/10 ESCON controllers for the gripper arm. The machines acted in a simulated disaster scenario carrying out rescue operations and were evaluated based on their performance.

At the other end of the contest was the Soccer finale, with the two competing robots both containing maxon drives. The University of Bonn developed an 18kg, 135 cm robot supported by an exoskeleton that was 3D printed called "NimbRo". Maxon DC motors were integrated into an actuator drive system developed by a South Korean company. The competitor's robot, named "Sweaty" and developed by Offenburg University, contained 24 maxon DC motors and gearheads. 18 of these drives were fitted with an overload motor controller and a further two were fitted with an evaporative cooling system to prevent overheating. This cooling system is similar to the way humans sweat hence the name "Sweaty". NimbRo won 11-1.

For more information on DC motors to develop robotic applications contact maxon motor Australia tel. +61 2 9457 7477.

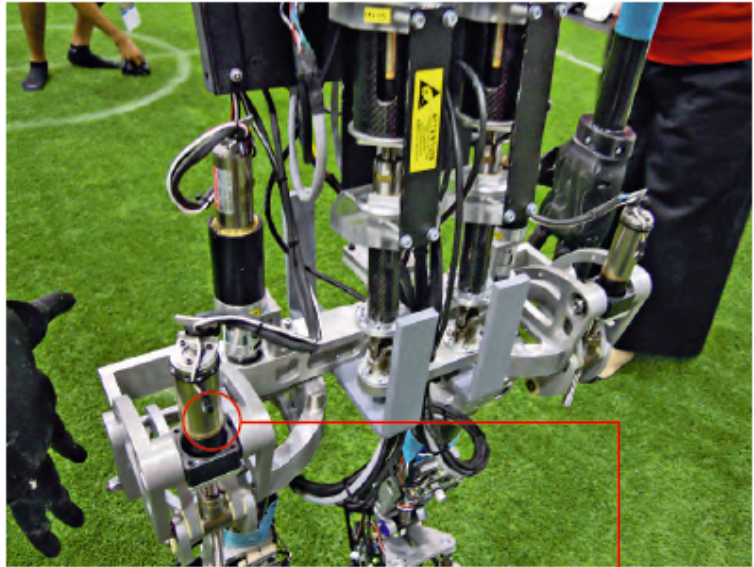
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The media release is available on the internet at: www.maxonmotor.com.au



*Rescue Robot developed by
Carinthia University of Applied
Sciences © maxon motor*

"The motors
always worked
well and had to
endure extreme
loads," says
Martin Sereinig,
research engineer
at the Carinthia
University of
Applied Sciences.



Sweaty is equipped with 24 maxon DC motors.



maxon EC-4pole 22
Ø 22 mm, 90 W,
brushless



In Japan, the soccer robot NimbRo from Offenburg (Germany) took first place in the AdultSize class.

Top "Sweaty" soccer robot and Left NimbRo robots competing in the finale soccer match
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