

Ranked as the World's No. 2 in "Technical Challenge" Held as Part of the "RoboCup 2017 Nagoya Japan" International Robot Competition

Nabtesco Corporation (Head Office: Chiyoda-ku, Tokyo; President and CEO: Katsuhiro Teramoto) participated in the RoboCupSoccer Humanoid League competition held in the Nagoya International Exhibition Hall from July 27 to 30, 2017.

The RoboCupSoccer Humanoid League competition was held as part of RoboCup 2017, with the goal of developing a team of humanoids that could defeat the World Cup champion team by 2050 set as a new challenge to be met for robots and artificial intelligence. This international robot competition is intended to contribute to the world through the scientific technologies that will be developed through research conducted by the participants with the goal of winning the competition. Nabtesco participated in the competition as "Team KIS," which is a joint team with the Chiba Institute of Technology, one of the company's research partners for actuators.

In the "Technical Challenge," which was held as part of the competition during the aforementioned period and which comprises four events, the joint team won second place. "Technical Challenge" participants competed based on the physical abilities of their robots. Scores gained by participating teams in each of the events were tallied to rank the teams. Team KIS achieved first place in the "Push Recovery" event, in which each robot was hit by a pendulum weight in order to evaluate their resistance to shock, and the "High Jump" event, which measured how high the robots could jump.

In robot competitions, one of the challenges to be met is minimizing the failure of reduction gears caused by shock resulting from falling, etc. In response, Team KIS developed an eccentric oscillating-type reduction gear that is light and compact but highly resistant to shock, and adopted this gear in each of the robot's joints. The reduction gears used in the robot joints did not break, even when the robot was hit by a pendulum weight or jumped high, thus proving their robustness.

Nabtesco will continue to improve its RV series precision reduction gears through open innovation.

<Related link>

RoboCup 2017 Nagoya Japan:

<https://www.robocup2017.org/eng/about.html>

Results of RoboCupSoccer:

https://www.robocup2017.org/file/awards/Awards_RoboCup_Soccer.pdf