

Humanoid Robots

A NEW CO-DEVELOPMENT OPPORTUNITY

Reference No: NNJ14ZBH017L

Potential Commercial Applications: chemical, medical and industrial robotics, logistics and distribution, biological research, emergency operations (first responders, rescue, and police), disaster recovery operations, Department of Defense (DoD), hazardous environments, and others

Keywords: humanoid interfaces, mobility and manipulation, sensor integration, structures, artificial vision systems, object recognition and detection, control algorithms, power systems, control systems, methods and algorithms, hardware for robotics systems, robo-glove, humanoid robotic systems, communication systems

Purpose:

NASA JSC seeks parties interested in co-developing technology associated with humanoid robots for earth applications such as hazardous environments where humans operate at severe risk and tele-medicine.

The primary technical challenges include humanoid interfaces, mobility and manipulation, structures, artificial vision, object recognition/detection, and power systems.

These humanoid robots and associated technologies can be used in hazardous and remote environments here on earth including applications in oil and gas, fire and rescue, post disaster recovery, and combat operations. An example application is to develop the robot glove for tele-medicine application.

Technology:

NASA JSC is and has been the leader in space-based humanoid robots for years and seeks to leverage this position to advance humanoid robotics for earth and in-space operations including lunar and planetary operations. These advanced humanoids must operate unaccompanied during periods of unmanned activity. The humanoids must traverse unimproved, natural surfaces with limited communication to an operator, who may be local or remote.

For more information about NASA JSC Robotics, please review our Robotics [Fact Sheet](#).

R&D Status:

NASA JSC has been the leader in space-based humanoid robots for several years and holds patents on Robonaut 2.

Intellectual Property (IP):

Multiple individual technologies associated with robotics are currently available for co-development and licensing. Visit [Robonaut 2](#) web page and click on [Licensing Opportunities](#).

This co-development project may produce new IP that could be jointly owned by NASA and the partner or may become the property of the partner.