Satellites captured unprecedented images of a giant piece of space junk

Astroscale Japan Inc, a Japanese company operating in the field of space waste cleanup, has just shared a remarkable image.

The photo was taken from a distance of just 50 meters by the camera system of the Astroscale-Japan (ADRAS-J) satellite on the company's Active Debris Removal mission. The subject of the photo is a large piece of space junk measuring 11m x 4m. This is originally the upper stage of the Japanese H-IIA rocket, which has been circling the Earth since 2009 in low Earth orbit.

Once ADRAS-J arrived within a few miles of the debris field, the team deployed an infrared camera that used a navigation algorithm for a safe approach. In May, ADRAS-J came within about 50 meters of the landfill, so much so that it was able to capture detailed images of the object. ADRAS-J will now try to move even closer to the debris to capture more detailed images.

The Japanese space agency has selected the company Astroscale for its space debris removal program (CRD2), and ADRAS-J is part of this initiative. Studying a piece of space junk up close allows Astroscale to fully understand the object's condition and movements before breaking it up. The data collected will allow scientists to launch another mission in the future, making a safe approach, 'grabbing' the object with a robotic arm and removing it from orbit, where it will burn up in Earth's atmosphere.

Space debris in low Earth orbit is not just old rocket parts, but also includes decommissioned satellites, and even debris from collisions between these parts. NASA says there are millions of pieces of space junk orbiting Earth

at a speed of 18,000 miles per hour, posing a direct danger to operating satellites, as well as the human habitat on the International Space Station. and China's new space station.

A series of international efforts have been underway over the years to find ways to safely and effectively remove the debris, with the total amount estimated to be nearly 6,000 tons.