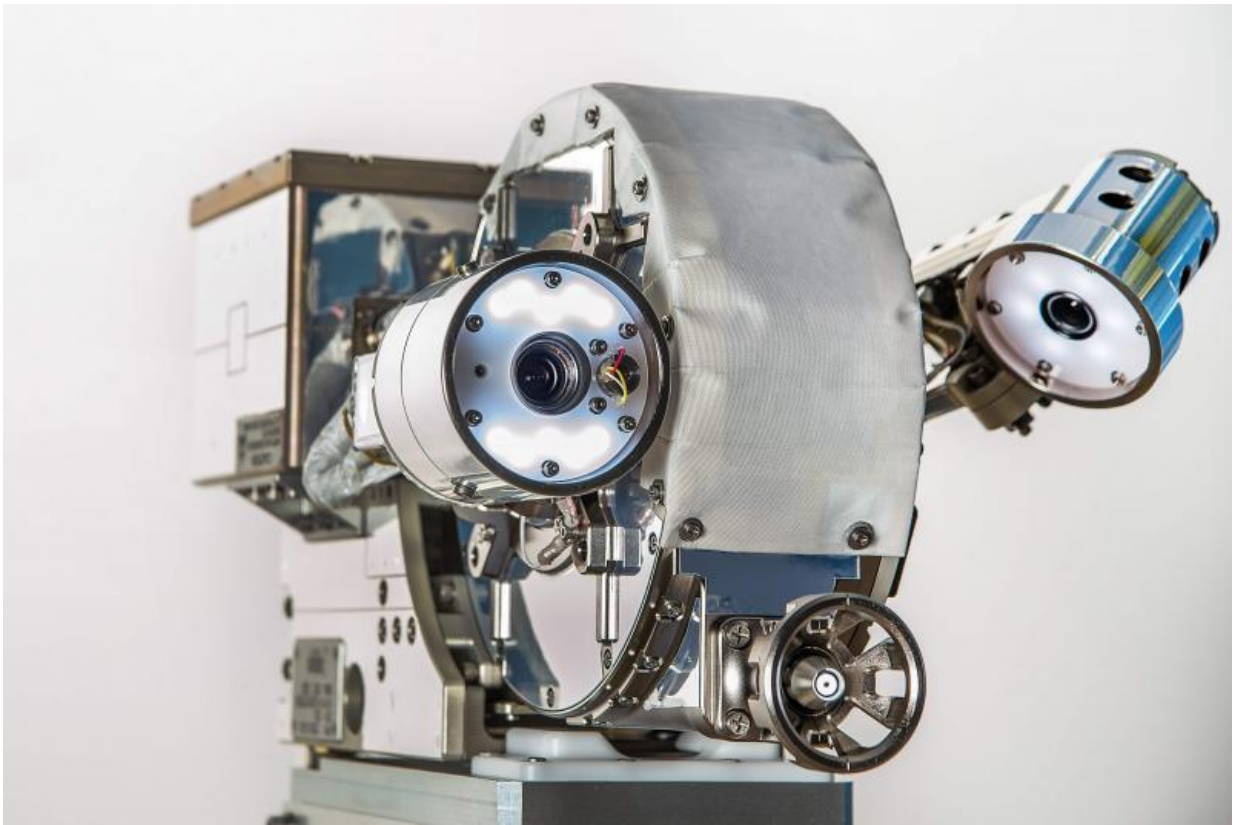


# Image: Robotic eyes to assist satellite repairs in orbit

November 4 2015, by Sarah Loff

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Credit: NASA/Chris Gunn

NASA is developing and demonstrating technologies to service and repair satellites in distant orbits. Robotic spacecraft—likely operated with joysticks by technicians on the ground—would carry out the hands-

on maneuvers, not human beings using robotic and other specialized tools, as was the case for spacecraft like the low-Earth-orbiting Hubble Space Telescope.

This photograph looks closely at one of the tools that could be used for satellite servicing in the future: the Visual Inspection Poseable Invertebrate Robot (VIPIR), a robotic, articulating borescope equipped with a second motorized, zoom-lens camera that would help mission operators who need robotic eyes to troubleshoot anomalies, investigate micrometeoroid strikes, and carry out teleoperated satellite-repair jobs. NASA successfully demonstrated VIPIR's capabilities earlier this year.

VIPIR would be used in NASA's Robotic Refueling Mission (RRM), now in the second phase of its on-orbit demonstration aboard the International Space Station. RRM is using the Canadian Space Agency's two-armed robotic handyman, Dextre, to show how future robots could service and refuel satellites in space. During RRM's third phase, the Satellite Servicing Capabilities Office team at NASA's Goddard Space Flight Center plans to demonstrate the transfer of xenon, a colorless, dense noble gas potentially useful for powering ion engines.

Provided by NASA

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