

SPIDER

Revolutionizing the space ecosystem with on-orbit assembly

MAXAR

NASA AND MAXAR'S SPACE INFRASTRUCTURE DEXTEROUS ROBOT (SPIDER) PROGRAM FOR ON-ORBIT SATELLITE ASSEMBLY AND SERVICING

Maxar, in partnership with NASA and the West Virginia Robotic Technology Center, is developing advanced robotic arms that will semi-automatically assemble and reconfigure spacecraft components while on orbit. This revolutionary process allows satellites, telescopes and other systems to use larger and more powerful components that might not fit into a standard rocket fairing when fully assembled.

Self-assembly and on-orbit servicing

SPIDER will be an integral component of NASA's OSAM-1, a mission to refuel and relocate a government-owned satellite in low Earth orbit. SPIDER will assemble seven individual antenna reflector components to construct one large antenna reflector.

Maintenance for exploration and other persistent platforms SPIDER will demonstrate robotic assembly and manufacturing—all critical functions for Gateway, Mars-orbiting outposts and other exploration outposts—to support preparation for and sustainment of human exploration.

ABOUT SPIDER

- Mid 2020s launch
- Lightweight, 5-meter dexterous robotic arm for in-space assembly with 7 degrees of freedom
- Enables new spacecraft architectures and greater mission flexibility, adaptability and resilience
- Key technology for space exploration
- Enables higher performance missions within current launch constraints

Transformative technologies such as SPIDER will, in time, lead to more affordable, safer human access to space and more efficient, longer-lasting satellites, probes and other space hardware.

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Trudy Kortez, Technology Demonstration Missions Program Executive, NASA

60+
years of
experience

280+
spacecraft
built

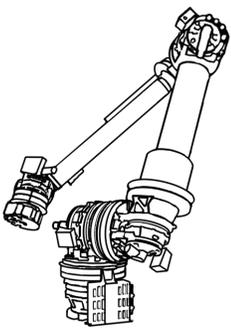
2,200
collective years
on orbit

Maxar is a trusted partner and innovator in Earth Intelligence and Space Infrastructure. We design, build, integrate and test solutions for space-based communications, Earth observation, exploration and on-orbit assembly and servicing.

Our renowned space infrastructure capabilities are rooted in the innovative legacy of SSL. Now, as Maxar, we are building on this experience to empower commercial and government programs to advance space exploration and improve life on Earth.

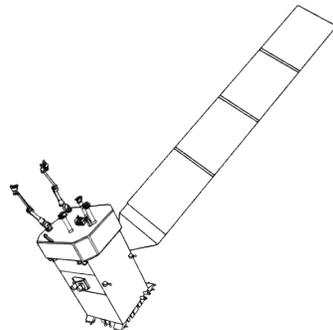
Maxar and NASA

Our collaborative partnership with NASA dates back to the Apollo 11 moon landing and continues to grow and evolve across the International Space Station and robotic exploration missions.



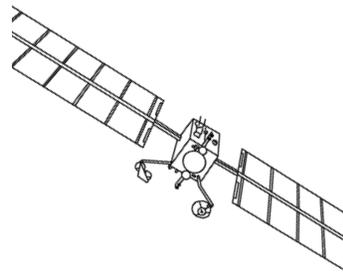
Robotic arms on Mars

Maxar is the proud space robotic arms partner for six of NASA's Mars landers and rovers.



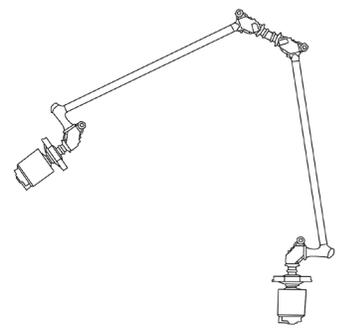
OSAM-1

Led by NASA and built by Maxar, OSAM-1 will refuel and relocate a government-owned satellite to extend its life.



Power and Propulsion Element

The Power and Propulsion Element for Gateway will support sustained missions to the moon and future crewed missions to Mars.



SPIDER

These robotic arms enable semi-autonomous on-orbit assembly and service.

explorespace.maxar.com