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.

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.

Trudy Kortes, Technology Demonstration Missions Program Executive, NASA
Maxar is the proud space robotic arms partner for six of NASA’s Mars landers and rovers.

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

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

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

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