

The Gateway Program

Continue to fully fund the development of the lunar orbiting Gateway, a necessary staging point for Artemis, and an important focus for both commercial and international partners.

Cost: \$799.2M FY23

Humanity's first forays to the Moon did not have any way stations to stop at each time; each Apollo Command Service Module entered into a circular orbit around the Moon while the Lunar Module continued down to the surface. Neither the Service Module nor the lander was built to be used more than once, making the entire program unable to rely on previous missions to reduce operational costs or increase capabilities.

The lunar Gateway is a necessary component in the architecture of Artemis; it provides the meeting point for the Orion crew spacecraft and Human Landing System (HLS).

Gateway will be uncrewed most of the time. Astronauts will arrive from Earth onboard Orion, transfer to an HLS (such as SpaceX's Starship lander), and descend to the lunar surface. When their surface mission is complete, the crew will lift off from the Moon on HLS and rendezvous with Gateway for transfer back to Orion, and finally return home to Earth.

For the Artemis Program, NASA has placed a permanent, reusable way-station in an unusual orbit around the Moon, called a near-rectilinear halo orbit (NRHO). This orbit was chosen for several practical reasons. Firstly, it allows almost constant line-of-sight communication to Earth, without the Moon getting in the way. The orbit also is less costly to establish, in terms of fuel and energy, than a traditional circular orbit. This will put the Gateway in an NRHO in easy reach for the Orion spacecraft. Finally, the orbit provides a staging ground for future trips beyond cislunar space, such as Mars.

Gateway is a primary vehicle for international participation in the Artemis lunar program.

Japanese (JAXA), European (ESA), Canadian (CSA), and likely others, have agreements with NASA to provide hardware and services to the Gateway. In addition, NASA has entered agreements with several commercial US companies for Gateway components.

As a main focal point for some of the most challenging and enabling commercial and especially international participation in the Artemis program, it is vital that Congress remain consistent in supporting the Gateway.