

MP-IDSA *Commentary*

Artemis II: America Returns to the Moon

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April 02, 2026

S*ummary*

The broader goal of the Artemis programme is to establish human settlements on the lunar surface while laying the foundation for future deep-space exploration.

The National Aeronautics and Space Administration (NASA) successfully launched the Artemis II mission on 1/2 April 2026 using the Space Launch System (SLS). This vehicle is carrying NASA’s Orion spacecraft, which is a next-generation crew module designed to transport four astronauts to deep space, including lunar orbit and future Mars missions. It has advanced life support, radiation shielding, and a heat shield capable of handling the re-entry to Earth’s atmosphere. The European Service Module powers it.

The propulsion system, housed in the service module, has 33 engines, including a powerful main engine for major deep-space manoeuvres over vast distances. Orion’s life support systems use advanced environmental control to keep astronauts safe and healthy during long-duration missions. Radiation protection shields both crew and onboard systems from intense cosmic and solar exposure in deep space. The spacecraft’s heat shield is designed to withstand atmospheric re-entry temperatures of about 2,760°C.

The craft travels towards Earth from a lunar distance of roughly 4 lakh km at a speed of nearly 39,750 km/h. Also, the mission has support from specialised communication and navigation systems, which permit operations beyond Earth’s satellite networks, where the GPS is unavailable. There is built-in redundancy to ensure that critical systems, such as onboard computers, remain functional throughout the mission.¹

This mission is carrying four astronauts towards the Moon. This mission is a flyby mission; the spacecraft would not land on the lunar surface but would travel in proximity to the Moon. This is a 10-day mission, and eight days would be consumed by travel to the Moon and back. After reaching Earth orbit, the rocket’s upper stage will push Orion into a highly elliptical orbit, where the mission will remain for about a day. At the same time, the crew and ground teams inspect and verify that all systems are functioning properly and are ready for the journey towards the Moon. During this phase, astronauts will also take manual control of the spacecraft to conduct proximity operations demonstrations, using the Service Module’s engines to manoeuvre Orion precisely.

Subsequently, Orion will execute the trans-lunar injection burn and begin its journey towards the Moon. During transit, the crew will test manual piloting and proximity operations, as well as communications, navigation, and high-speed data relay

¹ [“Orion Spacecraft”](#), Lockheed Martin.

systems, while also collecting data on the human body's physiological and biological responses to deep-space travel.²

As Orion approaches the Moon, it is expected to pass within approximately 100 km of the lunar surface during its closest flyby before entering a distant retrograde orbit that can take it as far as about 70,000 km beyond the Moon on the far side. From here, the spacecraft will be conducting observations and gathering data from the Moon's far side, an area that remains largely shielded from direct communication with Earth.

After completing its lunar operations and looping around the Moon, Orion will be drawn back towards Earth by gravity. NASA engineers expect the capsule to re-enter Earth's atmosphere at an angle, and its 5 m-wide heat shield is expected to protect it from temperatures exceeding 2500°C during the high-energy descent.³

NASA's Artemis missions are sending astronauts to explore the Moon for the first time in around 55 years. The last human visit to this region was during the Apollo 17 mission in 1972. Artemis II will travel to a distance of about 402,000 km from Earth, exceeding the distance travelled by Apollo 13, which reached approximately 400,200 km.⁴

NASA is planning to launch the Artemis III mission in 2027, which is expected to test rendezvous and docking capabilities between Orion and commercial spacecraft needed to land astronauts on the Moon. Artemis IV, which may take place around 2028, is expected to be the first human lunar landing mission of this century. The historic Apollo 11 mission (1969) achieved the first human landing on the Moon by Neil Armstrong, while Apollo 17 in 1972 was the most recent mission to land humans there. To date, a total of 12 astronauts have walked on the lunar surface.

The Artemis missions aim to uncover a wide range of scientific insights about the Moon, including how to extract and use water ice to support human survival and potentially produce rocket propellant. In addition, there is interest in assessing the feasibility of extracting resources such as Helium-3 from the lunar surface, which is predicted to have tremendous utility in the energy sector. Missions like Artemis II will provide unique observations of deep space and the lunar environment, while supporting real-time scientific investigations. Subsequent missions involving human

² [“Artemis II”](#), The European Space Agency.

³ [“Artemis II Flight Path Animations”](#), NASA Scientific Visualisation Studio, 21 January 2026.

⁴ Doyle Rice, [“250,000 Miles from Earth? Mind-boggling Facts about Artemis”](#), *USA Today*, 31 March 2026.

landings will allow detailed study of the Moon’s surface and interior through field geology, sample collection and advanced experiments, helping scientists better understand its composition, history and resources.⁵

Overall, the Artemis missions will collectively help test technologies and strategies needed for long-duration habitation, including life support systems, resource utilisation and radiation protection. The broader goal of the Artemis programme is to establish human settlements on the lunar surface while laying the foundation for future deep-space exploration.

Currently, the US is facing much criticism both domestically and internationally for its involvement in the Iran conflict, which is damaging the global energy calculus. This has led to growing public dissatisfaction both at home and internationally. In contrast, ambitious space initiatives like the Artemis programme are highlighting a more constructive dimension of human progress, international collaboration and scientific advancements.

Currently, major conflicts raging in Ukraine, Gaza, Lebanon and the wider West Asian region are causing thousands of deaths and significant displacement, leading to broader regional instability. There are thick, dark clouds of war over much of the world. In this climate of violence and uncertainty, missions like Artemis II stand out as reminders of humanity’s capacity for peaceful exploration and scientific progress. It brings to the fore a positive narrative that highlights cooperation and scientific & technological achievements.

⁵ [“Artemis Science”](#), NASA.

About the Author



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