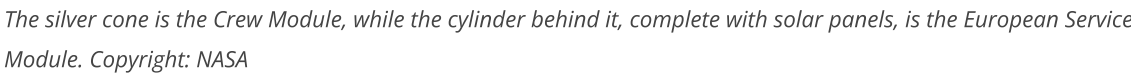


A large rocket is being mated to the Mobile Launcher Platform (MLP) by the Orbital Assembly Facility (OAF) at night. The scene is illuminated by bright spotlights, and the structure is surrounded by support equipment and cranes.

[Access the image](#)

29 August 2022 will be a special day for space exploration! A huge Space Launch Systems rocket is scheduled to blast off from the Kennedy Space Center, carrying with it NASA's Orion Crew Module and its European Service Module. Their mission, called Artemis I, will take them to the Moon and back!



[Access the image](#)

The diagram illustrates the Artemis I mission profile, showing the spacecraft's path around Earth and the Moon. The mission is divided into 11 numbered steps:

- 1 Liftoff**: Kennedy Space Center, Florida, USA
- 2 Low Earth Orbit**: European Service Module deploys solar arrays
- 3 Translunar Injection**: Second stage fires to propel Orion to the Moon
- 4 Outbound coasting phase**: Four-day trip to lunar orbit with European Service Module correcting as necessary
- 5 Lunar flyby**: Main engine fires 100 km above lunar surface
- 6 Distant retrograde orbit arrival**: Main engine fires for orbit insertion
- 7 Distant retrograde orbit**: Farthest point from Earth
- 8 Distant retrograde orbit departure**: Main engine fires
- 9 Inbound powered lunar flyby**: Main engine fires to return to Earth
- 10 Return to Earth**: Four-day trip with Return Trajectory Corrections supplied by Orion's European Service Module Reentry engines
- 11 Service Module separation**: European Service Module and Crew Module Adapter separate from Crew Module
- 12 Reentry**: European Service Module and Crew Module Adapter burn up
- 13 Splashdown**: Pacific Ocean

Artemis I has a detailed plan! Copyright: ESA-K. Oldenburg

[Access the image](#)

Although hopes are set on a 29 August launch, bad weather may delay this. Two backup dates have been set: 2 September and 5 September. The mission itself will last between 20 to 40 days, and should end with the Crew Module splashing down in the Pacific Ocean.

If all goes well for Artemis I, then Artemis II will see astronauts fly inside the Crew Module, supported by the European Service Module. This is a very exciting time for space exploration, with European specialists helping to push the boundaries of what is possible!

Cool fact: The European Service Module is made from more than 20,000 parts!

