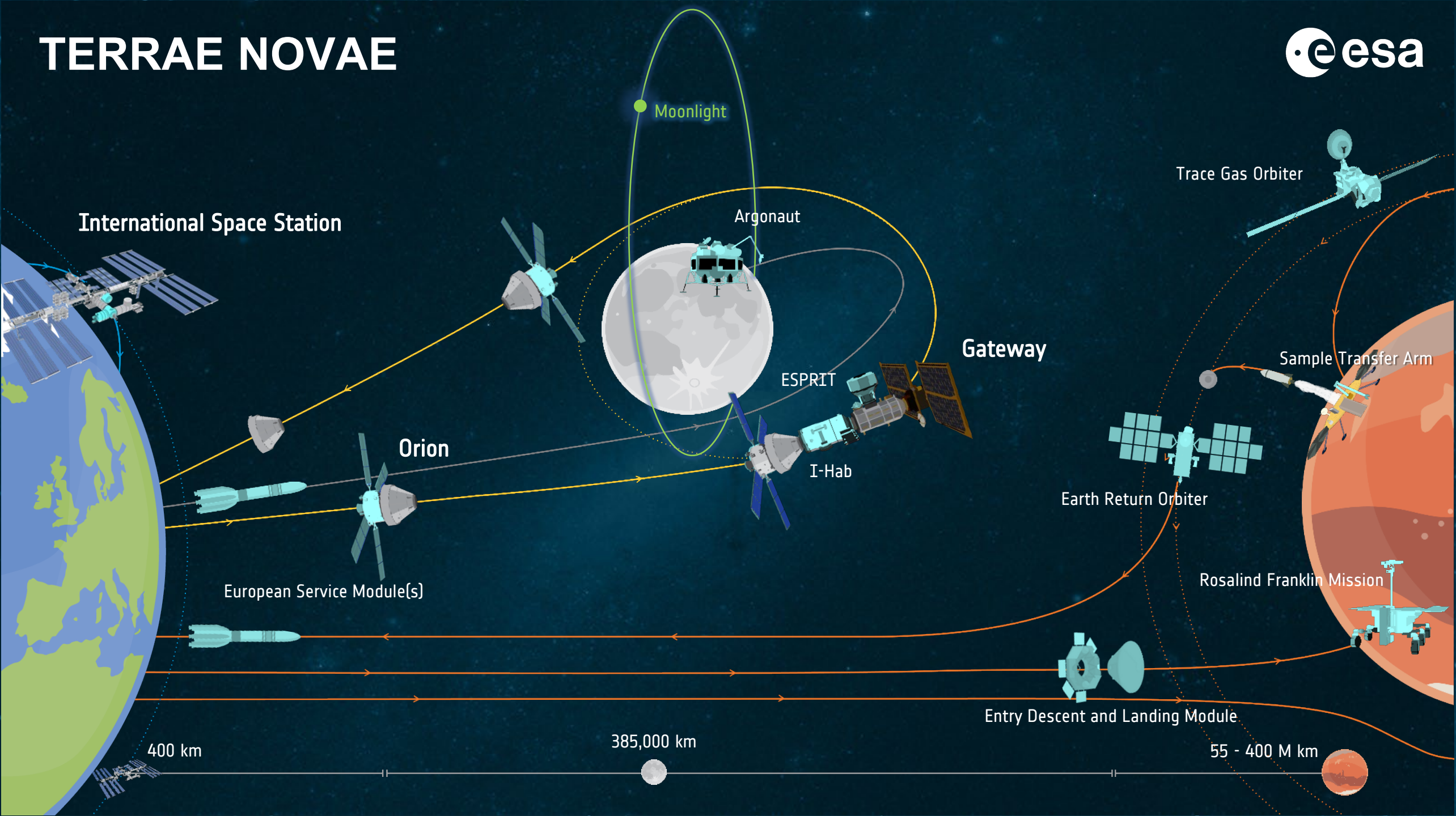




# Moonlight Users & Advanced Technologies Work Plan



# TERRAE NOVAE



International Space Station

Moonlight

Trace Gas Orbiter

Argonaut

Gateway

Orion

ESPRIT

I-Hab

Sample Transfer Arm

Earth Return Orbiter

European Service Module(s)

Rosalind Franklin Mission

Entry Descent and Landing Module

400 km

385,000 km

55 - 400 M km





# Advanced Technologies Work Plan Rationale

- Scope
  - Second generation of Moonlight system
  - Systems exploiting communication and navigation services for broader purposes
- 2024+ Plan
  - Preparing for future Lunar market evolution
  - Enhancing Moonlight services acceptance and user engagement
  - Supporting international cooperation
- Ensuring Europe plays a major role





A detailed illustration of a lunar communication network. The Earth and Moon are shown in the background. Several satellites are positioned in orbit around the Moon, with bright blue laser beams connecting them to form a network. A prominent satellite in the foreground has large solar panels and a parabolic antenna. The scene is set against a dark space background with stars.

# Lunar COM Activities



## Lunar COM Activities

- Lunar Laser Communication Terminal





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- Service orchestration and interoperable Network Management





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- LunaNet S-band communication user terminal transceiver



# Lunar PNT Activities





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- Earth-based field-testing facility of Moonlight PNT Signals Using Drones





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- Earth-based field-testing facility of Moonlight PNT Signals Using Drones
- Miniaturised LunaNet PNT User Terminal Receiver



## Lunar PNT Activities

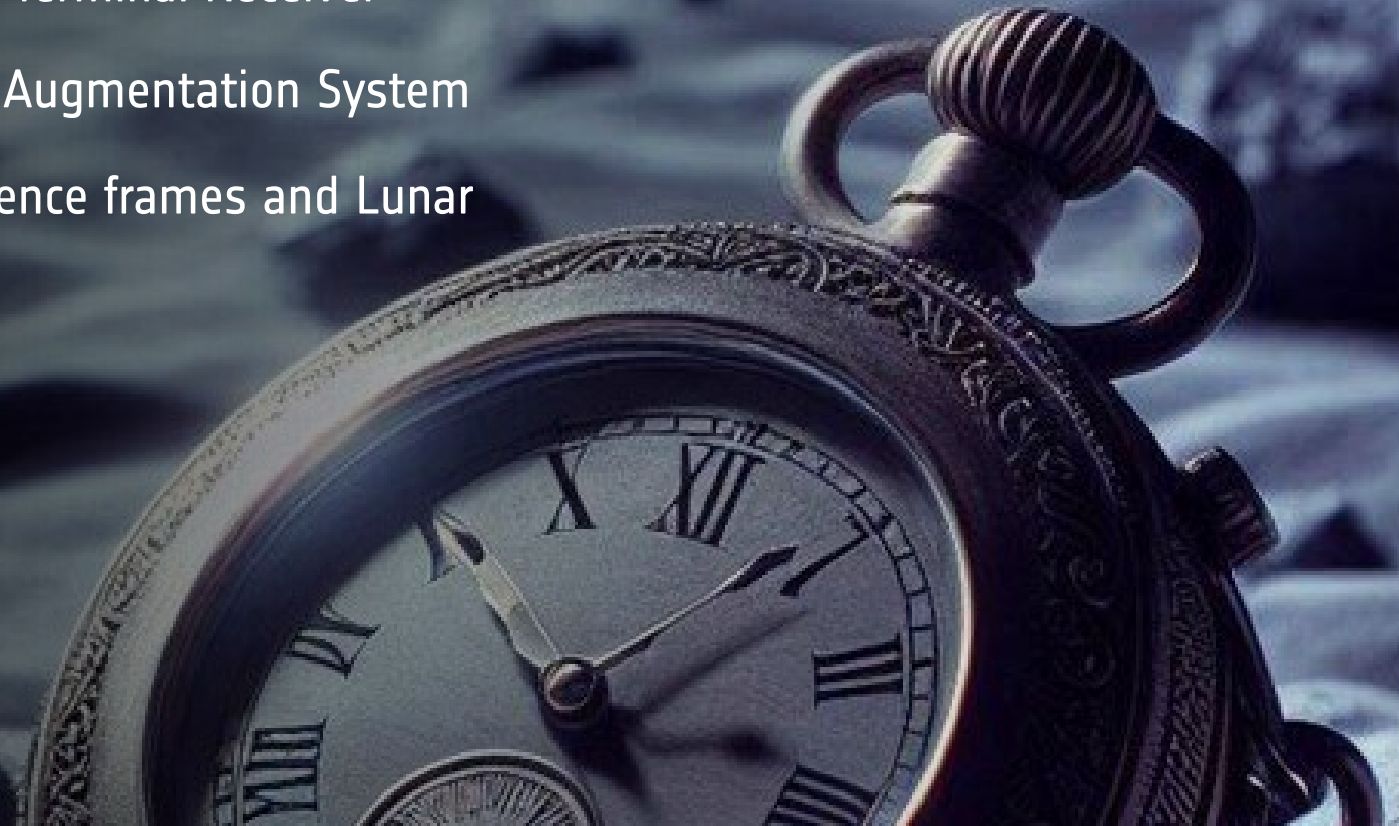
- Earth-based field-testing facility of Moonlight PNT Signals Using Drones
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- Enhancing the Selenodetic reference frames and Lunar reference time





## Lunar PNT Activities

- Earth-based field-testing facility of Moonlight PNT Signals Using Drones
- Miniaturised LunaNet PNT User Terminal Receiver
- Lunar Local Moonlight/LunaNet Augmentation System
- Enhancing the Selenodetic reference frames and Lunar reference time
- Combined communications and navigation user S-band antenna