DESCRIZIONE SINTETICA - Argonaut Mission 1

The Argonaut Mission 1 aims at demonstrating the European capability of landing safely on the lunar surface. It should furthermore test and demonstrate European robotic technologies on the lunar surface to further enhance European capabilities in this field and thus prepare future European activities, both autonomous and in cooperation with non-ESA partners, on the Moon.

Germany has the intention of taking on the lead for the payload package, consisting of two payloads for this first Argonaut mission, and strongly believes that international cooperation is a key element of all ESA programmes. Strong industry proposals that reflect this cooperation within European industry and academia and that strive for excellence are best suited to deliver the results needed to propel Europe to the next level in space exploration.

It is in this spirit that Germany invites all interested parties from Canada, Germany, Italy, Poland, Spain and Switzerland (being part of the ESA envisaged geographical return distribution) that see themselves as potential members of industrial consortia bidding for the upcoming two ESA tenders for the two Argonaut Mission 1 payloads (Robotic Surface Mobility Asset (RSMA) and Moon Robotic Payload (MRP)) to an online networking workshop. The workshop will be hosted by DLR and intents to bring together entities from the mentioned countries. Its goal is to foster the mutual knowledge of potential partners to facilitate the formation of excellent bidder consortia.

How to participate

1) Register by sending an email to your country's PB-HME delegation (hme@asi.it) and **by Apri 7th, 2026**
2) Prepare a single slide outlining the following:
    a. A brief overview of your company's capabilities relevant to these tenders.
    b. Your potential contribution to the development of one (or both) of the Argonaut payloads. Please indicate which payload you would like to focus on, if possible.
    c. The main point of contact within your company.
3) Submit the prepared slide to your country's PB-HME point of contact (hme@asi.it) **by 8th April 2026 noon (CEDT)**.
4) Attend the online workshop on the scheduled date via the link provided after registration. Present your slide in a 1 minute 30 second intervention when invited by the workshop moderator

DESCRIZIONE DELLE CATEGORIE DI PAYLOAD

Argonaut Mission 1: Moon Robotic Payload (MRP)

The purpose of the Moon Robotic Payload (MRP) mission is to flight-demonstrate robotics technologies for future European robotic moon missions, gain operational experience, and to support future planned missions and objectives as per the Lunar Exploration Roadmap and its evolution.

The MRP had been identified as a potential payload on-board the Argonaut Mission-1, for a launch no later than 2030 and following CM25 outcome, it is now proposed as one of the

two payloads to be landed with Argonaut mission 1. A dedicated MRP Mission Prime will be selected for the development of the payload and for the definition and execution of its mission on the lunar surface, following successful landing.
The purpose of the Moon Robotic Payload and its surface Mission is to flight-demonstrate critical technologies and elements for future robotic moon missions, while providing opportunistic exploration science opportunities. The MRP payload shall focus on **dexterity** capability with the following high-level requirements:

a. Demonstrate autonomous regolith sampling
b. Enable lander inspection
c. Payload deployment tasks
d. Demonstrate autonomous contact/robot collaboration tasks with closed-loop forcetorque
e. control

The MRP may be complemented with mobility capability, within the resources addressed here after.
The MRP payload shall not exceed a mass allocation of 200 kg, shall have a unique interface with the lander and shall have its own capability for data transmission, energy generation and storage, as needed. Surface activities shall be highly autonomous and encompass artificial intelligence elements.
Opportunistic science will be part of the MRP payload. Based on available resources (mass, volume, data transfer, electrical power), which can be allocated in MRP for science, dedicated payloads will be selected via a separated process managed by ESA. The capability of MRP to host dedicated scientific payloads or to intrinsically carry out scientific measurements directly (e.g. using camera…) will be used during the selection of the MRP mission prime as a key discriminator in terms of "value for money".

Argonaut Mission-1: Robotic Surface Mobility Asset (RSMA)

The objective of this activity is to propose the development (up to approximately mid-phase D) of a medium sized Robotic Surface Mobility Asset (RMSA) as one of the two payloads of Argonaut Mission 1. It shall explore the area around the landing site, support the deployment of other payloads, host instruments and test technologies for mobility and night survivability needed for future lunar exploration.
The RMSA will consist of one or a combination of mobility technologies which are expected to have demonstrated a sufficient level of maturity in time for integration with the mission. It might include dexterity capabilities, leveraging on mature technologies that have reached the appropriate Technology Readiness Level.

A key requirement to enable the lunar exploration roadmap is surface mobility. The RSMA has therefore been identified as one of the two payloads on-board the Argonaut Mission-1, for a launch no later than 2030. This launch date requires the delivery of the RMSA to the Argonaut Mission-1 Integration Prime (Thales Alenia Space – Italy, see fiche E4MO-002) by August 2029 for Argonaut stack Assembly Integration and Testing (AIT).
The RSMA will consist of one or a combination of different mobility elements, provided that it is aggregated as a unique element towards the Argonaut Mission-1 Integration Prime.

A dedicated Mission Prime will be needed for the development of the RSMA and for the definition and execution of its mission on lunar surface, following successful landing.
The RSMA shall not exceed a mass allocation of 750kg, shall have a unique interface with the lander and shall have its own capability for data transmission, energy generation and storage, while surface activities shall be autonomous from the Argonaut lander and ideally encompass artificial intelligence elements.
The RSMA payload will also aim to create opportunities for science. Based on available resources (mass, volume, data transfer, electrical power), which can be allocated in RSMA for science, dedicated payloads will be selected via a separated process managed by ESA. The capability of RSMA to host dedicated scientific payloads or to intrinsically carry out scientific measurements directly (e.g. using camera) will used during the selection of the RSMA mission prime as a key discriminator in terms of “value for money”.