



**Call for Interest  
Among APSCO and its Member States**

**Announcement of Opportunities for  
Scientific Payloads/CubeSat on board  
Chang'E-6 Mission**

**By**

**China National Space Administration &  
Asia-Pacific Space Cooperation Organization**

**January 2022**

---

## ANNOUNCEMENT OF OPPORTUNITIES FOR SCIENTIFIC PAYLOADS/CUBESAT ON BOARD CHANG'E-6 MISSION

### 1. INTRODUCTION

Lunar and deep space exploration is of great significance for exploring the mystery of space and expanding human living space. China Lunar Exploration Program (CLEP) has achieved lunar orbiting, landing, and sample returning mission, and planning for follow-up exploration activities.

The success of Chang'e-5 lunar sample return mission symbolized the end of CLEP's three-phase strategy. CNSA plans to utilize Chang'E-6 mission, a lunar sample return mission, to explore more modes and projects of international cooperation aiming at improving technology, sharing achievements, win-win cooperation, thus creating a platform for space exploration and contributing wisdom to scientific exploration. **Chang'E-6 is planned to be launched in April-June 2024.** CNSA opens this opportunity for Member States to send a payload on ChangeE-6 mission.

### 2. MISSION OVERVIEW

The main task of Chang'E-6 mission is to realize automatic sample return from the Moon. Chang'E-6 probe consists of four modules: orbiter, return capsule, lander and ascender. The orbiter will travel through the Earth-to-Moon transfer, moon orbiting, Moon-to-Earth transfer. The lander and the ascender will descend from the lunar orbit to the lunar surface to collect samples. The ascender will carry the collected samples from the lunar surface to the lunar orbit and transfer them to the return capsule. The return capsule is responsible for bringing the collected lunar samples back to the Earth with the orbiter.

### 3. COOPERATION OPPORTUNITIES

The orbiter provides onboard opportunities. The payloads/CubeSat either work independently or require support from the orbiter. The preliminary constraints on the onboard payloads/CubeSat are as follows:

#### A. DESIGN CONSTRAINTS ON PAYLOADS/CubeSat ONBOARD ORBITER

- Total mass:  $\leq 10$  kg
- Total power consumption:  $\leq 50$  W
- Optional accommodation envelope ( mm, one of the following ) :  
400×350×300, 280×260×160, 150×300×300
- Temperature range:  $-100^{\circ}\text{C}$  to  $+ 80^{\circ}\text{C}$
- Flight Orbit:
  - Earth-Moon Transfer Orbit: 200 km (perigee) × 380000 km (apogee), with an inclination of about  $45^{\circ}$  and a flight for about 5 earth days.
  - Lunar circular orbit: 200 km with inclination of  $45^{\circ}$ , and flight duration in lunar orbit is about 4 Earth days.
  - Moon-Earth transfer orbit: 60 km (perigee) × 380000 km (apogee) with  $45^{\circ}$ inclination. Flight for approximately 5 Earth days.

#### B. SUPPORT FROM CNSA TO APSCO MEMBER STATE

- Free piggyback launch of the payloads/CubeSat with Chang'E-6
- Free Testing services of the whole spacecrafts after the payloads/CubeSat integrated into the Orbiter module
- Free TT&C services for the payloads/CubeSat