Paper ID: 78366
oral

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Moon Exploration – Part 1 (2A)

Author: Dr. Shin-Fa Lin
National Space Organization, Taipei

TAIWAN'S LUNAR PAYLOAD DEVELOPMENT FOR LUNAR EXPLORATION

Abstract

Taiwan's space agency, the National Space Organization (NSPO), has changed its name to the Taiwan Space Agency (TASA) earlier this year, in 2023. It has been upgraded to be directly subordinate to the National Science and Technology Council (NSTC), which is a ministry under the Executive Yuan, ROC (Taiwan). Since contracting with four domestic universities in June 2022, TASA has cooperated with these teams to develop four lunar payloads (P/Ls) for exploration on the surface of the Moon. These four P/Ls are divided into two categories, one for mounting on lunar lander(s) and the other one on lunar rover(s), each with two P/Ls, respectively. Based on the contracts, there are ten major technical review milestones for these P/L developments. To better manage these teams and to complete four P/Ls simultaneously, the review milestones for all different P/Ls are synchronized with the same pace. After contract initiation, until now these P/Ls have gone through two technical reviews, the Mission Definition Review (MDR)/System Design Review (SDR) and the Preliminary Design Review (PDR). These two milestones, MDR/SDR and PDR, reviewed the following, including scientific/technical objectives, conceptual design, system capabilities, operational concepts, system/interface requirements and specifications. Over the next nearly two years, these teams will continue to conduct detailed design, fabrication, integration and testing for their own P/L. The flight models (FMs) for these P/Ls are expected to be ready by the end of 2024. For spacecraft platforms, either lunar landers or lunar rovers, TASA is currently looking for lunar payload transportation services or international cooperation to bring our P/Ls to the lunar surface for lunar exploration. This paper provides an update on the status of Taiwan's lunar payload development. The system architecture and main features of these four P/Ls are introduced. The process of finding lunar payload transportation services or international cooperation will also be briefly described.