

Joint Exploration Declaration of Intent for Lunar Cooperation (JEDI)
between
the Ministry of Education, Culture, Sports, Science, and Technology of Japan
and
the National Aeronautics and Space Administration of the United States of America

The Ministry of Education, Culture, Sports, Science, and Technology (MEXT) and the National Aeronautics and Space Administration (NASA):

- Recognizing the strong and long-standing Japan-U.S. partnership in civil space cooperation, including the International Space Station (ISS) program;
- Sharing the objectives of the Artemis Program, which aims to land the first woman and next man on the lunar surface in 2024 and to utilize the Gateway to realize sustainable lunar exploration while demonstrating key technologies for a future human mission to Mars;
- Acknowledging the progress of discussions on the Artemis Accords;
- Recognizing the benefit of accelerating discussions to define detailed cooperation plans and holistic cooperation regarding the ISS, the Gateway, and lunar surface exploration; and
- Intending to develop arrangements to enable Japanese crew opportunities to the Gateway and lunar surface;

Hereby declare the following intentions:

1. Cooperation on the ISS and the Gateway

A) The Gateway is designed to orbit the Moon and serve as a command post and a docking port for future lunar surface operations, enabling sustainable lunar exploration and preparation for missions to Mars. NASA will be responsible for integrating the Gateway elements, as well as for leading overall operations and utilization.

B) MEXT is planning to provide components for the Gateway's Habitation and Logistics Outpost (HALO), such as power components, by 2022 based on a contract between JAXA and Northrop Grumman Corporation. HALO may support relay communications between Earth and the Moon in support of the 2024 surface landing. HALO is also aimed at serving as a docking port for future lunar surface operations. NASA plans to launch HALO with the Power and Propulsion Element (PPE) to cislunar space in 2023.

C) MEXT is also planning to provide equipment and components, including the Environmental Control and Life Support System, batteries, and thermal control pumps to the Gateway's International Habitation Module (I-Hab), which is expected to be integrated and delivered to NASA by the European Space Agency (ESA) in 2025 for launch, subject to technical coordination among ESA, JAXA, and NASA. I-Hab is designed to support extended crewed missions on the Gateway and contribute to sustainable human lunar surface exploration. The I-Hab will play an essential role in the Gateway, and will further Mars analogue activities and demonstration of the technologies and procedures necessary for a historic human mission to Mars. The arrangement of launch of I-Hab will be coordinated by NASA and ESA.

D) Recognizing the intent of Artemis collaboration, MEXT is going to demonstrate enhanced HTV-X resupply capability and docking technology, including through the HTV-X1 and HTV-X2 missions, to explore possibilities for cargo transportation services to the ISS and the Gateway. MEXT and NASA plan to coordinate the details of future HTV-Xs for cargo resupply missions.

E) MEXT and NASA plan to develop an implementing arrangement under the Gateway MOU to define the number of Japanese crew to the Gateway and the details of the Japanese contributions mentioned in B), C), and D) above.

F) NASA plans to provide MEXT, as well as other Gateway partners, with the opportunity to utilize the Gateway as an infrastructure platform enabling sustainable lunar surface exploration operations by leveraging the Gateway's capabilities such as space vehicle ports and Moon-to-Earth communications relay.

2. Cooperation on Lunar Surface Exploration

A) In order to optimize and fully leverage limited lunar surface exploration opportunities, MEXT and NASA will discuss installing NASA payloads on JAXA's Smart Lander for Investigating Moon and Lunar Polar Exploration missions as well as the proposal for JAXA payloads to be considered for installation on NASA's lunar exploration missions. MEXT and NASA plan to share observation data obtained through such cooperation, taking into consideration respective obligations to other partner nations/agencies for the relevant missions.

B) MEXT and NASA plan to continue to refine concepts for Japanese pressurized crew rover capability that builds upon the results of the technical studies currently being conducted jointly by JAXA and private sector partners.

C) MEXT and NASA are planning to develop an arrangement to define the specifics regarding opportunities for lunar surface mobility systems, surface operations, and Japanese crew on the lunar surface.

3. Future Arrangements

While the specific legal framework has not yet been decided, MEXT and NASA will work to define cooperative activities described in 1. and 2. above. Cooperative activities under 1. could be enacted via future implementing arrangements under the Memorandum of Understanding between the National Aeronautics and Space Administration of the United States of America and the Government of Japan Concerning Cooperation on the Civil Lunar Gateway (Gateway MOU) which is to be governed by the Agreement among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America, concerning Cooperation on the Civil International Space Station (IGA). Cooperative activities described in 2. will be set out in future arrangements. MEXT and NASA plan to continue to discuss topics including the overall vision and potential for future cooperation on mid and long-term lunar surface operations, Martian exploration, and other activities. MEXT and NASA expect to remain in regular consultations including discussions of any future schedule changes. Lastly, any specific, future cooperative activities between MEXT and NASA would be subject to future, legally binding agreements, and would be subject to MEXT's and NASA's respective financial procedures and available budget allocations.

Signed on July 10th, 2020

For MEXT:

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For NASA:

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