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Korea extends Danuri mission period by 2 years to 2025

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Seen is Vallis Schrodinger, a long and narrow valley on the far side of the moon, photographed by the Danuri lunar orbiter on March 24. The science ministry said Tuesday that it will extend the Danuri's exploration period by two years to the end of 2025 from the end of 2023.

Courtesy of Ministry of Science and ICT

Korea extends Danuri lunar orbiter's mission period to 2025

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The exploration period of Danuri, the country's first lunar orbiter, will be extended for two more years to the end of 2025 from the end of 2023, the science ministry said Tuesday, explaining that the lunar orbiter consumed less fuel than expected while traveling from the Earth to the moon.

The Ministry of Science and ICT and the Korea Aerospace Research Institute (KARI) held a lunar exploration project implementation committee and announced that the Danuri's mission period has been extended to three years from January 2023 to December 2025. It was originally planned that the satellite would conduct exploration while in lunar orbit for one year.

The science ministry said researchers have asked for an extension of the mission because the lunar orbiter has been useful for observing the lunar surface and has plenty of fuel to spare. Danuri was expected to burn 202.64 kilograms of fuel during the transition from the Earth to the Moon, but actually burned only 172.92 kilograms, the ministry added.

"Due to the excellent observation results of Danuri, including taking images of the dark side of the moon — a first for Korea — and the sufficient amount of fuel for the mission, domestic and overseas researchers

have been requesting an extension of the mission period to expand the research results of lunar exploration," the science ministry said.

"In the initially planned one-year mission operation period, only a limited range of data could be acquired, but researchers expect that the extension will allow them to expand their achievements by securing additional lunar surface images and conducting complementary observations with magnetic field meters and gamma-ray spectrometers," the ministry added.

The lunar orbiter was launched on Aug. 5, 2022, and entered the moon's orbit on Dec. 17. After confirmation of orbital entry, the Danuri spent about a month undergoing checks of the initial operation of its payload, testing the functions of the main body and undergoing adjustments for errors and distortions. It began its official mission on Feb. 4.

The data acquired through the operation of the orbiter will be utilized to produce 3D terrain images of lunar landing candidate sites and lunar surface element and resource maps by 2026, and will also be used by domestic researchers to conduct creative convergence research, the ministry said.

The ministry also plans to build a space exploration data system by 2026 that can efficiently manage and analyze data generated during future explorations of space, including the moon, Mars and asteroids.