Image: Lunar agenda

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Credit: ESA/NASA

This image of the Moon was taken by ESA astronaut Alexander Gerst from the International Space Station during his Horizons mission. But he's not the only one to be eyeing the Moon these days.

From 3 to 5 July, ESA is hosting a workshop on lunar exploration at its

technical heart in the Netherlands. Building on ESA's commitment to sustainable exploration, the workshop brings space experts and industry together to talk lunar resources and how to use them to return humanity to the Moon and farther afield.

For humans to live and work on the Moon and beyond, we need oxygen and water for life support as well as fuel and materials to build habitats and equipment. Launching these bulky consumables would cost the kind of money and energy that makes human exploration of the Solar System unsustainable.

Instead, ESA is looking into the capabilities that would allow humans to harness lunar resources for humanity's sustainable return to the Moon. The approach is known as In-Situ Resource Utilisation. Put simply, it means extracting and processing resources on site to make useful products and services.

Last year, service providers with like-minded ideas were invited to take place in a one-year study exploring what a collaborative and commercially viable mission to the Moon would look like.

During this week's workshop ESA is continuing this discussion with experts, industry officials, and potential new partners by exploring the technological readiness, commercial viability, legal status, and international context for lunar resource use.

In the meantime, the humans closest to our rocky satellite – astronauts on the International Space Station – are testing technologies such as remotely operating robots to take us a step closer to our next outpost in space.

Learn more about ESA's vision for the next decade of space exploration here and dive into Alexander's Moon gazing during Horizon's mission in

this blog post.

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