



SCIENCE & TECHNOLOGY

## US Space Agency Aims to Develop Moon Resources

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A NASA scientist recently told a mining conference in Brisbane, Australia, that the U.S. space agency aims to develop resources on the moon.

Gerald Sanders has been a rocket scientist at NASA's Johnson Space Centre for 35 years. He said that the first resources NASA wants to develop are oxygen and water. Later, he said, the space agency may try to mine iron and rare earth metals.

NASA is taking steps to be able to dig into the moon's soil in 2032.

The U.S. space agency plans to return Americans to the moon as part of its Artemis mission. The goal is to learn from the mission and plan for explorations deeper into space.

An important part of the Artemis mission is **advancing commercial** use of space. The agency plans to measure possible resources, including energy, water and lunar soil, to gain outside investment, Sanders said.

He added that developing resources on the moon will be important to cutting costs and creating a circular economy. A circular economy is a system that is based on reuse of materials or products.

"We are trying to invest in the exploration **phase**, understand the resources...to (lower) risk such that **external** investment makes sense that could lead to development and production," Sanders told the mining conference.

"We are...just **scratching the surface**," he said.

NASA plans to send a test drilling device to the moon soon and plans a larger digging project for moon soil, sometimes called regolith, and a testing processing system in 2032.

The first **customers** are expected to be commercial rocket companies that could use the moon's resources for fuel or oxygen.

The Australian Space Agency is involved in developing a device that will take regolith samples on a NASA mission as early as 2026, said Samuel Webster. He is an assistant director at that agency.

The rover will demonstrate the collection of lunar soil that contains oxygen in the form of oxides.

Using separate equipment sent to the moon with the rover, NASA will aim to **extract** that oxygen, Webster said.

He added that finding resources on the moon was an important step towards establishing a lasting “human presence on the moon, as well (as) supporting future missions to Mars.”

I'm Ashley Thompson.

*Melanie Burton reported on this story for Reuters. John Russell adapted it for VOA Learning English.*

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## Words in This Story

**advance** – *v.* to continue in a process of development; to support and cause to progress

**commercial** – *adj.* activities aimed at carrying out business and making money

**phase** – *n.* a part or step in a process; one part in a series of related events or actions

**external** – *adj.* located, seen, or used on the outside or surface of something

**scratch** – *v.* to make a shallow and narrow cut in with something sharp

**scratch the surface** – *expression* to deal with or learn about only a small part of something

**customer** -*n.* a person, group or business that pays for a product or service

**extract** - *v.* to remove (something) by pulling it out or cutting it out