

SEE: THE ECONOMICS OF MOON MINING



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The 50th anniversary of the first human landing on the Moon has revived the interest of space agencies and private companies on the Earth only natural satellite. Mining the Moon has become the topics of interest to the entire space community. Results from Moon's manned and unmanned missions indicate the presence of many resources on the Moon, such as Helium-3, rare earth elements, platinum and other precious metals, and ice. In the short-medium term, the most promising resources available are those (ice) needed for propellant production whose market is in space. The total mass of propellant for space missions launched from the Earth's surface places serious limitations on these types of operations. The low gravity of the Moon compared to the Earth creates new economic opportunities for Moon propellant (hydrogen and oxygen), and water and oxygen for life support systems in various orbits between Earth and the Moon, and even beyond. A potential demand for propellant in space exists already. Counting the number of planned missions, both manned and unmanned allows the estimation of this potential demand. As NASA and international partners embark on the journey to Mars and beyond, fuelling and stocking vehicles at a cislunar refuelling point will be paramount in creating a feasible and sustainable exploration program. Low Earth orbit (LEO) can be also a destination for propellant to refuel the upper stage of rockets directed in geosynchronous orbit or to the Moon.

This seminar will address the following questions: (i) is space resource utilization by solely private markets sustainable, and (ii) if not, what type of public-private partnership are important/appropriate to enable the development of a private-sector market.

- # What is the possible timeframe for the realization of the Moon mining project?
- # How the Italian industries could participate to such projects?
- # Is the European Space Agency participating to such projects?
- # Which could be the expected benefits on Earth from the Moon mining project?

SPEAKER:

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