

# **2014 Reinventing Space Conference (Rispace 2014)**



## **Technology or Law: Which Will Reach Mars First?**

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### **ABSTRACT**

The question is not “if” but “when.” Landings on the Moon and Mars will happen: the rewards are too great for this not to be the case. The resources that can be accessed are only exceeded by the prestige of arriving. Arrival is only a matter of time.

Landings will occur for an increasing number of reasons. First, there has been a quantum leap in technical capabilities. The focus on in-situ resource utilization for research and return purposes as well as the focus on additive manufacturing will reduce payload launch requirements dramatically. Second, increasingly-capable non-state organizations are well on their way to landings. Third, nations including China and India are following the path taken by the Soviet Union in establishing itself as a technologically-respected actor via space. Fourth, the existence of significant supplies of helium-3, of high value as a fuel in forthcoming nuclear fusion reactors, is in limited supply on Earth but in abundance in the Lunar regolith.

The question, however, arises as to what a party could or could not do on the Lunar or planetary surfaces. Are claims of property rights permissible by states? By non-state entities? Are parties permitted to use but not claim title to property on the Lunar surface? To neither claim nor use Lunar property? Finally, is a developing entity permitted to develop-and-keep the resources extracted or is it required to develop-and-share the resources?

The two major United Nations treaties that relate to property rights in space, the Outer Space Treaty (OST) and the Moon Treaty, are of little help. Key ideas and terms

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are not defined clearly with the exception that they prohibit the establishment of territorial sovereignty on the Moon or other outer space body.

There is support in one segment of the legal community for at least some form of private property rights in space. Law professors Reynolds and Gorove as well as National Space Society Representatives Dasch, Marti-Smith, and Pierce all hold that private property rights are not forbidden. On the other hand, researchers such as Gangale and organizations such as the International Institute of Space Law (IISL) stand against any private claims to property on the Moon. However, many believe that a clear understanding of rights *in advance* will reduce risk and increase the willingness of public and private agencies to invest, explore, and develop extra-terrestrial resources.

In fact, no *a priori* code is required: the situation will evolve depending upon conditions extant at the time a decision is necessary. "Government is not needed because property rights, like all social institutions, simply evolve." (Scott) Therefore, a laissez-faire approach to property rights in space is the appropriate path. As definitions and laws are required, they will evolve to meet the needs in ways that could not be anticipated a quarter of a million miles away and 20 years in advance. "For practical reasons, the need to be commercially attractive will act as a pressure encouraging the evolution of the most efficient legal regime." (Collins) The door is open.