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Up, up and away: Future legal regimes for long-term presence in space (2)

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ENCOURAGING THE INNOVATION AND TECHNOLOGICAL ADVANCEMENT REQUISITE FOR  
GREATER IN-DEPTH EXPLORATION OF OUTER SPACE THROUGH PATENTS

**Abstract**

How to best cultivate a robust ecosystem of private research, development and innovation (RD&I) capable of supporting sustainable, profitable business and industrial operations in outer space is a nuanced and oblique question. It is founded upon the understanding that innovation and technological advancement, which constitute the core engine of industrial and economic growth, also comprise the very essence of humanity's ascension into space. Terrestrial patent regimes provide the ability to protect technological advancements comprising inventions. Granting a protectable, "limited" monopoly to patent applicants enables inventors and investors to recoup RD&I sunk costs, which could otherwise render an enterprise commercially infeasible. To implement a viable legal foundation for protection of inventions in outer space, a majority of large-market, "preferred-patent" States must agree on a single multilateral regime. However, if such a system is not sufficiently inclusive of States active in space, the conventional flag of convenience problem analogous in maritime and aviation law, in conjunction with the ubiquitous temporary presence defense against patent infringement, will hold the ability to undermine the limited monopoly of patents. Ultimately, without adequate protection of inventions in outer space, prospective markets and royalties due appropriately to inventors or patent holders could be lost, detracting from the incentive to patent and publicly disclose inventions and potentially discouraging the incentive to conduct the RD&I essential to advancing humanity's capabilities to access and explore outer space. Potential solutions to these challenges, as well as the capacities of the various relevant international fora for development and administration of a single outer space patent jurisdiction, will be investigated herein. However, the optimal form for such an outer space patent regime remains very much an open question. Such a system might comprise a "unitary" jurisdiction consisting of a sole authority governing grant and enforcement of patents, i.e. composed of and administered by specialized international bodies including an examination office and a court or dispute resolution panel, or an international agreement under which States Parties merely mutually extend their respective national patent laws to appropriately registered space objects. Alternatively, a hybrid of these two options or other solution might be preferable. Whatever the calculus, it remains clear that effective collaboration between the United Nations Committee on the Peaceful Uses of Outer Space, the World Intellectual Property Organization, and likely the World Trade Organization as well, will be crucial to successfully achieve States' accession to such an outer space patent regime.