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LEGAL ISSUES CONCERNING THE USE OF NATURAL RESOURCES ON THE MOON ARISING
FROM ADDITIVE MANUFACTURING**Abstract**

As the European Space Agency has endorsed the concept of constructing a lunar base by additive manufacturing, i.e. 3D printing technology, it reveals that building structures and facilities on the Moon has become feasible using lunar resources. However, legal vacancy relating to products manufactured both from the Moon and on the Moon remains existing. Although the term “space object” is not clearly defined in the Outer Space Treaty and other relevant conventions, it is apparent in regulations concerning space object that it refers to objects launched from the Earth to outer space by certain states, while objects originally manufactured on the Moon from lunar resources are not included, which is probably made possible in the near future by 3D printing technology. Moreover, confusing such objects with space object can be inconsistent with the purpose and spirit of space conventions since jurisdiction and control over space object are given to the State of registry while exclusionary use of lunar resources is restricted by non-appropriation principle. Therefore, along with the development of additive manufacturing, questions are inevitably raised. This paper presents a new definition of such objects – Space product – trying to make proposals of how space activities involving in manufacturing products from lunar resources could or should be regulated, and developing approaches on solving unavoidable problems inherent in space colonization and governance. This paper analyzes the existing rules and regulations regarding jurisdiction of space objects in current international law and compares the characters of space object and space product, taking an attempt to use current regulations for reference to build future legal regimes. This paper also points out potential conflicts and challenges when introducing this new concept. The issue is then developed by discussing the right status of space product. The analysis of right over space product contributes to provide solutions for determining potential responsibility.