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## 3D PRINTING IN SPACE LEGAL IMPLICATIONS

**Abstract**

‘Made in Space’, could be the most fancy tag on a product hereon. By putting a 3D Printer in outer space, man has moved several steps ahead in the exploration of outer space. This emerging technology has not only taken manufacturing to the next-level, but has also led to re-conceptualizing space-based infrastructure. The possibilities are endless for manufacturing in space and its support for deep space missions. These endless possibilities, even if they are still in the conceptual stage, give rise to a plethora of legal questions. First and foremost, a mere design on paper, sent from earth to the 3D printer, after several processes, produces an object. Unlike traditional objects, this is not launched into space; It is made in space. Is this object, one that can be brought within the definition of a ‘space object’ as conceptualized under the existing Space Laws? The answer to this question would be the first step in determining whether the Liability Convention can be made applicable to objects produced by the 3D Printer. Secondly, several intellectual property rights issues in relation to 3D printing, such as proprietorship, trade secrets, patentability etc., remain unresolved even for earth-based applications at this stage. It can be said that any development on this will have its ramifications on space-based uses as well. Thirdly, there is a possibility of weaponization of space using 3D Printing. Are the laws equipped to handle such a situation, if and when it arises? It maybe argued that it is too early to analyze the legal implications of manufacturing in space, however, technology has already leaped while the law is crawling. It is the need of the hour to identify and establish the law that will govern such activity in outer space. This paper is an attempt to investigate and derive probable solutions to the questions raised above. It further seeks to identify current gaps in law, stress on the need for bringing within the scope of existing laws, the activity from such new technology and make suggestions for new laws in unaddressed future areas.