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INVESTMENTS SECURITY IN THE CONTEXT OF SPACE IN SITU MANUFACTURING AND
OWNERSHIP RIGHTS

Abstract

Space exploration becomes much more relevant nowadays. The technology part of mankind's great leap created some kind of a race between the things which engineers can do and what is legally regulated. One of such topics is the ownership of the materials found in space and the consequences of the in situ manufacturing. If the whole new equipment or even spacecraft can be built in situ and due to legal rights ownership of the materials belong to all humankind, whose is the manufactured product? Is there any investment security then? Is there any chance to develop multiplanetary private sector industry?

The paper is divided into two main parts. The first one appoints existing possibilities of the in situ manufacturing. The overview of the past projects of creating and assembling spacecraft and its parts in space has been presented. Nextly the scope of future projects involving innovative methods of assembling and consequently manufacturing spacecraft outside the Earth was described. The late improvement of the technology in the field of space fabrication was covered.

The second part of the article is concentrated on the legal site of the technology implementations presented in the preceding part. The brief history of the space law evolutions was covered. The flaws of the almost unchanged regulations created forty or more years ago in covering present and future challenges of space exploration was covered. The present international effort to yield mentioned earlier problems was described with the most extensive coverage of already existing regulations. The security of the private sector investments in the in situ manufacturing was investigated.

The paper was ended with the conclusions and the overview of the most promising technologies and regulations.