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LUNAR EXPLORATION: NEW CHALLENGES FOR EXPORT CONTROL COMPLIANCE

Abstract

Missions of space exploration and human settlement projects on celestial bodies bring new challenges for export control mechanisms, notably due to the fact that numerous actors will be involved, including commercial entities, and that new technologies will be developed and used, such as lunar surface power, in situ resource utilization, surface excavation and construction. Lunar exploration, as a first step before going to Mars, implies international cooperation in the realisation of space infrastructures in orbit and on celestial bodie's surface. Such scenarios raise many legal issues that need to be addressed, especially with reference to the export control regime. Thus, the paper examines the United States (ITAR/EAR) and the European Union regulations, by taking into account their recent updates in terms of novel and emerging technologies. With regard to the United States, the reform undertaken with NASA concerns mainly the Lunar Gateway programme and the deep space habitat concept. These missions will imply the exchange of techonologies as well as information and data between the participants to the mission, possessing different nationalities, that would need to be properly licensed and authorized by the competent authority. In fact, failures to act in compliance with export control rules could have adverse effects on stakeholders. To illustrate these aspects, the paper analyses the recent accords signed in the field of space exploration and examines the export control provisions in order to underscore the main points to comply with export control regime in a dynamic environment. As legal and regulatory frameworks evolve with technological development, the paper aims to put forward the key elements to limit the potential risks of export control violations in case of lunar exploration, as a model for future space exploration missions.