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AN ASSESSMENT OF NEW AND UPCOMING SPACE-BASED AND SPACE-DERIVED SYSTEMS
ON THE CORPORATE SOCIAL RESPONSIBILITY PRACTICES OF OIL & GAS SECTOR
CORPORATIONS

Abstract

This work presents an impact study of new and upcoming space-based and space-derived systems on the corporate social responsibility (CSR) practices of oil and gas sector companies. These systems include space-sector-derived materials, new satellite constellations (O3B, SpaceX, and OneWeb), alternative energy sources, robotic self-replication, in-situ resource utilization, human performance studies in extreme environments, and advanced manufacturing. As a result of growing understanding and concern regarding the negative effects of their operations (such as potential oil spills, inevitable emissions, and the contribution to global climate change), companies operating in the oil and gas sector have become particular champions of CSR, and spend billions of dollars on CSR activities annually. As the integration, utilization and dissemination of such values can positively impact a given company in the oil and gas sector, this study considers how space-based and space-derived systems can impact the CSR practices of various industry corporations. This paper presents an identification of the needs of CSR for oil and gas companies, highlights the existing approaches being taken to address these needs, identifies the gaps that space-based and space-derived systems might fill, assesses the impact of the future space systems, and presents recommendations and conclusions. In particular, three key areas of CSR policies were chosen for analysis: employment and labour practices, environmental management and preservation, and community and social benefits. The impact of space systems are judged based on the Global Reporting Initiative and Triple Bottom Line standard methodologies, and has been tailored to the needs of this work. Finally, we present recommendations on which systems should be implemented based on their potential for net impact on CSR practices in the oil and gas sector.