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Is Space R&D Truly Fostering A Better World For Our Future? (2)

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STARLINK FOR ASEAN: CAN IT BE THE CHANGEMAKER IN THE RACE TOWARD SDGS?

Abstract

Satellites have become an essential component of communications infrastructure and an essential part of the Internet of Things (IoT) ecosystem, a growing area that is generating a lot of interest around the world. This interest has been shared also in the ASEAN region, emphasized by its members in their commitments to achieving the 17 SDGs, and enshrined in the ASEAN Smart Cities Network Framework. One essential enabler for ASEAN in the race toward the SDGs is connectivity. Currently, however, the development of ICT-related infrastructure in individual ASEAN countries is uneven, with gaps of development both across and within countries. According to Statista data from June 2021, internet penetration in ASEAN countries ranges between 52.1% (Myanmar) and 87.7% (Singapore). While most countries already have a 4G network, some are still lagging behind. It is in this ecosystem that satellites represent a great opportunity to support connectivity, mostly in those areas where the deployment of terrestrial telecommunication infrastructure would either be physically difficult or financially unsustainable. The space-related industry is not new to ASEAN, and indeed a few of its members have long histories of engaging with various forms of space development, with increasing investment especially in recent years. But some members have still not shown significant interest in satellite applications. At present, four major satellite constellations can serve the purpose to enhance internet penetration and boost coverage, also in those areas difficult to serve with terrestrial infrastructure, without requiring substantial initial financial investments, namely Starlink, OneWeb, Telesat, and Amazon Kuiper. Among these four, Starlink has shown especially high potential for disrupting the market, mostly due to the launching ability of SpaceX. But could Starlink be a changemaker in the connectivity race, and thus a booster toward the achievement of the SDGs in ASEAN? And if so, what would be the benefits of using Starlink over the other three constellations? This paper will first offer an overview of connectivity within ASEAN, and then highlight the current status and usage of satellite applications among the members. Then, the paper will offer insights on the four major currently available satellite constellations, before focusing specifically on Starlink. The analysis will consider the what, the how and the why of using this solution to support the region in its race toward achieving connectivity and the SDGs, including via the development of infrastructure to realize the vision of ASEAN smart cities.