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Abstract #
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Title

Application of LLP in Satellite Supply Chain

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Abstract

In the recent years, the space sector is experiencing great dynamics due to technology development, private initiatives and lots of new prospects and one of the challenges ahead, is high logistics cost in space supply chain which is transforming rapidly and logistic service providers have to either follow or lead this. Space logistics development cannot be restricted to technology, it needs interdisciplinary efforts among which logistics and supply chain has a leading role regarding the large distances in the space compared to terrestrial distances.

On the other hand, terrestrial logistics operations have undergone transformation as well, from subcontracting to Omni-channel due to business challenges, in response to a variety of business drivers e.g. outsourcing, globalization, push-to-pull, E-commerce, Omni-channel, from subcontracting (1PL) and globalization (2PL) towards e-commerce and omni-channel growth (3PL to 5PL). 4PL (4th party logistics) or LLP (lead logistics provider) is considered as a developed logistics operating model which combines the capabilities of management consulting, information technology and 3PL service providers, as a single interface between the customer and multiple LSPs (logistics service providers).

Considering that success of the new space economy will require a self-sufficient ecosystem through continuous improvements of global supply chain management, the research was defined to analyze satellite supply chain through a qualitative method to explore driving factors, barriers, pain points, trends, gains and supply chain maturity regarding application of LLP model in satellite industry, as well as seeking for improvement solutions through Design Thinking Method and Lean Six Sigma.

Currently there are strong barriers to apply LLP in satellite supply chain, however a sort of MicroLLP business model is applied for microsats launch which can be considered as a gain; the barriers to apply LLP in satellite supply chain include Low flow, Limited number of competent LSPs, Regulations, Institutional contracting models and procedures, Confidentiality and Political barriers; and the major pain point is Launch cost including insurance.