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COLLABORATION IN SPACE: AN INNOVATIVE BUSINESS APPROACH TO UNLOCKING THE
NEW IN-ORBIT SERVICING MARKET

Abstract

The global In-Orbit Servicing (IOS) market is experiencing a boom in the New Space era of commercialization. The total IOS market is predicted to lie between \$4.4B-\$14.3B by 2032 (Euroconsult & NSR, 2023). The life extension market alone is projected to reach \$5.1B by 2030 (Markets and Markets, 2023) with in-orbit refueling, the most mature segment within life extension, estimated to reach \$1,08B by 2031 (StraitsResearch, 2023). Furthermore, SAB estimates that orbital insertion of satellites will reach a market size of approximately \$600M-\$1.5B by 2030. Another important IOS segment, the active debris removal (ADR) market, is also expected to grow significantly to \$1.5B by 2031 with the biggest demand coming from Europe due to the space industry's focus on sustainability (Markets and Markets, 2023). There has also been renewed interest in lunar exploration, most notably from NASA programmes, such as the Artemis and Moon Village programmes. Orbital missions to the moon, which is currently the most dominant market segment, will account for only 3% of the projected \$79B lunar transportation industry by 2040 (PwC Market Study, 2021).

In this scenario, it emerges how the space market is increasingly looking to a cost effective approach to improve accessibility to space. This is through modular and interoperable design, sustainability considerations, and the use of IOS for life extension.

With this in mind, SAB Launch Services is developing an infrastructure ecosystem with the aim to capture the growing IOS market. This includes IOSHEX, an IOS orbital platform which will be capable of performing wide ranging tasks, including life extension, ADR, and recycling; GEOHEX, a space transportation vehicle that delivers small satellites to geostationary Earth orbit (GEO) and provides IOS; and lastly, MONHEX, which is intended as a reliable shuttle service between the Earth and the Moon for satellites, landers and rovers wishing to enter and exit lunar orbit.

Through the lens of the SAB ecosystem and ECHOES (Effective Combined Hub for OpErations in Space Program from the European Space Agency), this paper will look at unlocking the IOS market through a collaborative entrepreneurial approach, which emphasizes open collaboration between different space actors when looking to the future of the New Space market.