

Space SPACs

Why is space so appealing?

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In our [SPACs 2.0](#) report we introduced the reasoning behind setting up SPACs, their funding structure, and the notion of Sponsors. SPACs are companies that have no operations and are formed with the sole purpose of acquiring another business. SPACs first raise capital through an initial public offering and then find a private company to take public.

In the [SPAC 2.0 Update](#) we looked at the state of deal volumes, discussed concerns of oversupply and filing practices, the importance of the PIPE, recent SEC comments and sponsor promote evolution process.

We also introduced the model that we apply for SPAC valuations in their pre-announcement and post deal stages. From a valuation perspective, these two stages within the lifecycle of the SPAC require a different approach.

This report explores the reasoning behind investing in space and the satellite segment. A very high-tech, almost impenetrable market that is becoming available as the prices of launching satellites decrease due to technology advancements.

Business Combination Criteria

Like other types of investors, SPACs consider the size of the Total Addressable Market (TAM) as a key element in investment decisions. Large markets, with either hard barriers or where innovation plays a critical role, and where regulatory or macroeconomic risks are low, offer attractive investment returns. When the decision on the industry to invest had been made, SPACs may look to add to the management team, individuals that can help the portfolio company to execute its business plan.

The preference is for companies with positive cash flow but there are exceptions for businesses offering significant innovation whose results are yet to be proven. Businesses with existing relationships, partnerships, anchor clients and POCs are given a priority. The merger must accelerate company's ambitions to grow while decreasing the time and complexity of going public via a traditional IPO.

Evolution of the space industry

Until the start of XXI century the space industry was dominated by a few large players due to extremely high entry cost. Around a decade ago, when satellite financing was eased, more countries invested in launching their own satellites – these were rarely needed to provide television services, but rather used for various Earth observation purposes. More recently, the developed part of the world has started investing in satellite connectivity for communication on-the-move (COTM), including maritime, aerospace and energy sectors. Simultaneously, large e-commerce and social media companies looked at satellites as a mean to reach large parts of the developing world where fixed broadband is still not set up.

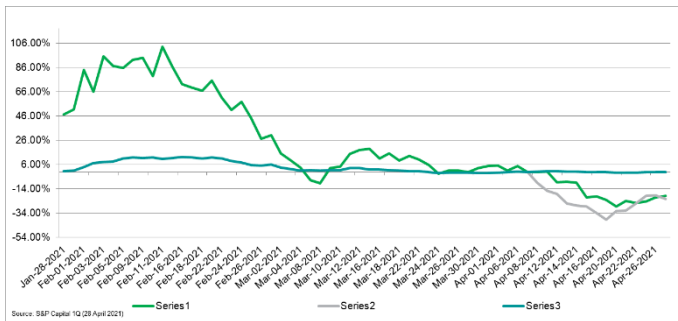
The increase in demand for smaller satellites coupled with technology advancements made access to space cheaper, and as a result, innovative services started emerging. Many companies had ideas of launching large satellite constellations aimed at providing broadband and earth monitoring with the added value of AI-driven analysis of collected data. At that point it became clear that the existing launchers were not designed for volumes and it opened opportunities for start-ups focusing on launching small satellites. The focus is on providing the lowest cost for delivering a kg into orbit while maintaining high success rates (read: no launch failures).

Completed Space SPACs

The first completed acquisition between a SPAC and space business was the merger of **Social Capital Hedosophia** with **Virgin Galactic**. The company aims to provide an inter-galactic experience but for now it is focusing on offering suborbital experiences for wealthy tourists. The merger was completed in October 2019 with an enterprise value of US\$1.5bn. Since then, Virgin Galactic shares have fluctuated but have always remained higher than stock debut price.

In April 2021, **New Providence Acquisition** closed a SPAC deal with **AST & Science**. AST & Science aim to deliver a space-based cellular broadband network to

allow any phone, without modifications, to connect from any location. Before going public, the company partnered with Vodafone, one of its early investors who provided technical, operational, and regulatory support. Other early investors included Japanese mobile network Rakuten and American Tower, an owner and operator of wireless and broadcast communications infrastructure. In 2018, AST & Science acquired a controlling stake in NanoAvionics, a Lithuanian satellite platform manufacturer and mission integrator with operations in the US, UK and India, that has won contracts with ESA and NASA.



There are several pending space SPACs:

Symbol	SPAC Name	Market cap (US\$)	Company	Potential Equity Value	Services
HOL	Holcity Inc. - Class A	388,500,000	Astra Space	US\$2.1bn	Astra Space aims to build simple launchers and deliver payloads to space daily
SFTW	Osprey Technology Acquisition Corp. Class A	434,843,750	BlackSky	US\$1.1bn	BlackSky aims to deliver real time insights from geospatial imagery gathered via satellites and analysed in-house
SRAC	Stable Road Acquisition Corp. - Class A	295,219,050	Momentus	US\$1.2bn	Momentus aims to offer in-orbit satellite placement and deorbiting services
VACQ	Vector Acquisition Corporation - Class A	377,700,000	Rocket Lab	US\$4.1bn	RocketLab aims to deliver payloads to space but will also build and sell small satellites
NSH	NavSight Holdings, Inc. -Class A	235,060,000	Spire Global	US\$1.6bn	Spire Global is a provider of satellite-based intelligence and analytics

Spire Global is the most established of these companies, with almost 140 satellites launched to date – although 10 were destroyed during a Soyuz launch failure in 2017, while several satellites malfunctioned when in orbit. The company says that at least 100 remain operational. Spire and BlackSky used Rocket Lab’s Electron launcher to raise some of their satellites into orbit.

Rocket Lab has accomplished 16 successful missions to date (most with several satellites at a time). Other

notable customers have included Planet Labs, ICEYE and Capella Space. Rocket Lab recently won a contract with NASA for US\$9.95m. The company was also awarded a contract by General Atomics to launch a small satellite with a NOAA hosted payload. In the space industry, a proven relationship with these agencies is extremely important as, if successful, it will enable further contracts with governments and provide for excellent customer case studies as has been demonstrated by SpaceX’s success.

Astra have recently won contracts with NASA for US\$7.95m to deploy the agency’s Time-Resolved Observations of Precipitation Structure and Storm Intensity with a Constellation of SmallSats (TROPICS) mission. Astra will carry out three missions with six NASA satellites that aim to enhance the understanding of the deadliest storms. After a successful test in December 2020, the company announced that they have been contracted for over two dozen launches, representing over 100 spacecraft.

After the announced merger, **BlackSky** accelerated its space program and contracted Rocket Lab for another five missions in 2021, the first of which was carried out in March. It was also announced that in 2023, BlackSky expects to begin launching its Gen-3 satellites which have 50 cm resolution and short-wave infrared (SWIR) for low light and night-time imaging capabilities, moving toward the completion of its projected 30-spacecraft constellation. LeoStella is manufacturing BlackSky’s smallsats.

Momentus announced that it has partnered with SpaceX and counts NASA and Lockheed Martin as its customers. Momentus’ spacecraft will be launched together with those of its clients and then help to deliver them to their desired orbital position, thus saving them fuel and extending their orbit life. They will also be used to reposition, refuel, repair, or deorbit satellites at the end of their operational life. The company revealed it has US\$90m in signed contracts with contract for a further US\$ billion being negotiated.

But will all Space SPACs be successful?

The space industry is complex, requires excellence in engineering and, due to high capex, does not forgive mistakes. It is very capital heavy, and several satellite businesses entered Chapter 11 in 2020. Additionally, incumbents such as Northrop Grumman, Airbus, Lockheed Martin and newcomer SpaceX (private company with over US\$6bn raised to date) have financial capacity and engineering talent to compete on a wide

range of projects, if they wish to, and see potential financial gains. Let us not forget also that even though space offers various advantages, terrestrial (including mobile) networks are also seeing innovation and continue to be upgraded.

There are many pros and some cons for investing into the space segment. It's only the beginning of space explorations and once we get up there, a whole additional level of activity will be needed to support what is going on. However, once public, these will need to show a constant progress and will need an investor who is evangelical and have true vision. We believe that the competition for the best space companies will intensify as we are still at the beginning of its strong commercialization and take off but with no doubt, it is one to watch as its potential growth is exponential.

Valuation considerations

Below we take a look at some of the implications for valuation of SPAC PIPEs and warrants.

Considerations for PIPE valuation

Once a target company is identified and a merger is announced, market participants have enough information to consider the transaction on a more fundamental basis. As such, the public share price of the SPAC will incorporate market views on the business combination, structure, and likelihood of consummation. Consequently, during this stage the valuation approach generally becomes similar to other PIPE investments, where a discount for lack of marketability (DLOM) is considered. In determining an appropriate DLOM, the first question to consider is 'what is the expected time to exit'? In case of a SPAC PIPE, the exit timeline is generally based on the expected merger closing date, combined with the time required to complete the registration process. It is common to consider multiple exit scenarios within the valuation, weighting the likely outcomes. Another aspect to take into consideration is volatility. How do we appropriately measure future volatility? There are several items to consider here, including the use of implied versus historical volatility, volatility time horizons, and whether it is more appropriate to use the volatility of the underlying security in a basket of comparables.

Consideration for Founder shares and Sponsors

This revolves around the determination of the potential exit dates for shareholders based on various price hurdles and timing restrictions. The movement of stock prices are unpredictable and countless potential

outcomes exist; this indicates one should simulate thousands of scenarios or price paths when price hurdles could be hit, or conditional restrictions could be relaxed. These dates are then utilised as inputs into two valuation approaches, a discount for lack of marketability approach and discounted cash flow approach / cost of capital approach. Sponsor shares are generally convertible into common shares, thus, similar to a PIPE, publicly traded common shares of the SPAC should provide a starting point for a valuation. However, sponsor shares generally include layers of additional price-based hurdles and time-oriented lockup periods that are applied to distinct blocks of shares that could be released upon contingent completion. How should a provider incorporate the various restrictive layers into a valuation methodology? A robust valuation methodology should be able to adequately simulate the potential paths to liquidity based on the mechanics of the sponsor share lockups and determine a restriction period based on a probability weighted expected outcome. The resulting restriction period can then be utilized as inputs into other valuation approaches, such as a DLOM approach and discounted cash flow approach / cost of capital approach.

Consideration for Warrants valuation

The valuation of warrants should take into consideration the issuance price or, if prices are not specifically detailed in agreements, employ similar strategies as the Sponsor and Founder Shares. Given the presence of a price hurdle, liquidity restrictions, and expiration, it is prudent to generate a wide array of potential price paths over numerous simulations in order to encompass an exhaustive list of scenarios. Once the price paths are determined, the lifting of liquidity restrictions can be incorporated and either a theoretical exercise can be implemented when appropriate, or an option pricing model could be employed.

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