QUARTERLY REVIEW OF GLOBAL PRIVATE INVESTMENT

SERAPHIM SPACE INDEX

Q1 2024

SERAPHIM

EXECUTIVE SUMMARY

We are pleased to introduce the first Seraphim Space Index of 2024. We've made several changes to the index this quarter, which we hope will provide further insight into space investing trends. We've introduced an interactive dashboard, which contains all our data since 2017 – covering over 1700 deals. Next, we have highlighted key trends in the space sector for the quarter, likely to influence investing decisions at Seraphim and other investors in 2024. Finally, we've streamlined this edition, as quarter to quarter fluctuations may not accurately reflect the underlying trends. Expect to see a bumper edition in our annual round up.

The space sector has now seen three straight quarters of recovery with $2.4 billion invested this quarter and a $7.2 billion total over the past twelve months. The strong quarter was very much driven by the huge $943m investment in Shanghai Spacecom Satellite Technology. This was the largest Chinese space tech deal to date and the fifth-largest investment in space, ever. We believe this investment reflects a strong desire among public and private Chinese investors to match US capability in space.

Investment in Europe was up 100% compared to a weak last quarter, while the US and North America was down about 50%. The first quarter of many years can be lower than the previous quarter. Deals are often announced the quarter after they close, and dealmaking generally slows in Q4 of any given year. As such it is too early to tell whether this decline in the US suggests a typical first quarter, a weak 2024, or perhaps a slightly bumpy recovery.

While total amount invested was down (excluding the Shanghai Spacecom Satellite Technology deal), the number of deals reached another new high. Investing continues to skew particularly towards increased numbers of seed deals. While seed deals increase, the number of Series A deals is reasonably flat, suggesting that graduating from seed to Series A is increasingly challenging. Investors' expectations of revenue and commercialisation at Series A in the space sector seems to be increasing. However, the graduation rates from Series A to B and beyond are improving, suggesting that if companies can get over this "hump" they have better chances of success.

As we look to the year ahead, the new "What You Need to Know" section of the dashboard spotlights key trends likely to influence investment in 2024. These trends include progress in lunar lander missions, with Japan becoming the fifth country to successfully land on the moon, advancements in SpaceX's Starship program, and the growing momentum of direct-to-cell technology as demonstrated by partnerships and strategic investments in companies like SpaceX, AST, and Skylo. We look forward to seeing how these key trends shape investor decision making in the year ahead.

KEY HIGHLIGHTS FROM THE QUARTER

$7.2BN
invested in the Trailing Twelve Months (TTM) to Q1 2024
($6.6bn in TTM to Q1 2023)

$2.4BN
invested in Q1 24 ($2.1bn in Q4 23)

439
deals in the Trailing Twelve Months (TTM) to Q1 2024
(415 in TTM to Q1 2023)

145
deals in Q1 24 (127 in Q4 23)

$944M
biggest deal closed in Q1 24
(Shanghai Spacecom Satellite Technology)

$22.6M
Average deal size in Q1 24 ($22.8 in Q4 23)

$4.4M
median deal size in Q1 24 ($7.3m Q4 23)

In Q1 2024, the space sector maintained its upward trajectory, with a notable $2.4 billion invested, marking a steady increase from Q4 2023's $2.1 billion. This is part of a larger trend of $7.2 billion invested over the trailing twelve months to Q1 2024, compared to $6.6 billion in the preceding period. There were 439 deals in the Trailing Twelve Months (TTM) to Q1 2024, and 145 deals in Q1 2024. This marks the highest ever point for number of deals.

The quarter's most significant investment was the record-breaking $944 million investment in Shanghai Space Satellite Technology (Yuanxin Satellite), the fifth-largest deal ever and the largest Chinese deal to date, eclipsing Chang Guang Satellite Technology's $376 million round in Q4 2020. Average deal sizes remained robust at $22.6 million, though median deal sizes saw a dip to $4.4 million from $7.3 million in the previous quarter, reflecting smaller growth stage rounds this quarter.

Q1 2024 – WHAT YOU NEED TO KNOW

Lunar Landers: There were three lunar lander attempts this quarter, two of which were successful. JAXA's Smart Lander for Investigating Moon (SLIM) landing on Jan 19 made Japan the fifth country to land on the moon. NASA's Commercial Lunar Payload Services (CLPS) paid for two private missions: Astrobotic's unsuccessful Peregrine and Intuitive Machine's successful landing with Odysseus. Both SLIM and Odysseus tipped over after landing.

SpaceX Starship Launch: The March launch showed great progress towards a full successful flight. All 33 Raptor engines on the booster fired, "hot staging", i.e. igniting the upper stage engines while still attached to the booster, was completed, and the upper stage successfully reached the planned suborbital orbit. There is still work to do as the landing burn was unsuccessful and the booster broke up on re-entry. Both SpaceX and NASA, who have provided $4bn in funding for Starship, declared the test a success.

Direct-to-Cell: Direct-to-Cell continues to gain momentum. SpaceX sent the first text messages using its Starlink satellites in January. Expanding beyond its partnership with T-Mobile may not be straightforward. While it can use its partner T-Mobile's spectrum, the FCC denied SpaceX's request to use spectrum in the 1.6/2.4 GHz and 2GHz bands, which include Globalstar and Dish's exclusive bands. AST, which is attempting to provide broadband coverage direct-to-cell, received a $155m strategic investment from Google and AT&T. Seraphim portfolio company Skylo is taking a different approach, leveraging existing GEO satellite bandwidth and spectrum to circumvent the need for new expensive satellites, or battling for spectrum. Skylo raised $37m this quarter from Intel Capital, BMW, and Samsung.

Varda Earth Return: Varda Space successfully returned its first capsule from space in Feb 2024. The return was in collaboration with Rocket Lab, whose Photon spacecraft was used to perform the de-orbit manoeuvre. Varda published space crystallisation results of Ritanovir, a polymorphic (molecule that can form different crystals) HIV drug. Rocket Lab may also leverage the return technology for its Neutron human spaceflight program. Varda is just the first of the Earth return companies to launch. Several space return companies including Seraphim portfolio company, Atmos Space, are hot on their heels.

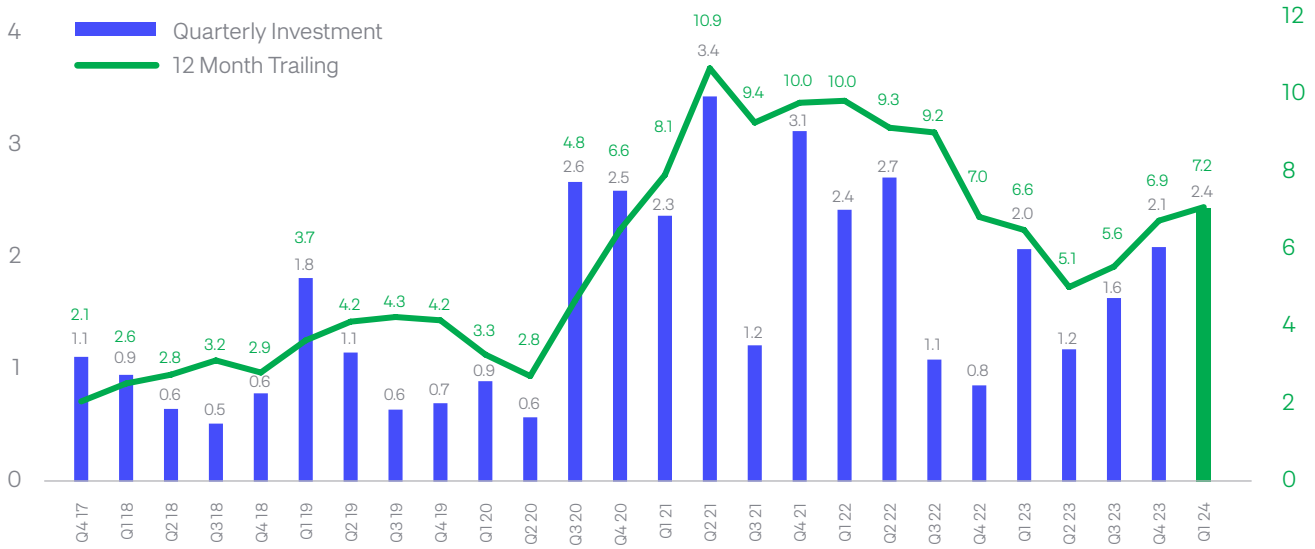
China Increasingly Important: China's importance in both the public and private space sector continues to grow. Chinese military capabilities in space are growing at "breathtaking pace" according to the head of US Space Command. Meanwhile in the private sector, Landspace demonstrated a successful rocket return. Finally, the largest raise ($944m) this quarter came from Shanghai Spacecom Satellite Technology, which intends to launch a 12,000-satellite LEO communications constellation.

Starshield: Reuters revealed that SpaceX has a $1.8bn contract with the NRO for several hundred Earth Observation satellites, leveraging the Starlink platform. Until now, it had appeared that SpaceX had little interest in EO capability.

SPAC trouble: Astra Space is being taken private by founders Adam London and Chris Kemp to avoid filing for Chapter 7 bankruptcy. Terran Orbital received a take-private offer from major shareholder, Lockheed Martin. Momentus Space warned shareholders it is running out of money but subsequently announced a registered direct offering (RDO) of $4m from an institutional investor.

INVESTMENT OVERVIEW

Seraphim Quarterly Investment Tracker
($bn Invested)



Quarterly investment in Q1 was $2.4bn, up from Q4 23 at $2.1bn, thereby bringing total TTM investment to $7.2bn. While still down from the lofty heights of 2021, Q1 24 demonstrates the third continuous quarter of recovery in investment within SpaceTech.

OVERALL INVESTMENT ACTIVITY

Seraphim Trailing 12 Months (TTM) Investment Activity Index (Q1 2018 = 100)

The Seraphim Space index provides the barometer for investment activity within the NewSpace Ecosystem. It shows global volume and value of venture capital deals within the Space sector on a 12 month trailing basis, normalised against Q1 2018.

SpaceTech investment continues to see a sustained recovery, despite the boarder VC investment landscape experiencing a decline over the last quarter.

SpaceTech continues to outperform both in terms of total investment raised, and in terms of total number of deals.

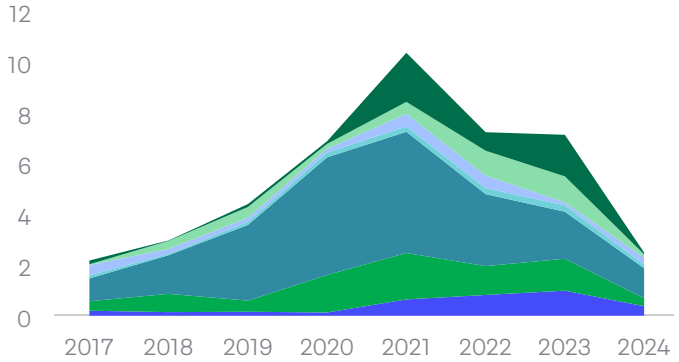
Q1 24 was a record setting quarter in terms of total number of deals, with 145 for the quarter, and 439 on a TTM basis.

Most of this growth in dealmaking has resulted from increased numbers of seed stage deals.

DATA LIFECYLE

Beyond Earth | Product | Analyse | Downlink | Platform | Launch | Build

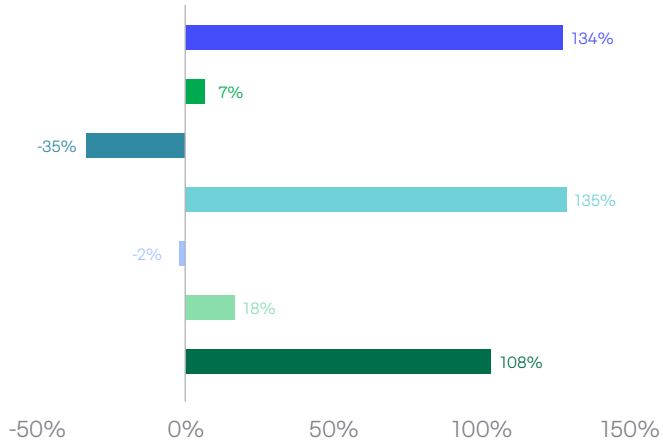
Annual Investment ($bn)



Downlink has historically been one of the smaller segments for investment. However, the current and previous quarter have seen multiple significant deals with $30m+ rounds (Armada, Second Front, Skyloom and Skylo). As a result of these deals, the category has seen the greatest year over year growth in investment. Technologies related to communications and cybersecurity are key enablers for satellite communications, which is one of the largest markets addressed by space today.

Build has also seen increasing investment. We attribute this to the growth in the space segment, creating a larger market opportunity for businesses providing the building blocks for the space economy, in terms of satellites, payloads,

Investment, TTM to Q1 24 vs to Q1 23 (% Change)

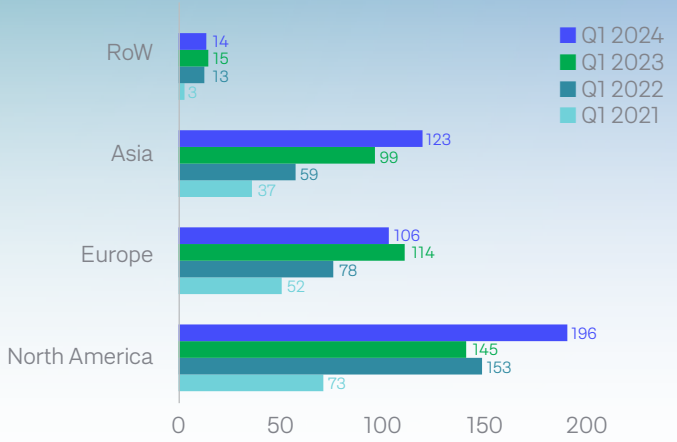


and software. This quarter saw Hadrian, which produces precision machined components, raise the second largest round at $117m.

While Beyond Earth did not have any standout deals in Q1 24, the TTM period has seen significant activity in large rounds from Sierra Space, Axiom, True Anomaly and more. In H2 2023, this sector attracted the greatest amount of investment as investors back the next generation of space infrastructure. As such, the sector has shown significant growth against the previous TTM period.

GEOGRAPHIC ANALYSIS

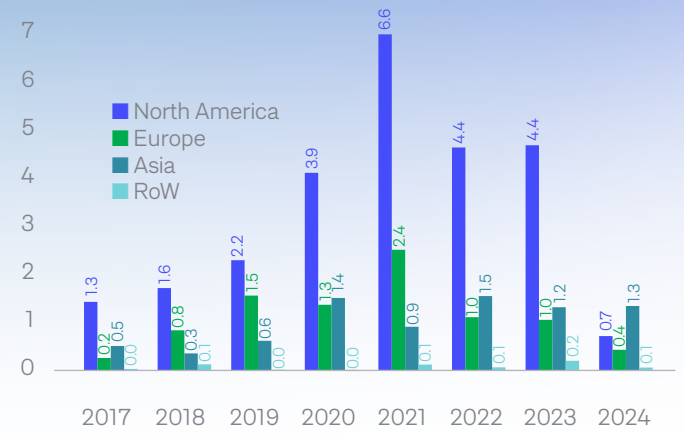
Number of deals



Asia has seen the most consistent growth in the number of deals, as the continent builds out their space capability. In the TTM period, China accounted for the majority of the 123 deals, at 50, with India following at 26, and Japan at 17.

North America has seen a significant increase in TTM Q1 2024, signalling a recovery in US dealmaking.

Investment By Region ($bn)

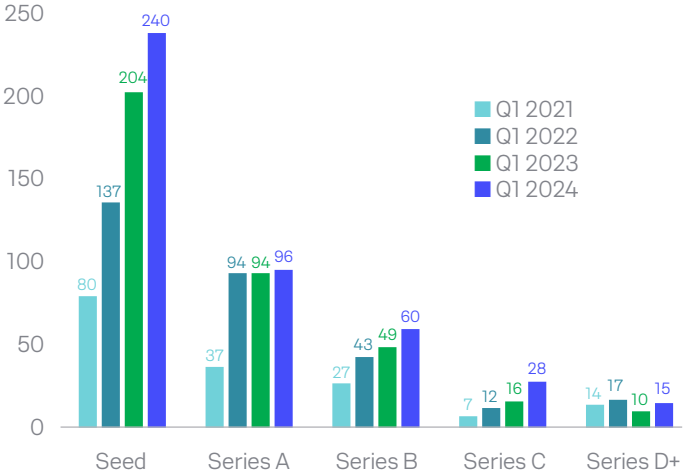


This has been the first quarter where Asia leads the world in investment. This is due to the $944m round into Shanghai Spacecom Satellite Technology.

Chinese businesses in core technologies like launchers and LEO constellations are behind US equivalents, such as SpaceX. However, Chinese private and public investors are deploying significant capital to close the gap.

STAGE OF INVESTMENT ANALYSIS

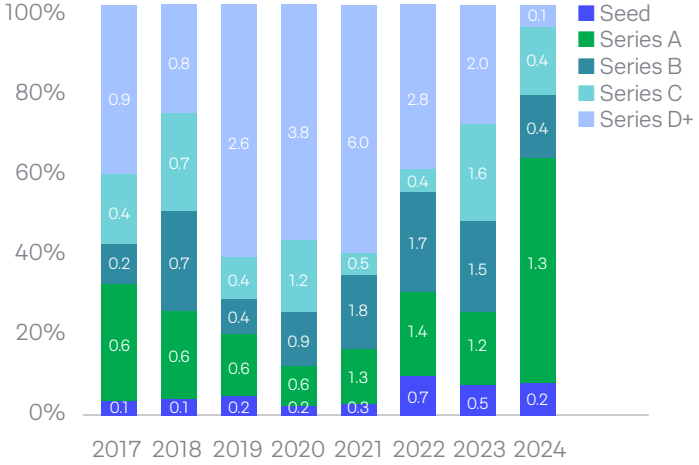
Number of deals



Graduation to Series A appears to have become a challenge for startups over the last 2 years. The VC ecosystem has generally become more capital constrained since 2021. This appears to have had a particular impact on the rate at which businesses graduate from seed to Series A.

In general, Series A is the stage where businesses need to provide demonstrable commercial traction. Investors today are raising the bar, and being more selective in the businesses that progress to Series A. However, there is some indication that businesses that get past the Series A hurdle now have a better chance of reaching Series B and beyond

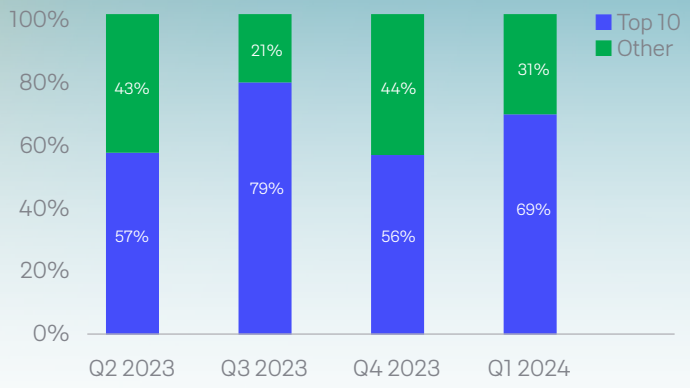
Investment Concentration ($bn)



This quarter saw relatively little investment into the most mature and established Series D+ businesses, with growth capital concentrated in newer startups in their early growth stages. Startups with momentum, that have progressed rapidly, and demonstrated proof points have secured the majority of the largest funding rounds for this quarter.

TOP 10 DEALS OF THE QUARTER

Q1 2024 Top Deals



The largest deal of the quarter was Shanghai Spacecom Satellite Technology. The business raised nearly $1bn which will finance the initial rollout of their G60 constellation. The constellation is reported to reach a size of 12,000 at full scale, with the business launching the first 108 throughout 2024. China, looking to match or exceed space capabilities in the US, has been investing heavily, both publicly and privately. Private investment in China has been primarily focused on space infrastructure businesses going head-to-head with SpaceX, in both launch, and LEO constellations. This quarter we have seen a continuation of the trend of large Japanese corporates participating in space rounds. This quarter, Marubeni led D-Orbit Series C round. The other key investor group seen among the largest rounds of Q1 2024, were Tier 1 US generalist VCs. Hadrian, as the second largest deal of the quarter, stands out having received investment from Lux, Andreesen, Founders Fund and Caffeinated Capital. This represents a promising trend for space as Tier 1 VCs, with huge funds, only invest in outsized markets. As is typical in the Top 10, most deals were for capitally intensive businesses. However, Q1 saw three Analyse businesses raise large rounds. This was unexpected as throughout 2023, the Analyse segment generally fell behind in investment, with some high-profile businesses struggling to find product market fit.

COMPANY	COUNTRY	DATA LIFECYCLE	SUB CATEGORY	STAGE	AMOUNT ($m)
Shanghai Spacecom Satellite Technology	China	Platforms	Satellites - Telecoms	Series A	$944m
Hadrian	US	Build	Space Hardware	Series B	$117m
D-Orbit	Italy	Launch	Launch Services	Series C	$110m
Exodigo	Israel	Analyse	Satellites - Earth Observation	Series A	$105m
Unseenlabs	France	Platforms	Satellites - Earth Observation	Series C	$92m
Orienspace	China	Launch	Rockets	Series B	$85m
Insight M	US	Analyse	Satellites - Earth Observation	Series D+	$52m
AiDash	US	Analyse	Satellites - Earth Observation	Series C	$50m
K2 Space	US	Build	Space Hardware	Series A	$50m
ABL Space Systems	US	Launch	Rockets	Series D+	$40m

CONCLUSION AND OUTLOOK

The first quarter of 2024 demonstrated a continued recovery in investment activity, now reaching three consecutive quarters of recovery. The standout deal of the quarter was the Shanghai Spacecom Satellite Technology (Yuanxin Satellite) Series A, driving much of the quarter's investment. As a result, this was the first quarter in which Asia raised the highest level of investment. Europe also had a strong quarter with several significant later stage deals, a strong signal given growth capital is an area where Europe typically struggles.

The escalating tensions between China and the US are increasingly shaping investment decisions in both geographies within the space sector. China has focused on rapidly advancing its space capabilities, particularly in launch technologies and satellite communications to maintain pace with US alternatives (SpaceX). Investors are closely watching the competition unfold, as geopolitical rivalries spur investment in strategically relevant sectors. In parallel, the burgeoning commercialisation of the in-space economy presents significant opportunities for investors. As highlighted in the trends this quarter ("What You Need to Know") Lunar Landers and the recent recovery of the Varda's Earth Return capsule all point towards a rapidly maturing in-space economy. We believe this could be catalytic for unlocking additional investment, and indeed following the close of Q1, Varda announced an additional $90m in financing on the back of their successful mission. Starship's accelerating schedule of test launches, also suggest further opportunities on the near horizon. Q1 saw one of the Top 10 raises of the quarter into K2 Space, a business building for a future where mass to orbit becomes far more abundant. We anticipate that there are many new businesses to be built that will be enabled by Starship, further spurring investment into new areas of the Space Economy.

Direct-to-cell connectivity continued to see development, with Skylo and AST raising funding this quarter. Direct-to-cell is a segment with many credible players in the industry looking to maximise revenue generation from space by putting satellite communications in the hands of everyone with a mobile device. Against this backdrop, the investment landscape for 2024 looks promising, with continued growth and innovation anticipated as the industry navigates these challenges and opportunities.

ABOUT SERAPHIM

VC FUNDS + RESEARCH + ACCELERATOR

Our Model: Inception to exit support powered by smart capital

Seraphim is the world's leading specialist investor in SpaceTech.

Powered by smart capital from leading Space companies and government agencies, we have a unique model combining investment funds, accelerators, and an angel investor platform.

We use our panoptic view of the SpaceTech ecosystem to provide inception to exit support to the sector's most ambitious and fearless entrepreneurs as they aspire to harness the infinite potential of Space to help push the boundaries of what is currently possible by turning science fiction into science fact.

Seraphim Space Investment Trust Plc is listed on the London Stock Exchange (Ticker: SSIT)

Our focus: Businesses collecting & communicating data from above

We are focused exclusively on the multi $trillion SpaceTech investment market.

We believe SpaceTech is at the nexus of mega-trends that will define societal change over forthcoming decades and has a unique role to play in addressing the world's most pressing problems.

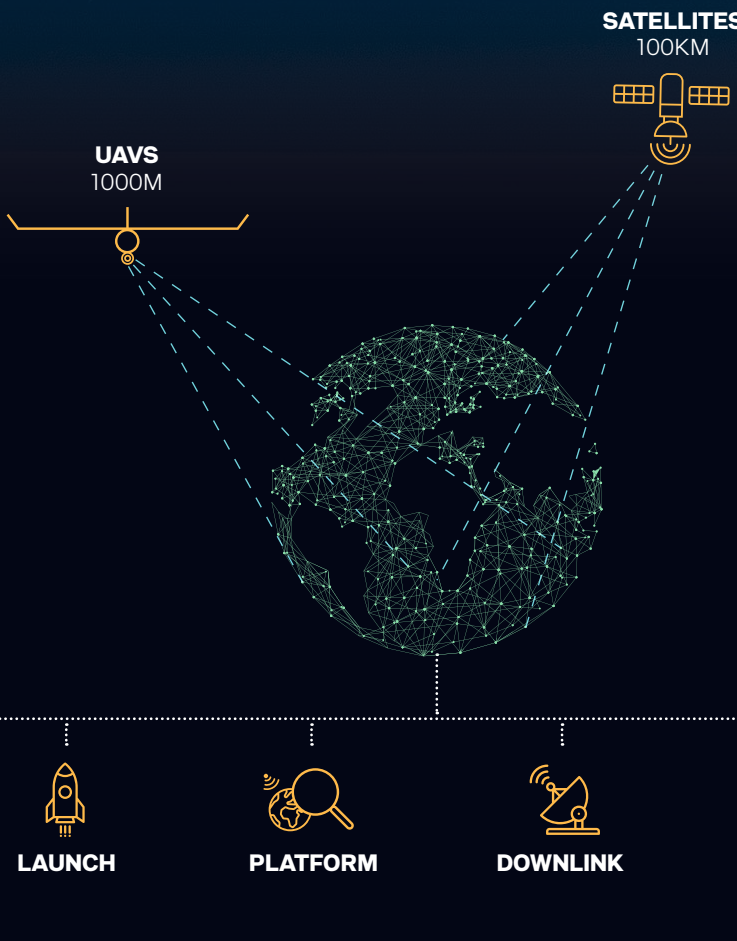
Radical advances in the Space sector mean a data and connectivity tsunami is about to transform the world as we know it, driving the next major paradigm shift in the global economy.

We invest in companies that are enabling, generating and exploiting data being collected and communicated from above.

Mark Boggett
CEO

James Bruegger
CIO

Rob Desborough
Accelerator & Early Stage



Current Portfolio

We are the most prolific investor in SpaceTech globally. Across our different activities, we currently have a portfolio of more than 100 of the world's leading SpaceTech start-ups.

Fund

Accelerator

METHODOLOGY / FURTHER RESEARCH

Methodology & Taxonomy

We use a wide range of different data sources to compile our investment tracker. This includes proprietary, off-market information from our deal flow and network, deal databases such as Crunchbase, industry news sources such as SpaceNews and TechCrunch, and public announcements from companies themselves. We only include third party capital invested on an arm's length basis and therefore do no include personal investment that the likes of Jeff Bezos may make in their own space initiatives.

BUILD

- Building & selling satellites, autonomous systems
- Components, sub-systems, complete systems
- Hardware (sensors), software (i.e. control system), hybrid (i.e. machine vision)

LAUNCH

- Building & launching rockets
- Launch-related services

PLATFORM

- Any data collection / space platform (i.e. smallsat, HAPs)
- Multi-modal: look, listen, communicate

DOWNLINK

- Facilitate transmission of data from space / aerial platform back down to earth
- Satcoms & terrestrial comms networks
- Data storage, processing, security

ANALYZE

- Analysis of data from space / aerial platforms
- A.I / machine learning enabled analytics

PRODUCT

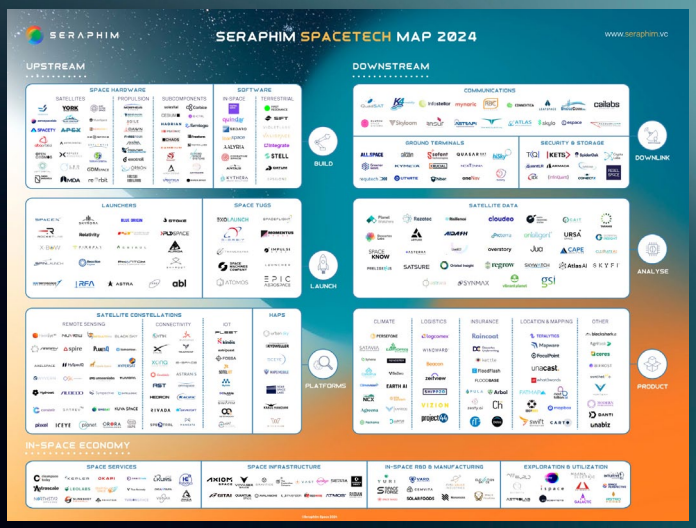
- Packaging of different data streams (space & non space)
- Tailored to specific use cases in specific verticals
- Location, monitoring, insight, mapping

BEYOND EARTH

- In-Space infrastructure (i.e. Space stations)
- In-Space services (i.e. Satellite refuelling, servicing and repair)
- Utilising the microgravity environment for R&D and manufacturing

Further Research

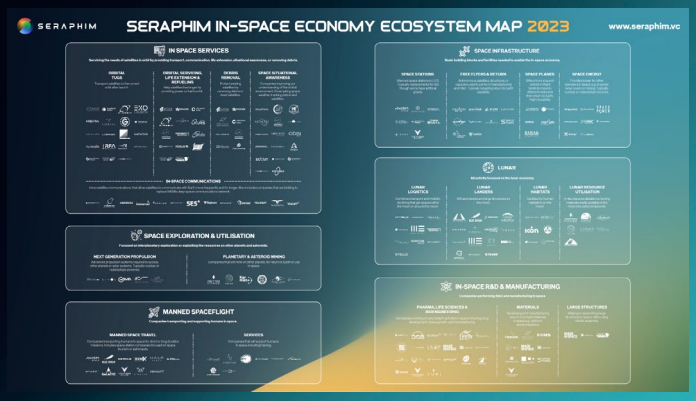
We routinely publish our own research and insights on our website with a view to helping other investors share our excitement for the multi-decade transformational potential of Spacetech. Key periodic research we publish includes our widely recognised SpaceTech Ecosystem and Smallsat Constellation market maps.



SERAPHIM SPACETECH ECOSYSTEM MAP 2024

Global VC backed emerging leaders per category.

DOWNLOAD



IN-SPACE ECONOMY MAP

Global VC backed companies providing services in space.

DOWNLOAD

www.seraphim.vc/research