

QUARTERLY REVIEW OF GLOBAL PRIVATE INVESTMENT

GENERATION SPACE INDEX

Q2 2023



GENERATION
SPACE

WELCOME

Looking back on the first half of 2023, investment into SpaceTech is showing signs of recovery after the decline in H2 2022. Activity remains strong, particularly at the early stages, with the number of Seed deals growing almost 55% increase year on year. Considering this quarter in isolation, while the number of deals is down by around 30%, capital deployed is largely aligned with Q1 2023. This is indicative of cautious return to growth by investors, with an uptick in Series C stage deals.

While Europe led the investment rebound at the beginning of this year, Q2 has seen a return to US deals leading investment activity. As well as deal volume, US continues to lead in magnitude, with deal sizes around twice the size of those in Europe. Although the US has 'reclaimed' the top spot, momentum built around European investment has not diminished. European deals numbers have grown by 60% over the prior TTM (Trailing Twelve Months) period, and Asia grew by 79%. SpaceTech deals are increasingly represented globally with Asia making a mark.

While there's no return of frequent megarounds, the largest deal closed in the quarter has had a healthy increase to \$200M (Astranis). Investments into the Space sector continue to diversify across segment, with investment represented more evenly across the SpaceTech value chain. Prior to 2020, investment into

Beyond Earth was a minimal target of capital allocation. Whereas in YTD 2023, it is the single largest area of investment.

Moving forwards, we will now be including M&A activity from the sector in this quarterly index, tracking companies from inception to exit. Since 2017 there have been around 100 M&A deals related to the Space sector. With the New Space industry evolving over recent years, we can see that acquisitions are no longer reserved for the deep pockets of legacy Space companies – New Space acquirers have outnumbered Old Space over the period. Notable New Space acquirers this quarter include Anduril, Firefly, York Space Systems, and Satlantis. Previous cycles of consolidation within the Space industry were largely a result of select Space primes acquiring significant portions of the market. In addition to the activity this quarter, Rocket Labs, Voyager and Slingshot have emerged as the most frequent acquirers to date.

As well as NewSpace players, Private Equity investors are increasingly active acquirers in the industry and responsible for some of the largest transactions. Q2 saw the completion of Advent's acquisition of Maxar, a deal valuing the company at \$6.4bn. With PE investors approaching the industry through a more profit minded lens, improved margins on products and capital efficient businesses will provide attractive targets moving forwards.

Highlights

\$4.5BN

invested in TTM (\$5.9bn TTM in Q1 23)

\$1.2BN

invested in Q2 (\$1.4bn in Q1 23)

178

on Seraphim Investment Index (233 in Q1 23)

300

on Seraphim #Deals Index (281 in Q1 23)

\$200M

biggest deal closed in Q2 – Astranis (\$165m from Isar in Q1)

\$17.3M

average deal size in Q2 (\$14.3 in Q1 23)

\$8.6M

median deal size in Q2 (\$4.5m Q1 23)

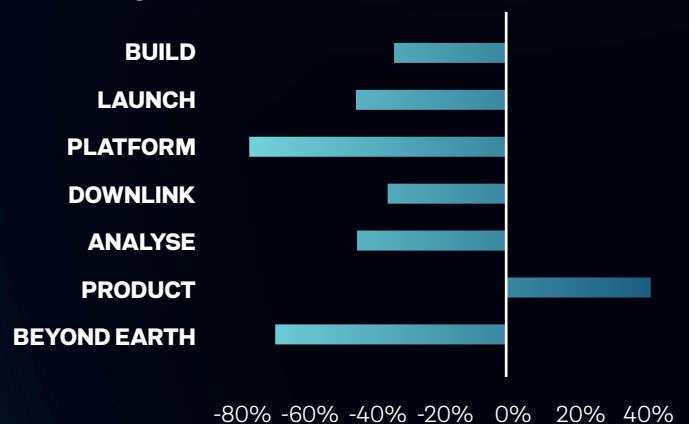
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space-related SPAC announced (1 Q1 23)

28

space-related M&A transactions in TTM (18 TTM to Q2 22)

Investment (\$), TTM to Q2 22 vs. Q2 23 (% Change)



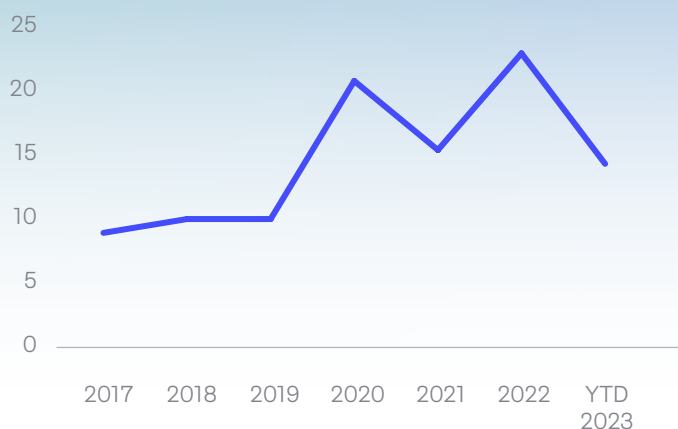
Product (products built around space-data) continues to see exceptional growth. We have long thought that companies building products around space-data would be the key driver for growth in the industry, driving demand for space by making space data more useful and accessible for end-users. This trend is starting to materialise. In particular, businesses using space derived data for Climate monitoring have contributed to the rise of investment in this category. We are also seeing companies focused on financial products built around space data. Investors are increasingly intrigued by these products and we expect to see continued growth in this area. Theoretically, in this environment, investors should be avoiding capital intensive businesses such as Beyond Earth, which can involve large infrastructure projects in space. This is not proving to be the case: in the first half of this year Beyond Earth attracted the most investment. This may seem counter-intuitive as it has had a large TTM decline. However, the previous TTM was driven by a very large (\$1b+) investment in Sierra Space in 2021, one example of how very large mega-rounds can have a huge influence on a sector. Beyond Earth investments are likely longer term plays, as this sector is really just beginning and will take some time to mature.

M&A ACTIVITY

While we have tracked SPAC and public market activity for many years, there has been a notable recent rise in the amount of M&A being seen across the space sector. We have added this page in Q2 2023 and will continue to track M&A activity in SpaceTech going forwards.

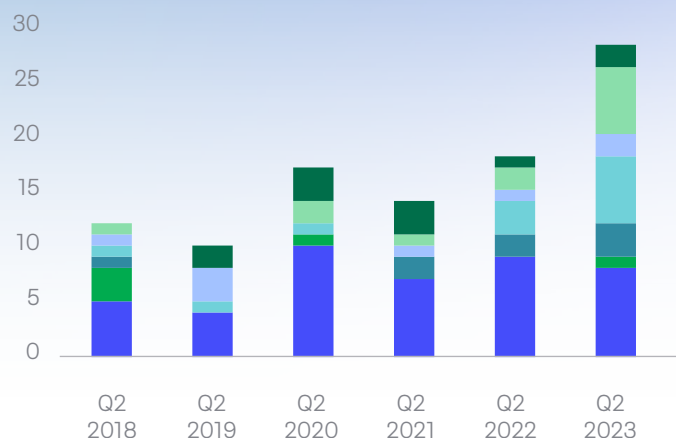
■ Beyond Earth ■ Product ■ Analyse ■ Downlink ■ Platform ■ Launch ■ Build

Annual M&A deals (#)



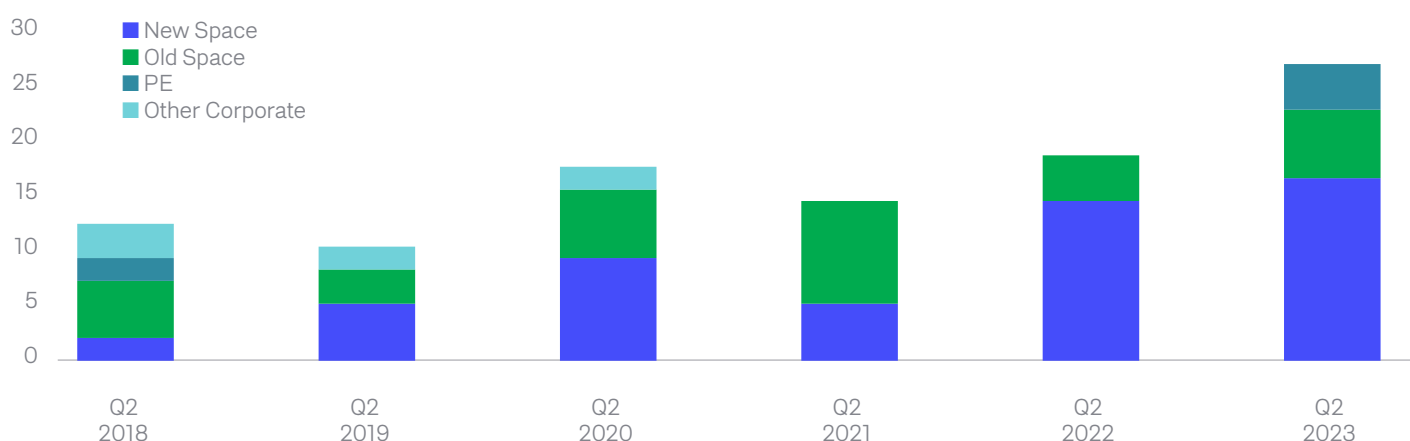
In total since 2017 there have been around 100 M&A deals with a NewSpace acquirer or target. The uptick since 2020 could have been driven by multiple factors; attractive acquisition offers around the peak of the market may have driven some of the exit activity. Conversely companies experiencing challenges fundraising to raise could have instead turned to M&A as a means for survival. Valuations are usually undisclosed but it is expected that companies in distressed situations would have been valued at meaningfully less than their preference stack.

TTM Deals by Data Lifecycle (#)



Build companies continue to be one of the most attractive segments for acquisition thanks to the "picks and shovels" nature of these businesses, well as generating early revenues but perhaps finding it harder to fundraise due to lower returns expectations. The number of Product companies being acquired is also growing; these are typically downstream software businesses which usually find product-market fit and hence revenues earlier than other categories. Downlink acquisitions have been driven by developments in IOT and satcoms leading to increasingly competitive antenna and ground terminal offerings in the market. For example, Cesium Astro acquiring TXMission in 2023 to deliver an end-to-end phased array satcoms system.

TTM Deals by type of acquirer (#)



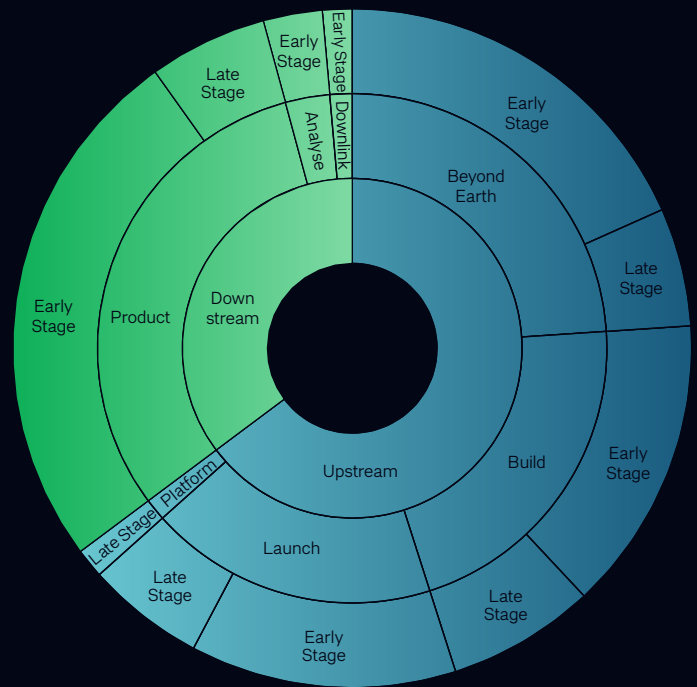
Historically, and unsurprisingly, the major acquirers have been Old Space companies, or other corporates. However, it is very exciting that the number of New Space companies maturing enough to the point of conducting value-accretive M&A has increased quite rapidly in the last few years. Examples of this include Planet acquiring Salo Sciences, or Slingshot acquiring Numerica. Clearly, New Space has matured and is no longer such a nascent industry. Furthermore,

there has been a recent uptick in the number of PE transactions. Notable recent examples include Advent investing in Maxar (take-private), AE Industrial investing in York Space Systems, and Antarctica Capital acquiring Descartes Labs. The increasing presence of PE activity in the New Space sector further indicates that New Space is an increasingly mature industry.

Q2 2023 DEALS ACTIVITY (# DEALS)

From Q1 2023 to Q2 2023, the number of Space Tech deals has decreased from 128 to 88 marking a decline compared to the first quarter of the year. What we are seeing is a greater concentration of capital this quarter, with the same amount of capital deployed in fewer, larger growth stage deals. This is an early indicator of a recovery in the growth-stage market with highest deal size (Astranis, \$200M) since Q3 22. As well as this, Q2 23 investment was approximately in line with the previous quarter (\$1.2bn vs \$1.4bn) and both H1 23 quarters exceeded H2 2022.

It is believed that many growth stage companies, adequately funded through 2021, refrained from raising capital during the uncertain economy of 2022. The beginning of 2023 has seen an uptick in growth rounds, likely out of necessity as runways shorten. In line with expectations, the largest median deal sizes for YTD 23 come from the two of the most capital intensive segments of the SpaceTech ecosystem: Launch and Platform. Q2 2023 has once again seen an increase in Beyond Earth companies being funded, making it the second-largest upstream subsector in terms of deal volume. This trend suggests either a growing investor appetite for higher-risk subsectors or a perception that this subsector now carries less risk. The product category continues to be the largest downstream sector.



Q2 2023 Top Deals

In Q2 the top 10 SpaceTech deals made up 60% of the total sector investment, showing a slightly higher capital concentration than in the previous quarter, where 50% of investment came from the top 10 deals. Most of the top 10 deals were in capital-intensive subsectors, such as Build, Beyond Earth, and Platform. Astranis topped the Q2 investment list, with the largest deal since SpaceX raised \$250m in Q3 2022. Despite recent challenges in accessing growth capital, Astranis' raise shows growth capital is available for the strongest companies. Astranis is also on the path to revenues after successfully deploying their first satellite to GEO which positions them favourably. The spectrum of deal sizes which qualify for the Top 10 transactions of the quarter is also back in line with 2022 with the lowest size \$29M (GITAI, Japan).

Unlike last quarter where European companies dominated the top 10 deals, they remained largely absent from major deal activity in the last three months. US companies made up 50% of the top 10 deals. This is reflective of broader deal activity over the quarter, where US is largely equal with RoW investment.

Three of the quarter's biggest deals involved companies servicing the in-space economy (Constantellis Aerospace, Sierra Space, GITAI), highlighting the development of this market. For an in-depth look at this emerging segment, refer to the Seraphim In-Space Economy Ecosystem Map.

COMPANY	COUNTRY	DATA LIFECYCLE	SUB CATEGORY	STAGE	AMOUNT (\$m)
Astranis	US	Platform	Satellites - Telecoms	Series D+	200
Ursa Major	US	Build	Space hardware	Series D+	100
Kepler Communications	Canada	Platform	Satellites - Telecoms	Series C	92
CAS Space	China	Launch	Rockets	Series C	87
Constantellis Aerospace	US	Beyond Earth	Space Infrastructure	Series A	79
Pixxel	India	Platform	Satellites - Earth Observation	Series B	36
Fleet Space Technologies	Australia	Platform	Satellites - IoT Networks	Series C	33
Sierra Space	US	Beyond Earth	Space Infrastructure	Series B	31
CropX	Israel	Product	Data Platforms	Series C	30
GITAI	Japan	Beyond Earth	Space Infrastructure	Series B	29

Seraphim TTM Investment Activity Index (Q1 2018 = 100)



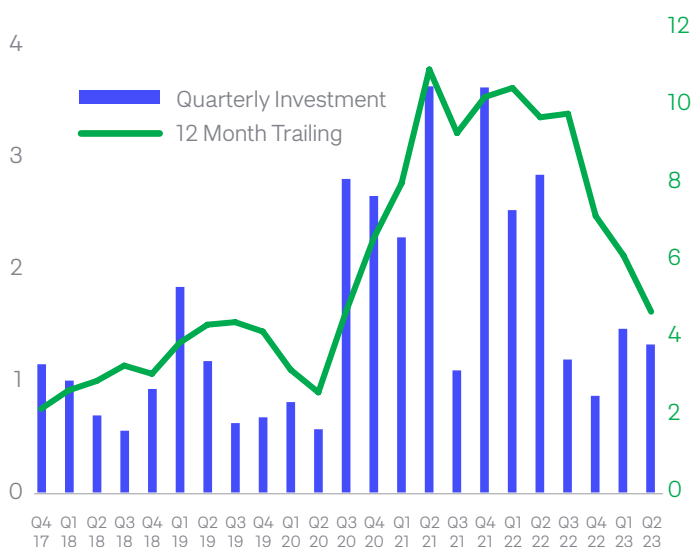
The Seraphim Space Index is a barometer of investment activity, showing the global volume and value of venture capital deals within the Space sector on a TTM basis, indexed against Q1 2018.

The Index shows a significant decrease of TTM investment (178, down from the previous 233), as the TTM period no longer includes the investment highs of H1 22.

The total number of deals completed within Q2 have fallen by 31% from the previous quarter (88 vs 128), but remains higher than any point prior to Q4 2021. The TTM period has recorded the highest number of SpaceTech deals to date. Each of the last 3 quarters have set all time records for the highest total number of SpaceTech deals.

This shows that while investment and mega rounds have reduced from the highs of 2021 and H1 2022, the overall startup activity within SpaceTech is higher than ever before.

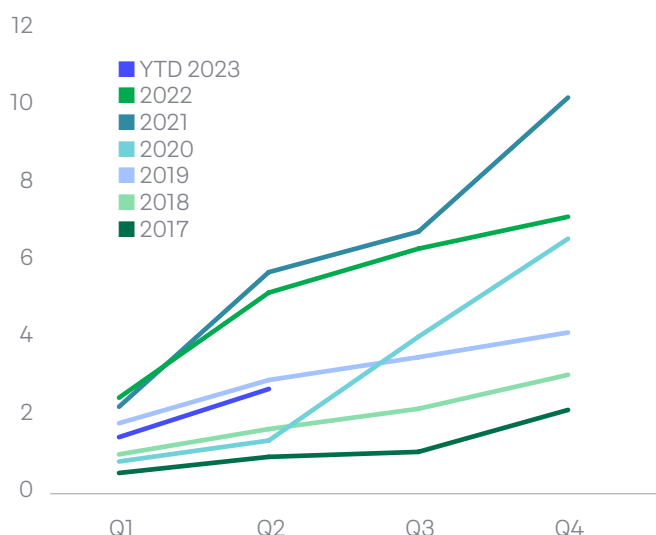
Seraphim Quarterly Investment Tracker (\$bn Invested)



While TTM investment appears to show a continued downward trend, there are some signs of a potential recovery from the pullback of H2 2022.

Q2 23 investment was approximately in line with the previous quarter (\$1.2bn vs \$1.4bn) and both H1 23 quarters exceeded H2 2022.

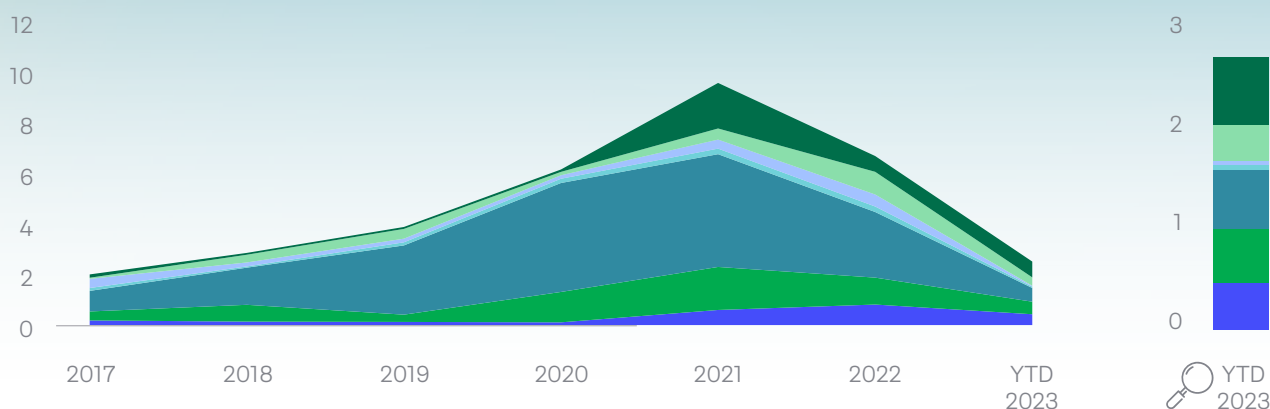
Seraphim Annual Investment Tracker (#Deals)



After a tough funding environment in H2 2022, companies and investors alike are returning to the market, conducting new Spacetech deals, albeit with round sizes and valuations that are in some cases flat/lower than during the investment boom of 2021.

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

Annual Investment (\$bn)



Throughout the period of 2017 to 2022, the Platform segment dominated investment. Investors saw huge promise in Earth Observation and Communications startups, leveraging the improved economics associated with NewSpace to deploy novel constellations.

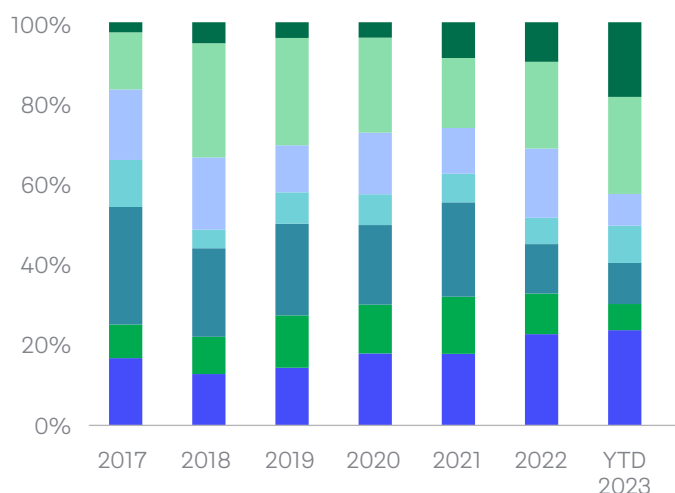
In 2023, we have seen a pullback in investment from this segment. Many of the companies that raised the most VC financing in this segment have already publicly listed, or have raised sufficiently that they have required less private

capital through YTD 2023. Today we see investment represented more broadly across the SpaceTech value chain, as investors identify new opportunities for investment as the Space economy matures.

The Beyond Earth segment, is a prime example. Prior to 2020 this was an area of minimal investment, whereas in YTD 2023, it is the single largest area of investment.

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

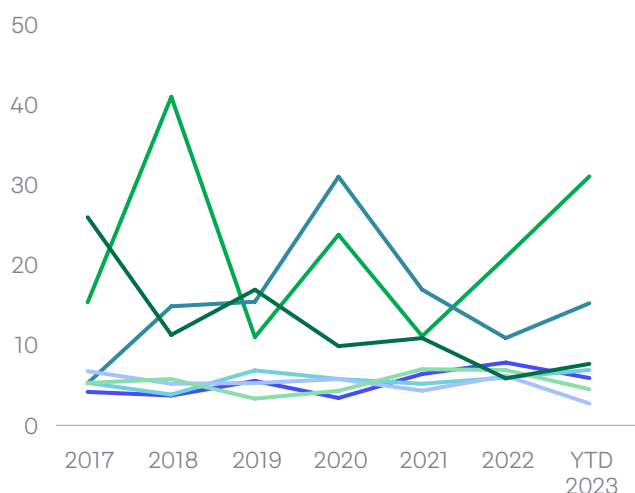
Number of Deals



The composition of deals within the space industry has been undergoing a gradual shift since 2017.

Here we also notice the recent and rapid increase of Beyond Earth deals, which has largely developed in the 3 years. While the segment is still in its early stages, it has matured faster than many would have anticipated.

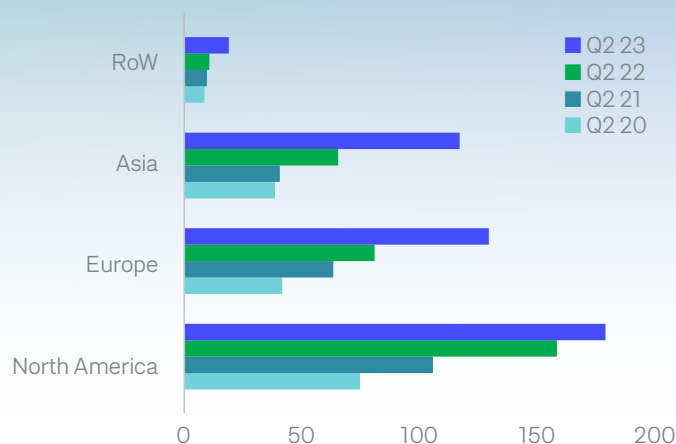
Median Deal Size (\$m)



YTD 2023, has shown that broadly, companies have been raising funding, in line with their capital requirements. Perhaps unsurprisingly, the largest median deal sizes for YTD 23 come from the two most capital intensive segments of the space economy: Launch and Platforms.

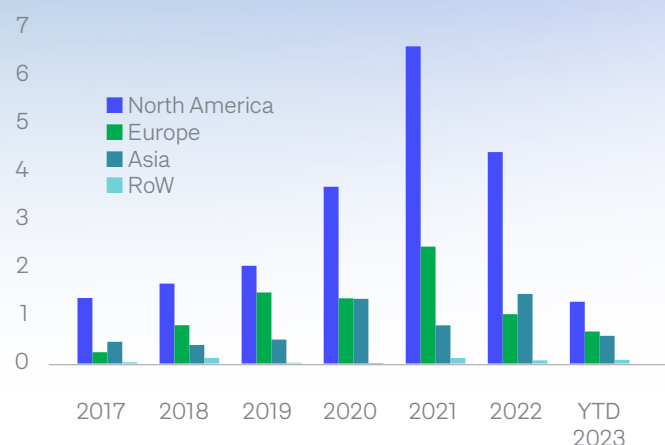
Segments that had the lowest median deal size, were Analyse and product, generally software businesses that are capex light.

No. Deals TTM Investment



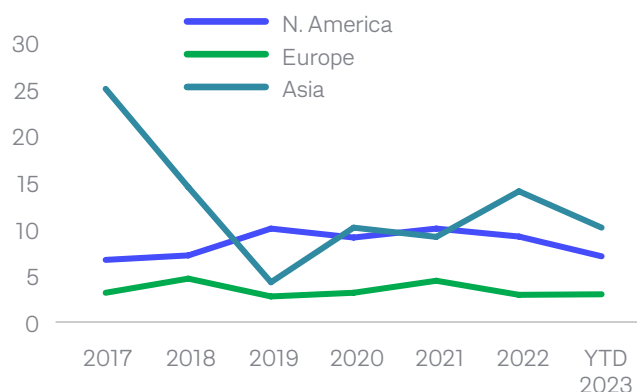
The number of deals shows a continued upward trend across all regions. North American deals increased by a relatively modest 13%, whereas European deals grew by 60% over the prior TTM period, and Asia grew by 79%. While Investment heavily favours the US, SpaceTech deals are increasingly represented globally.

Investment By Region (\$bn)



Europe outperformed the US in terms of investment in Q1 due to several particularly large deals for the geography (Isar Aerospace, Exotrail etc.). Q2 has shown a return to the norm, with the US receiving approximately double the investment of Europe in YTD 23. This is to be expected as North America has a greater availability of venture capital, and remains the epicentre of NewSpace.

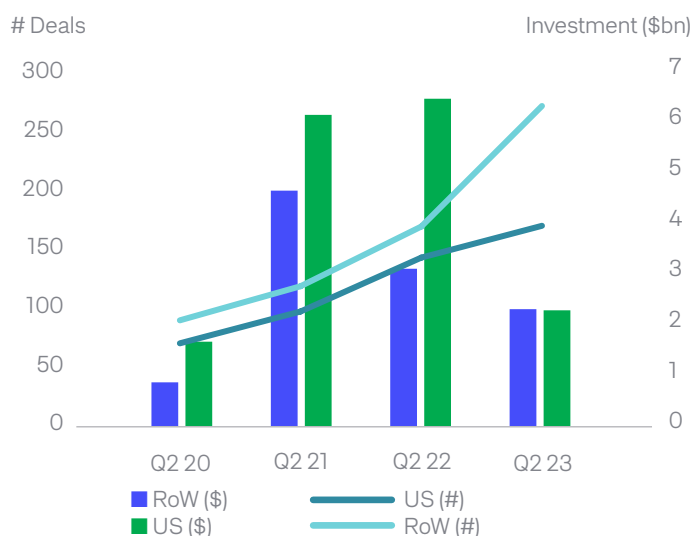
Median Deal Size By Region (\$m)



European and North American deals sizes remain largely consistent, with North American deals around twice the size of those in Europe. Median deal size is largely tied to the prevailing maturity of the companies in each of these geographies. Since 2022, 16% of European deals were late-stage, whereas North America saw 24% late stage deals (due to a more mature SpaceTech ecosystem). Interestingly, 30% of Asian deals have been late stage, resulting in the highest Median deal size.

Asian SpaceTech investment is concentrated into a smaller selection of more mature businesses. China alone has a large impact, with many hardware centric startups that have raised significant rounds in satellite manufacturing, launch and satellite constellations.

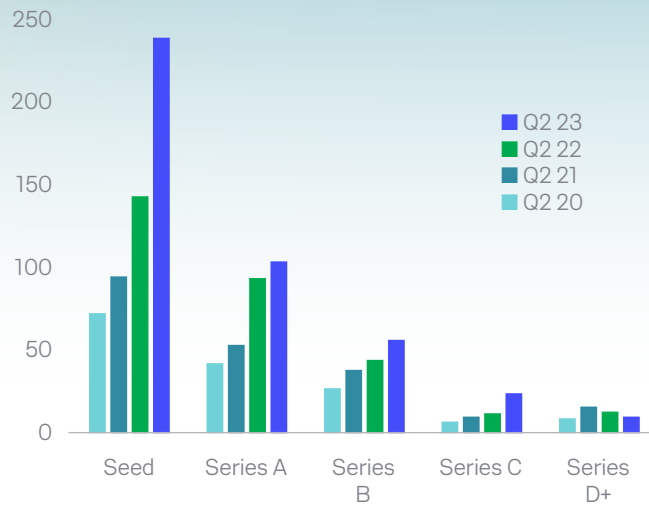
US vs. RoW Investment Activity (LTM)



Typically US investment alone exceeds all investment into other geographies combined. The most recent TTM period shows a reversal of this trend, with ROW investment exceeding US investment. While ROW investment saw a 26% retraction in investment from the previous TTM Period, the US experienced a more significant 65% retraction.

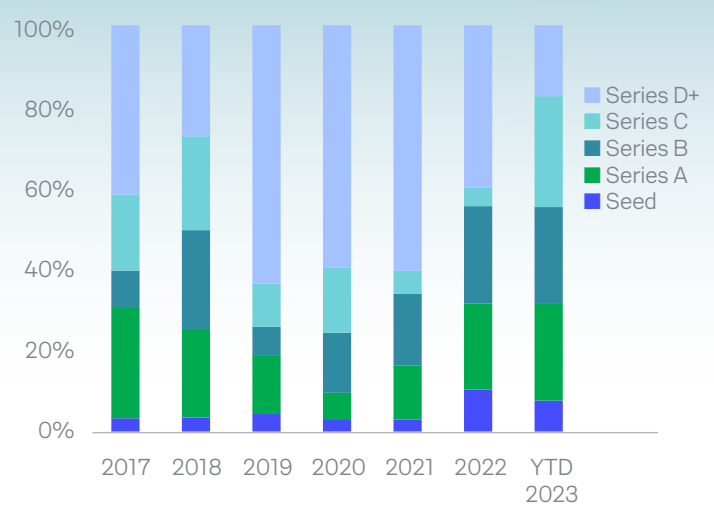
While this appears to be bad news for the US, the hidden recent trend is that US investment appears to already be recovering, with consecutive quarters of growth in investment, increasing 72% from \$421m in Q1, to \$724m in Q2.

No. Deals TTM (Q2 2023)



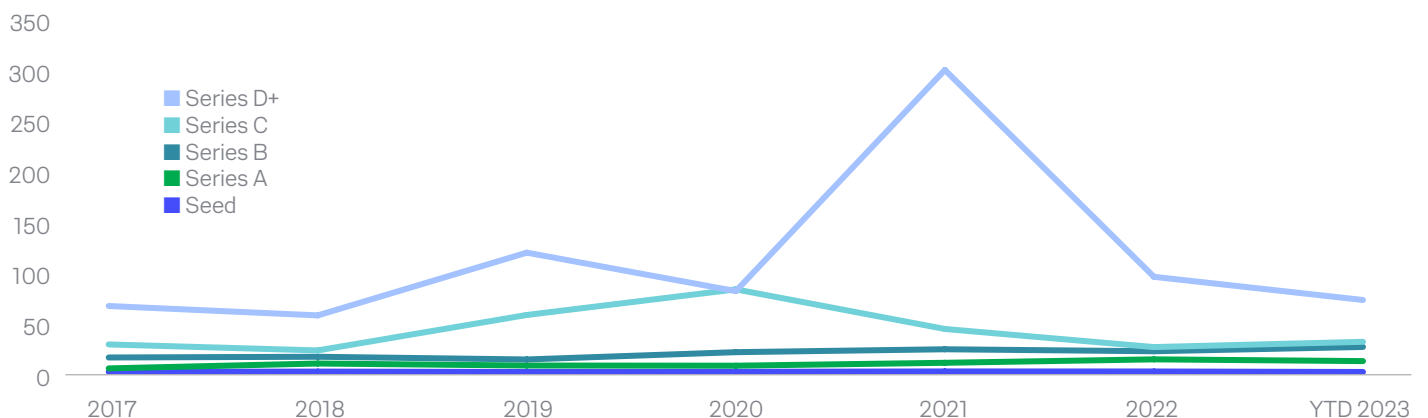
The growth in TTM deals has been primarily driven by pre-seed and seed deals, which saw an almost 55% increase year on year. Meanwhile, deals at growth stages have largely fallen or plateaued. Clearly, founders of new companies have not been discouraged by recent economic dynamics and are continuing to found new space startups.

\$ Invested By Stage (%)



The proportion of investment in Series D+ rounds has significantly reduced since 2021 due to the absence of megarounds like SpaceX, OneWeb and Sierra Space. However, YTD 2023 saw Series C deals experience a notable uptick. This was largely driven by two c.\$90m rounds into Kepler Communications (a Canadian RF and optical constellation for Internet in space) and CAS Space (a Chinese reusable rocket company). The size of these deals bucks the trend of recent quarters where such capex-heavy companies have typically raised smaller rounds. It may point to a resurgence in investor confidence in these areas, particularly in China, which has typically been one of the more resilient geographies in SpaceTech.

Median Deal Size (\$m)



Median deal sizes have continued to fall from highs in 2021. However, in YTD 2023, Series B and Series C median deal sizes have seen a slight recovery. At these stages, companies have typically validated their technology and are seeing early revenues from customers and can thus point to more validated growth plans. Given broader macroeconomic trends, investors have experienced a flight to quality and return to basics – strong revenues, cash flows, and future profitability outlook. Separately, while we usually see such

downstream companies more resilient in downturns, it's worth highlighting that 4 of the 14 Series B and C deals this quarter were for Beyond Earth companies: Fleet Space, Sierra Space, GITAI and Varda. Even in a downturn, the risk-reward calculation makes sense with the potentially multi-\$bn markets that these companies aim to address (space exploration, infrastructure, and resource exploitation).

Announced & Completed Space SPAC Deals

SPAC valuations remain suppressed, trading significantly below their valuations upon listing. We have seen that a lot of space SPACs have been struggling since listing as markets become more conservative and risk-averse compared to when the majority of listings happened in 2021. Many SPACs have also missed their revenue targets which has fuelled concerns around future profitability. Companies such as Momentus have seen their share price impacted in the first quarter of this year, in spite of them reporting a few positive stories such as successful test-fires of their thrusters, and winning a contract to deliver 9 IoT satellites for Apogee Space. However, they have consistently reported low revenues and cash, and have received a "going concern" warning from the SEC. Planet stock fell almost 26% at one point in the quarter as they lowered their annual revenue guidance due to slower than expected sales growth, however are still expecting c.\$230m in revenues for the current fiscal year and expect performance to remain robust driven by global events and awareness of satellite

imagery's wide use cases (Planet has provided extensive imagery to track the Russia-Ukraine war).

Compared to the previous quarter a few of the market caps have recovered, with Blacksky, Rocket Lab, and Intuitive machines above their market cap as of March 2023. Blacksky benefited from a \$30m contract signed this quarter, and Rocket Lab benefited from multiple successful launches in the previous quarter as well as strong reported Q1 results, signalling ongoing operational and financial health of the business.

World View, a stratospheric balloon tourism company, announced plans to go public via SPAC by Q2 2023, however this has not occurred yet, and there is sure to be much scrutiny around this transaction given the recent performance of space SPACs.

COMPANY	COMPLETION	REGION	SPAC SPONSOR / EXCHANGE	DATA LIFECYCLE / SUB CATEGORY	AMOUNT	PRO FORMA EV	SHARE PRICE PERFORMANCE 1 YEAR	SHARE PRICE PERFORMANCE 6 MONTHS	SHARE PRICE PERFORMANCE 3 MONTHS	MARKET CAP 30/6/23
Virgin Galactic	Oct-19	US	\$SPCE / NYSE	Beyond Earth / Space Exploration	\$450m	\$2300	-36%	11%	-4%	\$1096.4m
Momentus	Aug-21	US	\$SRAC / Nasdaq	Launch / Space Tugs	\$247m	\$567m	-85%	-60%	-43%	\$27.7m
AST&Science	Mar-21	US	\$NPA / Nasdaq	Platform / Satcoms	\$462m	\$1400m	-25%	-2%	-27%	\$960.2m
Astra	Jul-21	US	\$HOL / Nasdaq	Launch / Rockets	\$500m	\$2100m	-72%	-15%	-24%	\$100.2m
Spire	Aug-21	US	\$NSH / NYSE	Platform / Earth Observation	\$265m	\$1600m	-56%	-46%	-20%	\$86.9m
BlackSky	Sep-21	US	\$SFTW / NYSE	Platform / Earth Observation	\$283m	\$1100m	-4%	44%	57%	\$299.6m
Rocket Lab	Aug-21	US	\$VACQ / Nasdaq	Launch / Rockets	\$777m	\$4800m	58%	59%	52%	\$2862.4m
Redwire	Sep-21	US	\$GNPK / NYSE	Beyond Earth / Space Infrastructure	\$170m	\$620m	-16%	29%	-7%	\$168.2m
ArQit	Sep-21	UK	\$CENH / Nasdaq	Platform / Satcoms	\$115m	\$1100m	-81%	-66%	-8%	\$172.2m
Planet	Dec-21	US	\$DMYQ / NYSE	Platform / Earth Observation	\$590m	\$2400m	-26%	-26%	-10%	\$850.2m
Satelloptic	Jan-22	S. America	\$CFV / Nasdaq	Platform / Earth Observation	\$262m	\$780m	-52%	-36%	-11%	\$171.5m
Virgin Orbit	Dec-21	UK	\$NGCAO / Nasdaq	Launch / Rockets	\$228m	\$3200m	-99%	-98%	-91%	\$15.7m
Terran Orbital	Mar-22	US	\$TWNT / NYSE	Build / Satellite Manufacturers	\$255m	\$1600m	-67%	-5%	-9%	\$213.3m
Satixy	Oct-22	Europe	\$EDNC / Nasdaq	Build / Space Hardware	\$229m	\$365m	N/A	-95%	-42%	\$33.1m
Intuitive Machines	Feb-23	US	\$IPAXU / Nasdaq	Beyond Earth / Space Exploration	\$81m	\$566m	N/A	-18%	-24%	\$706.5m
World View	Q2-23	US	\$LHC / Nasdaq	Beyond Earth / Space Exploration	\$121m	\$350m	N/A	N/A	N/A	N/A

ANGEL PLATFORM + ACCELERATOR + VC FUNDS + RESEARCH

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.



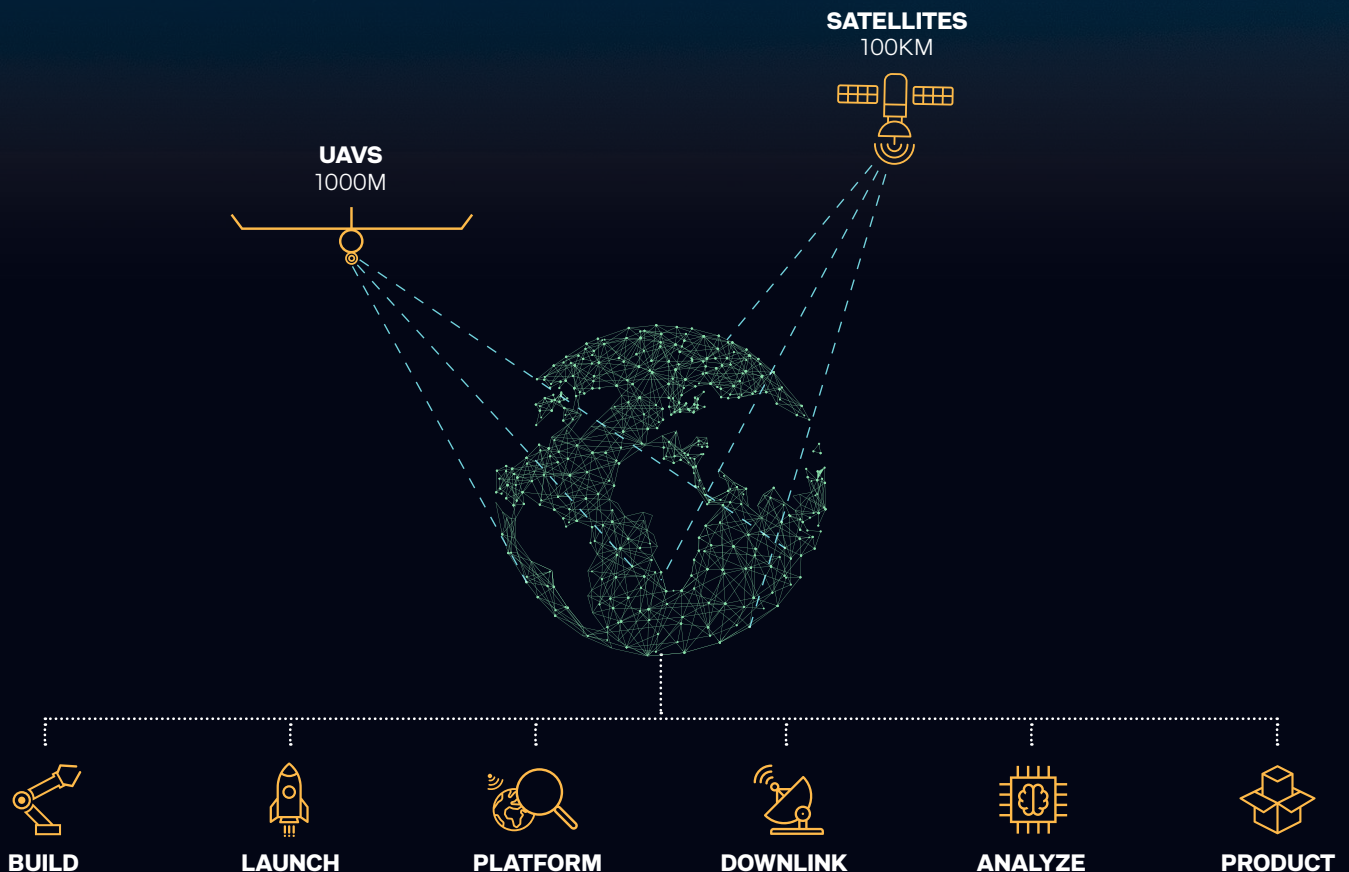
Mark Boggett
CEO



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 & 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 not include personal investment that the likes of Jeff Bezos may make in their own space initiatives.

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.



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



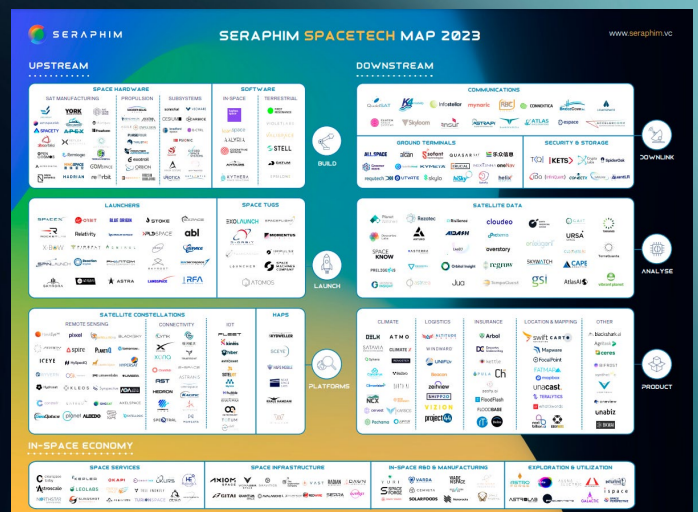
ANALYZE

- 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

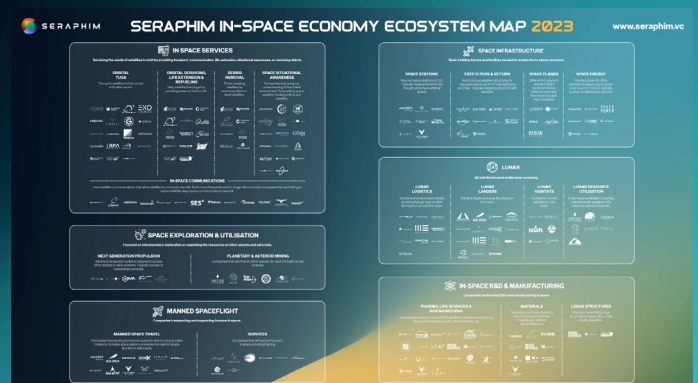


IN-SPACE ECONOMY ECOSYSTEM MAP

Global VC backed emerging leaders per category.



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IN-SPACE ECONOMY MAP

Global VC backed companies providing services in space.



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