

VENTURE CAPITAL INDEX

SERAPHIM SPACETECH

Q1 2022



SERAPHIM

SpaceTech investment remains on a growing trajectory. Private investment in SpaceTech reached \$12.7bn in the 12 months to Q1 22, exceeding Full Year 2021 at \$12.1bn.

Deal volume remains largely similar to the previous quarter, with 128 deals completed in Q4 22, and 127 in Q1.

The last 12 months have seen a total of 435 venture deals, 50% (219) of those into US Companies, 25% European, 20% Asia, and the remaining 5% ROW. These proportions remain consistent with the spread in previous years & quarters.

As expected, the largest deals were weighted toward more capital intensive businesses in the upstream. 9 of the top 10 deals in Q1 were in the Upstream; Build, Launch, Beyond Earth & Platform categories. Overall, the majority of investment was concentrated within the upstream segment, particularly in the larger funding rounds. The top 10 deals of the quarter accounting for 58% of the investment, with only 1 in the downstream segment.

Space tourism continues to capture investor interest. Virgin Galactic raised the second largest private Spacetechnology round of the quarter, at \$425m. Despite being publicly traded, Virgin Galactic turned toward the private sector using a convertible note to raise the funding required to capitalize the business toward the first fully commercial missions.

Q1 saw a slowdown in the trend of space-related public market listings, given the shifting market conditions & reception of SPACs. As such, only one new space SPAC was announced (D-Orbit), while one SPAC was aborted (Tomorrow.io) due to unfavorable market conditions.

Highlights

\$12.7BN

invested in last 12 months

\$3.2BN

invested in Q1 (\$4.5bn in Q4 21)

127

deals closed in Q1 (128 Q4 21)

386

on Seraphim Index

\$450M

biggest deal closed in Q1 (Wisk Aero)

\$31M

average deal size in Q1 22 (vs. \$43m Q4 21)

1

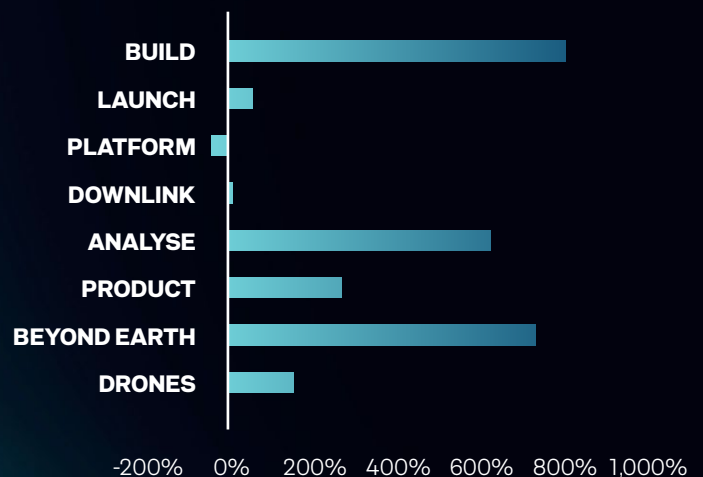
space-related SPAC announced (vs 2 in Q4 21)

\$185M

funding committed to the SPAC merger

COVID-19 Impact:

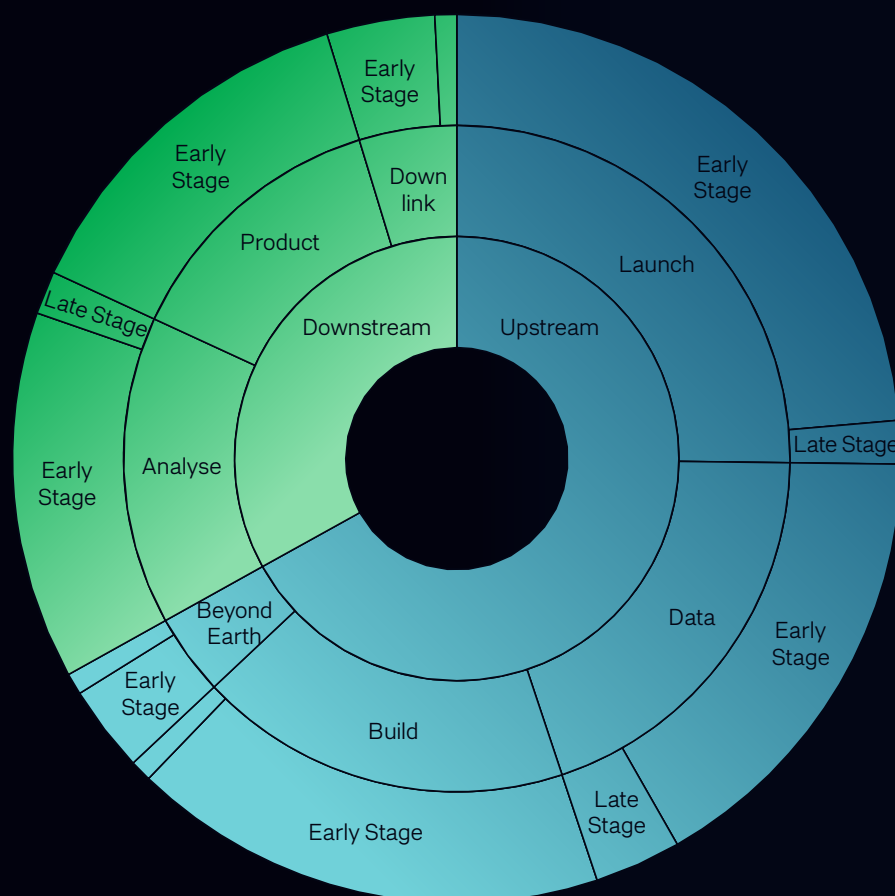
Year to Q1 22 vs. Q1 21 (% Change)



Contrary to many expectations, the space sector showed resilience through the impact of COVID-19. YoY, all sectors continue to show varying levels of growth, with the exception of the Platforms category. This may be an indication of the growing maturity of the category.

This quarter saw significant growth in the Analyse category, suggesting that funding may be opening up to the analytics, insights & products that can be built using data gathered from the platforms segment of the space value chain.

Q1 2022 DEALS ACTIVITY (# DEALS)



Q1 2022 saw a near record number of transactions at 127, second only to Q4 2021 with 128 transactions.

The Downstream segment (Light blue) grew to account for 33% of Q1 deals, up from 31% in the previous quarter.

Early stage transactions (seed through to Series B) accounted for the majority of total deal volume at 91%. This is a modest increase from Q4 at 88%.

Launch & Build remain the segments with greatest deal activity. Product saw itself replaced Data as the 3rd largest category, resulting in all 3 experiencing the highest deal activity being upstream categories.

The volume of Later stage transactions (C series and later) remained in the recent typical range at 11, with 15 in Q4 & 10 in Q3.

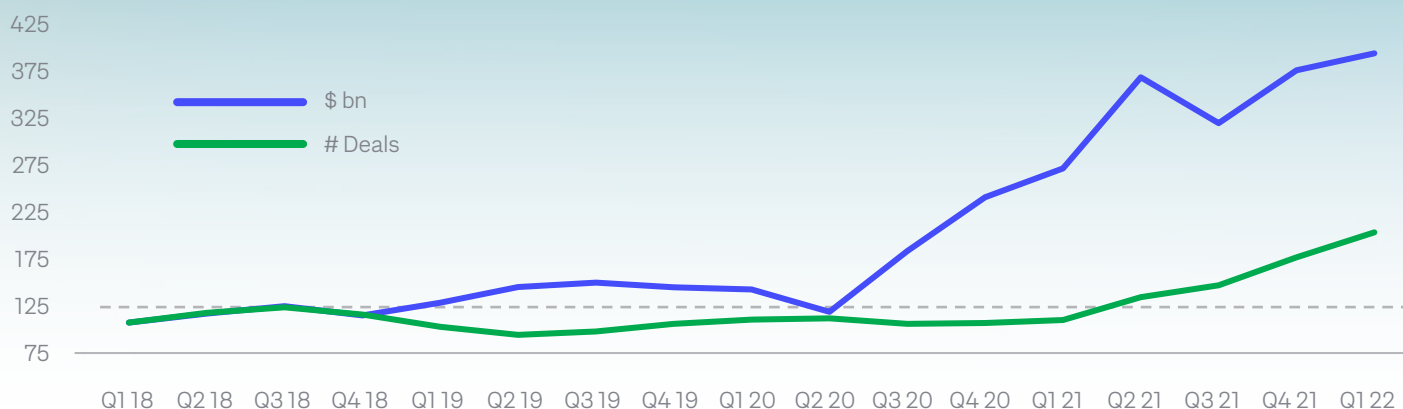
Q1 2022 Top Deals

Overall, the top 10 deals in Q1 attracted 58% of the total funding for the quarter. As with previous quarters, SpaceTech remains a geographically diverse sector, with representation from North America, Europe & Asia in the top 10 deals of the quarter. Q1 22 saw the Build & Launch categories account for six of the top ten deals of the quarter. This is in line with the increased activity in both categories; each experiencing above average transaction volumes. Top investment remains concentrated amongst the upstream, with the exception of Descartes Underwriting. We anticipate a gradual shift

towards greater investment in downstream analytics & applications as these companies leverage the new capabilities & novel datasets provided by the recent activity in the Upstream segment. In previous quarters, we have noted that the Mega Constellations (SpaceX, OneWeb etc.) are accounting for a reducing proportion of investment into Spacetechnology. This quarter investment in the sector remain high despite no representation of these constellations, showing that interest in SpaceTech is not limited to the few highest profile players in the industry.

COMPANY	COUNTRY	DATA LIFECYCLE	SUB CATEGORY	STAGE	AMOUNT (\$m)
Wisk Aero	US	Launch	Flight & Delivery	Series D	450
Virgin Galactic	US	Beyond Earth	Space Exploration	Series D	425
Galactic Energy Aerospace	China	Launch	Launchers	Series B	201
Volocopter	Germany	Launch	Flight & Delivery	Series E	170
Aerospace Science & Eng.	China	Build	Space Hardware	Series A	126
Descartes Underwriting	France	Product	Data Platforms	Series B	120
Iceye	Finland	Data	Satellites - Earth Observation	Series D	111
Celestia Aerospace	Spain	Build	Space Hardware	Seed	105
Synspective	Japan	Platforms	Satellites - Earth Observation	Series	100
Hadrian	US	Build	Space Hardware	Series A	90

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



The Seraphim Space Index is a barometer of the investment activity within the space sector, showing the global volume and value of venture capital deals within the Space sector on a 12 month trailing basis, indexed against Q1 2018.

Q1 investment saw a continuation in the growth of the index to record levels. As of Q1, the index value stands at 386, a 25 points increase from the Q4 value of 368.

Deal volume has shown a steady growth trajectory since Q4 2020. This increase spurred on by a record setting Q4 21 with 128 deals, and a similarly impressive 127 deals in Q1 22. Both remain materially above historic quarterly averages.

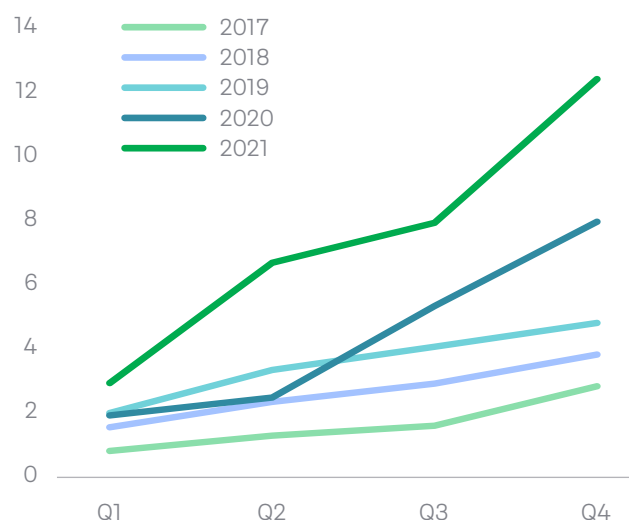
These figures show that the level of activity in New Space continues on a strong path, with continued appetite from investors to gain exposure to the space sector.

Seraphim Quarterly Investment Tracker (\$bn Invested)



Q1 22 saw a decrease in overall global private investment into space tech from \$4.5Bn in Q4 21, to \$3.3Bn in Q1 22. However the trailing 12 months reached a record high \$12.7Bn, exceeding the prior quarter by \$600m.

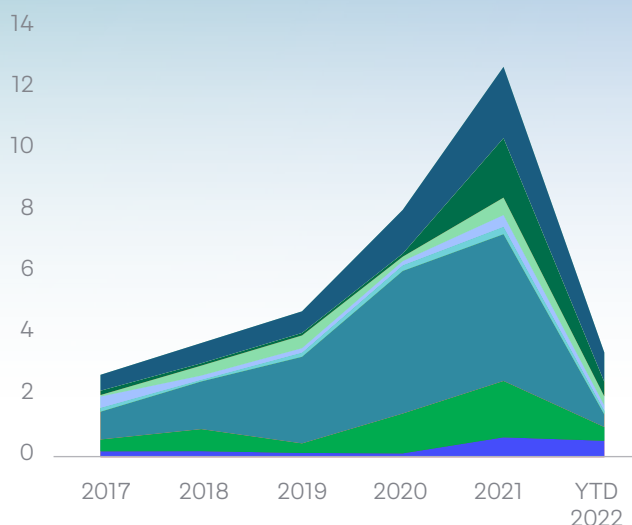
Seraphim Annual Investment Tracker (\$bn Invested)



2022 appears to be set for another record breaking year of investment within the space tech sector. The year kicks off with record Q1 investment of \$3.3Bn, a 22% increase over Q1 2021.

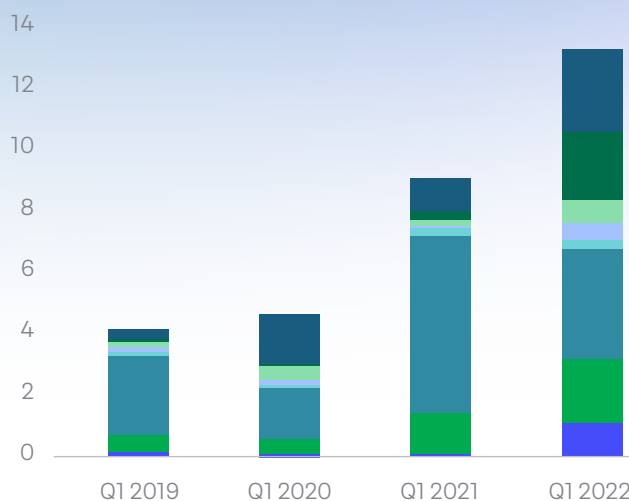


Annual Investment (\$bn)



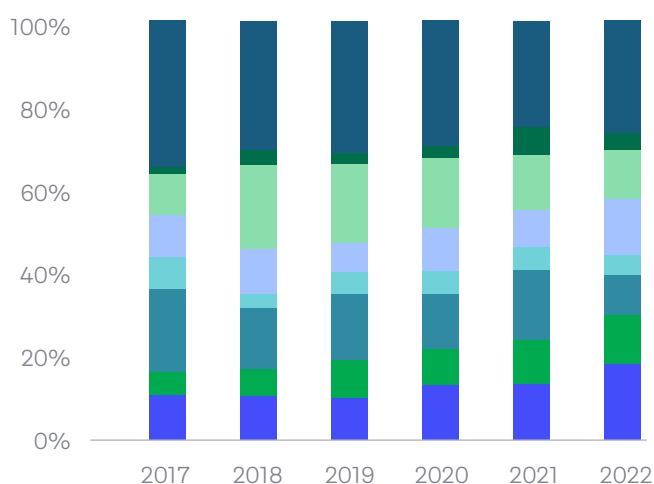
The build category captured an increasing proportion of total SpaceTech investment; from 5% in 2021 to 16% in Q1 22. The category is primed for a record year, receiving \$507m of investment in Q1 22, compared to \$615m throughout 2021. Despite remaining the smallest category by investment, downlink is also set for a record year with \$120m of investment in Q1 22. The category now captures 3.7% of total investment, up from 1.9% in 21. The share of investment attributed to the Platform category decreased from 38% in 2021, to 12% in Q1 22.

Last 12 Months Investment (\$bn)



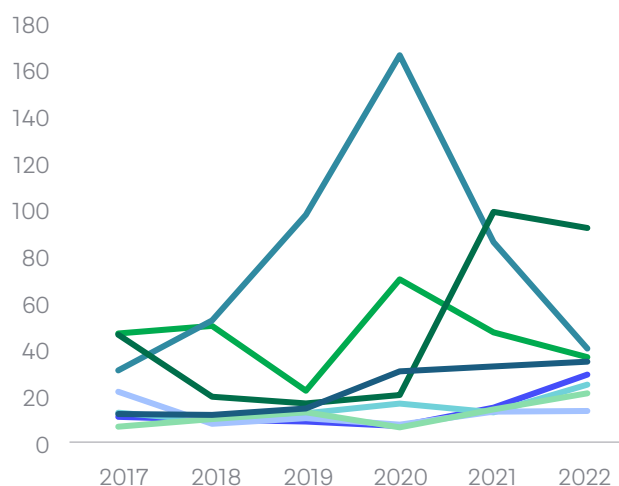
The Build, beyond earth category & Analyse categories each grew by 890%, 820% & 710% respectively in the 12 month period to Q1 22. Platform saw a 38% decrease from the previous 12 month period, potentially reflective of how the most progressed constellations are well capitalised following mega rounds & SPAC mergers in 2021 (e.g. Satellogic, Spire, Arqit, AST).

Number of Deals



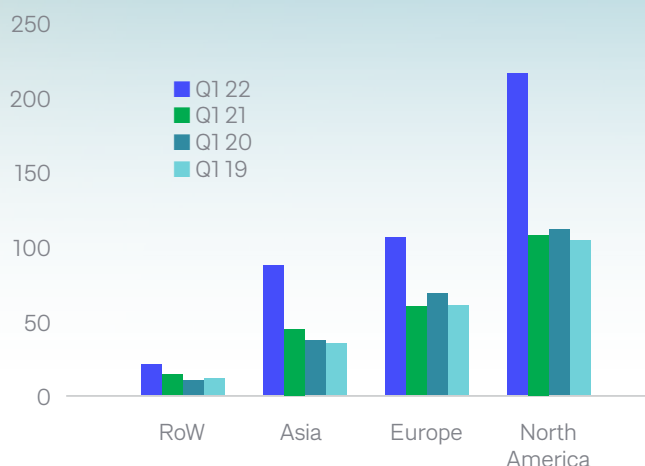
The proportion of deals by data lifecycle has remained largely consistent. The build category has seen a modest increase in recent years and currently accounts for 18% of overall deal volume. Overall, interest in the sector has remained high following another quarter of substantial deal volume.

Average Deal Size (\$m)



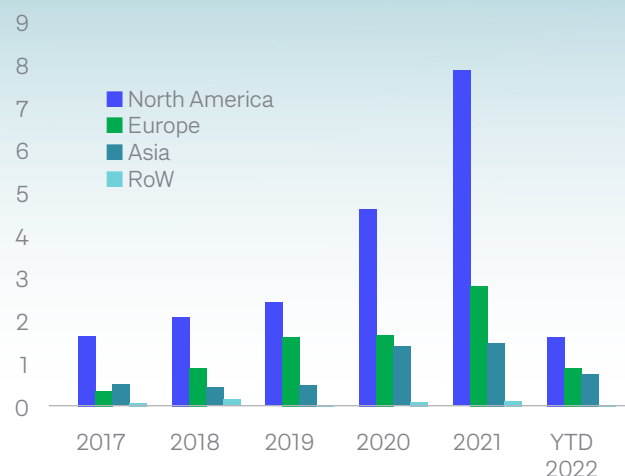
Average deal size remained largely consistent across Beyond Earth, Drones & Analyse from 2021 into 2022. Launch & Collect experienced a notable decrease in deal size of 23% & 54% respectively from 2021. Build, Downlink & product saw average deal size increase by between 50% & 100%.

No. Deals Last 12 Months Investment



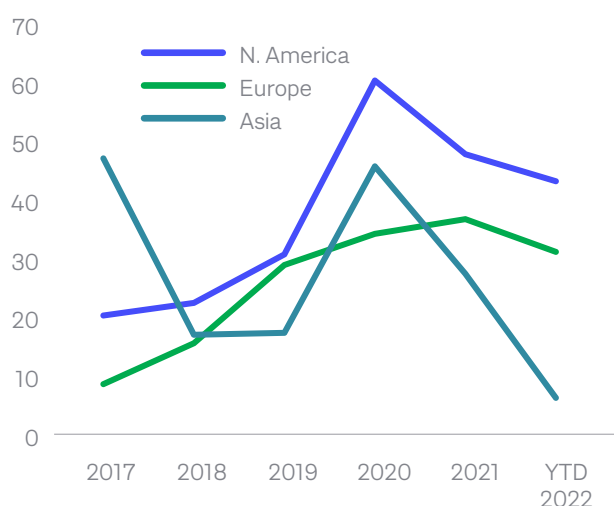
Deal volumes across the world have once again surpassed all previous years across all regions. Deal volumes in Q1 2022 broke Q4 2021's LTM record of 376, reaching a total 435 deals – an increase of 16%.

Investment By Region (\$bn)



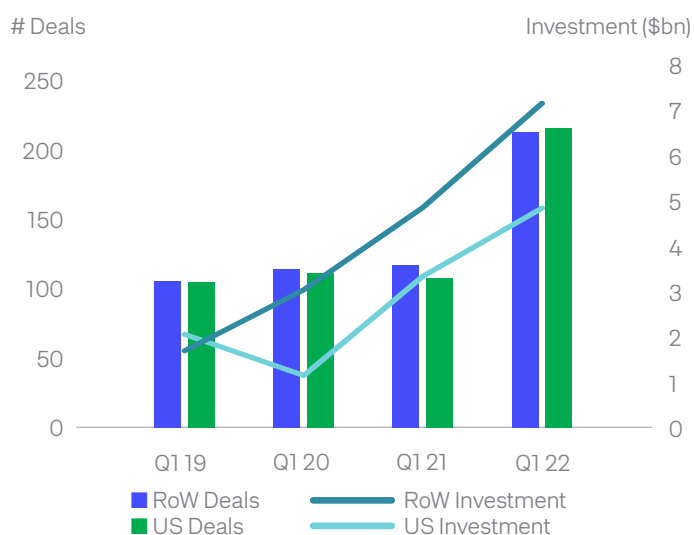
Following a consistent trend over the last 5 years, North America continues to attract the majority space investment. The first quarter of 2022 has seen notable deal volumes, similar to those seen during the entirety of 2017 or 2018, indicating continued interest in space investment.

Average Deal Size By Region (\$m)



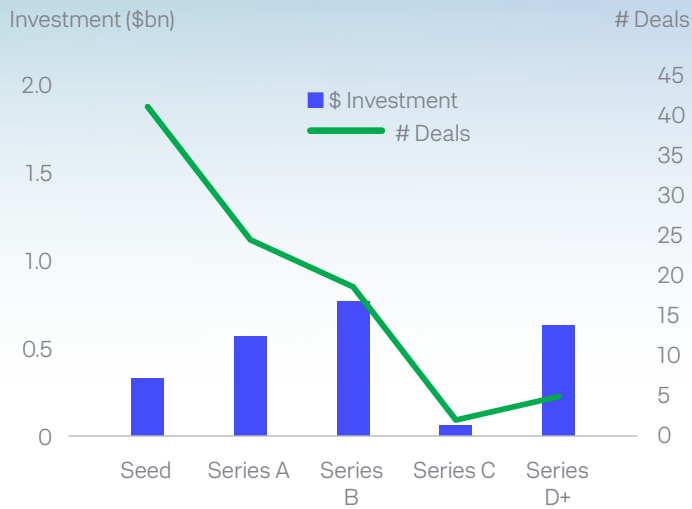
North America maintains the largest average deal size, despite a reduction in average deal size compared to 2020 and 2021. Meanwhile Europe also saw a slight dip in average deal size, reversing a trend seen in the previous 5 years. Lower deal volumes in Asia were also observed.

US vs. RoW Investment Activity (LTM)



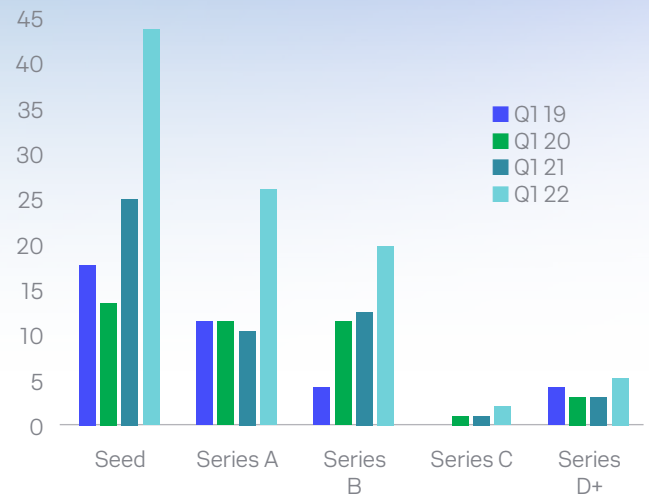
In 2021, the US and RoW shared record deal volume evenly. US investment reached \$7.6Bn and RoW up to \$5.1Bn. The US now accounts for 60% of the global space investment, down from 62% in 2021.

Deals in Q1 2022



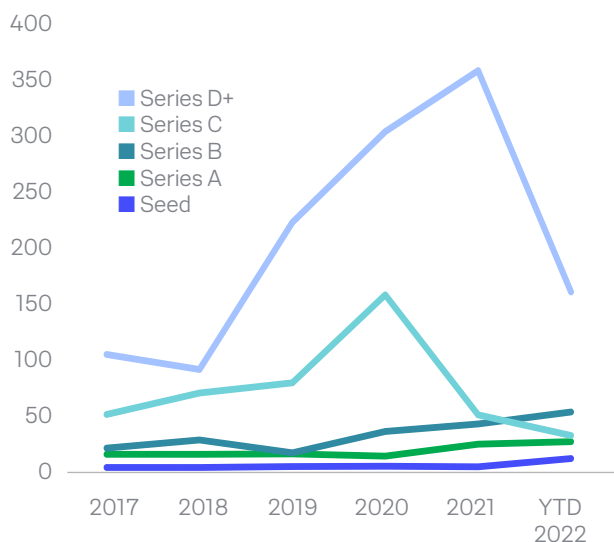
The distribution in the number of deals remains similar across all investment stages as compared with Q3, with the majority of deal volume at Seed and Series A. The total investment for Q1 2022 in Seed rounds was 3X higher versus Q4, in Series A was c.50% higher, and in Series B was c.35% higher. On the other hand, investment at Series C and Series D+ rounds dropped by c.70-85% versus Q4, due to mega-deals seen at the end of last year.

No. Deals YTD (Q1 2022)



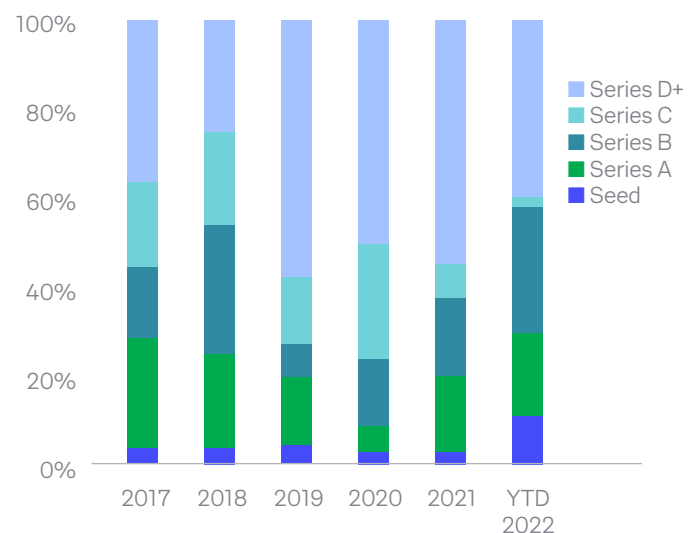
In the 12 months to Q1 2022, the number of deals eclipsed those from the same period in previous years across all stages. There were a total of 93 deals in Q1 2022 vs. 50 in Q1 2021.

Average Deal Size (\$m)



Average deal sizes in Q1 2022 were broadly consistent with previous years for Series A to Series C, but there was an almost 4X increase in Seed average deal size, likely due to an outsized €100m investment in Celestia Aerospace. Furthermore, Series D average deal size fell by more than half vs 2021, likely due to Sierra Space's outsized investment round last year.

\$ Invested By Stage (\$bn)



Series D remains the largest stage of investment in Q1 2022, albeit falling from 55% of total deals to 40%. Investment in Series C rounds fell to just 2%, while there were modest increases in portion of investment into Seed to Series B rounds.

Trailing 12 Months Announced & Completed Space SPAC Deals

Favourable market conditions, strong public interest & companies requiring access to significant capital for hardware/R&D intensive projects has maintained a steady stream of SPACs emerging throughout 2021. However, there has been a significant slowdown in activity towards the end of 2021 and following through to Q1 of 2022.

Q1 saw just one business announcing intentions to merge with a SPAC – D-Orbit, while Tomorrow.io decided not to go ahead with their SPAC merger, citing market conditions and preferring to raise a private round instead.

ANNOUNCED	COMPANY	REGION	SPAC SPONSOR / EXCHANGE	DATA LIFECYCLE / SUB CATEGORY	AMOUNT	PRO FORMA EV	ESTIMATED CLOSE DATE
May 21	ArQit	UK	\$CENH / Nasdaq	Platform / Satcoms	\$223m	\$1.4bn	Listed
June 21	Vertical	UK	\$BSN / NYSE	Launch / Flight & Delivery	\$300m	\$1.8bn	Listed
Jul 21	Planet	US	\$DMYQ / NYSE	Platform / Earth Observation	\$590m	\$2.3bn	Listed
Jul 21	Satellogic	S. America	\$CFV / Nasdaq	Platform / Earth Observation	\$262m	\$1.1bn	Listed
Aug 21	Virgin Orbit	UK	\$NGCA.O / Nasdaq	Launch / Rockets	\$228m	\$3bn	Listed
Oct 21	Terran Orbital	US	\$TWNT / NYSE	Build / Satellite Manufacturers	\$324m*	\$1.6bn	Listed
Dec 21	Tomorrow.io	US	\$PTOC / Nasdaq	Product / Data Platforms	\$420m*	\$1.2bn	Cancelled
Dec 21	Eve	S. America	\$ZNTE / Nasdaq	Launch / Flight & Delivery	\$512m*	\$2.4bn	Q2 22
Jan 22	D-Orbit	Italy	\$BREZ / Nasdaq	Launch / Space Tugs	\$185m	\$1.3bn	Q3 22

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.



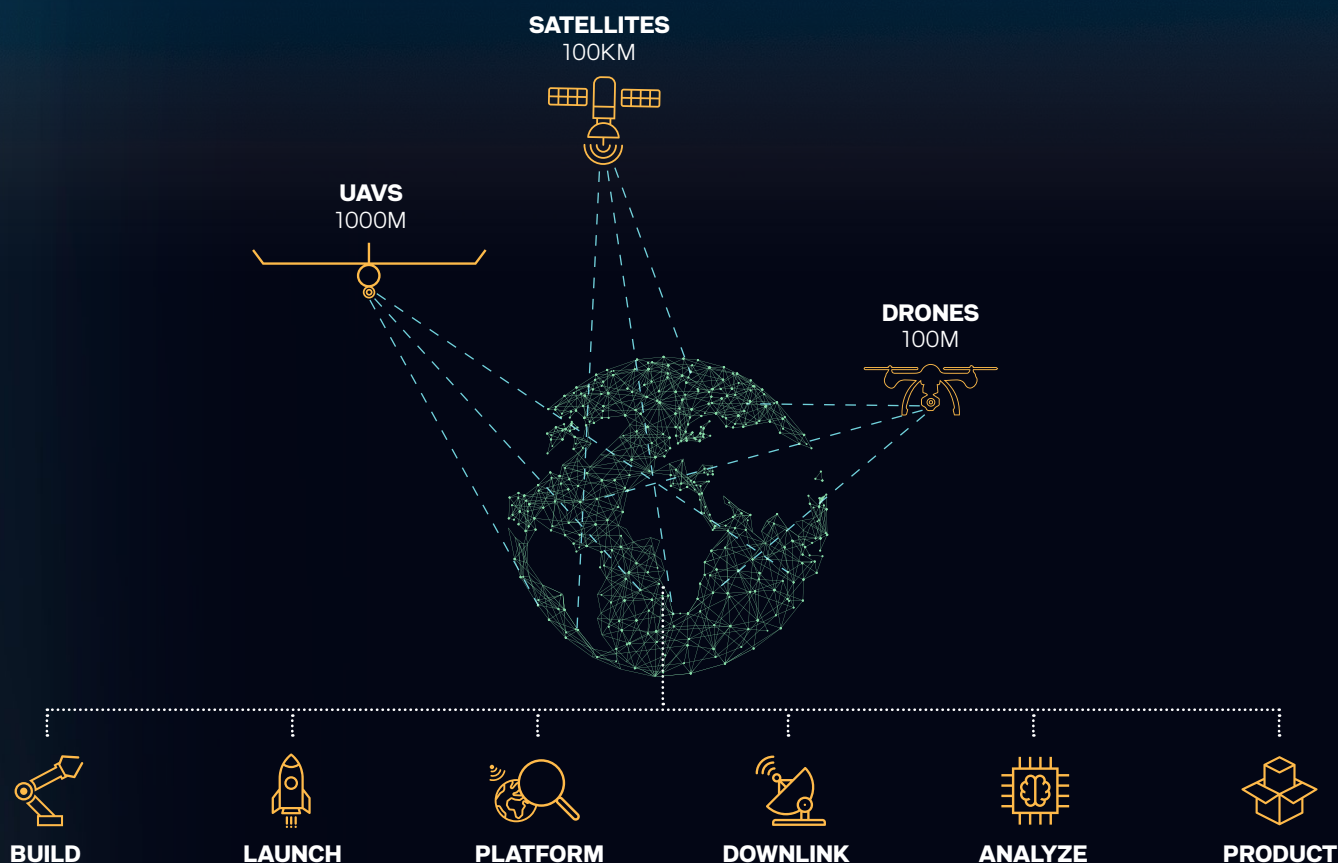
Mark Boggett
CEO



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 50 of the world's leading SpaceTech start-ups.

Fund



Accelerator



Seraphim News

[Seraphim Space Investment Trust lines up more deals as portfolio remains on steady orbit](#)

[Former Virgin group senior partner Patrick McCall joins Seraphim's investment team](#)

[Dr Maureen Haverty joins Seraphim as Vice President](#)

[Seraphim Space appoints new COO Sarah Shackleton](#)

[3 Seraphim portfolio companies make the Fast Company most innovative](#)

[D-Orbit announces an important step in its quest to create sustainable space logistics infrastructure](#)

[SpaceX rocket Falcon 9 launched including satellites from three Seraphim portfolio companies](#)

[Astroscale US and Orbit Fab sign first on-orbit satellite fuel sale agreement](#)

[Seraphim Space Investment Trust's \\$12.5m investment in Astroscale](#)

[D-orbit valued at \\$1.28Bn in SPAC deal](#)

[Seraphim Space Predictions 2022](#)

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 Spacetechnology. Key periodic research we publish includes our widely recognised SpaceTech Ecosystem and Smallsat Constellation market maps.



BUILD

- Building & selling satellites, drones, 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
- Deliver (i.e. air taxis, drone delivery)



PLATFORM

- Any data collection / space platform (i.e. smallsat, drone, 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



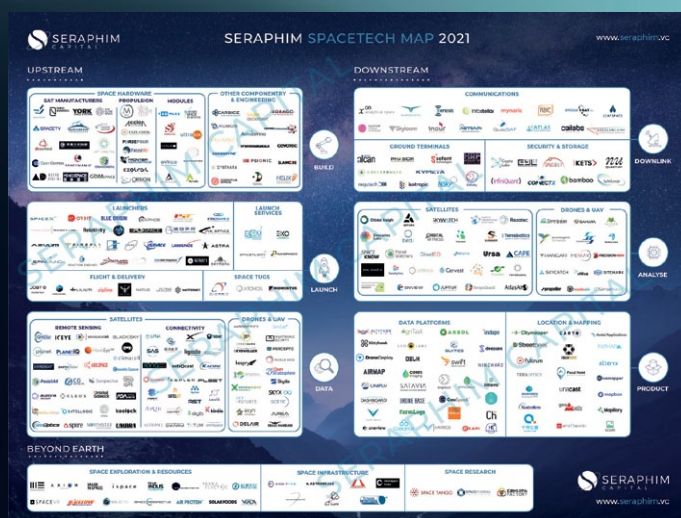
ANALYZE

- 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

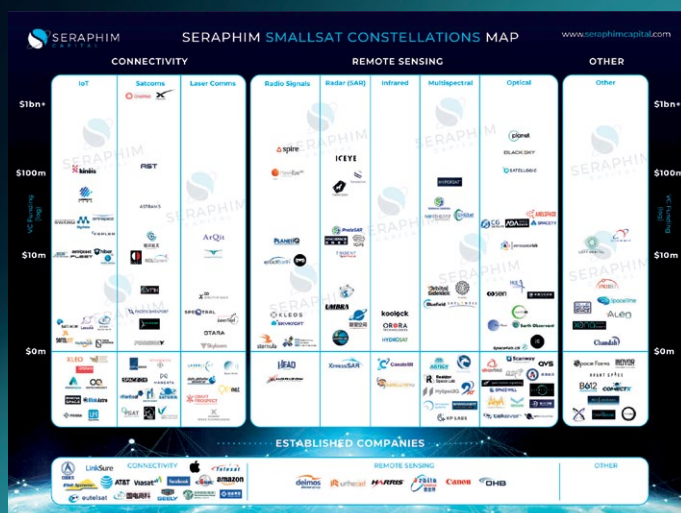


SPACE TECH MAP

Global VC backed emerging leaders per category



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SMALLSAT CONSTELLATION MAP

Global VC backed companies across categories



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