



# SpaceTech Industry 2021

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## Year Overview

January 2022

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**SpaceTech Industry Year 2021 Overview** summarizes key observations in the SpaceTech ecosystem, a rapidly evolving and exponentially growing industry, and its development in 2021. In this case study, we have assembled information about key industry trends based on our database of more than **12,000 companies, 4,000 investors, and 170+ publicly traded corporations** from the SpaceTech Industry.

The year 2021 can become a **turning point**, a moment of the global shift of the whole industry when it actively started to **democratize** and the space became more affordable not for investors only but for laymen too. The space business has even developed its own market index and specialized research sources. As it becomes ever more integrated into our daily lives, it creates numerous **opportunities** to participate for diversified investors. This study pays particular attention to space-related companies relying on AI, DeepTech, and Longevity. We also highlight the **most prominent space events, top deals, and events of 2021**. SpaceTech has huge economic potential and has already resulted in the emergence of goods and services that have become an integral part of our existence.

# SPACETECH ANALYTICS METHODOLOGY

## Database

Identification of relevant:

- Companies
- Investors
- Hubs
- Universities and Research Centers
- Government Ministries, Departments, and Agencies
- Space Associations

## Applied Research & Analytics Methods

Descriptive  
Analysis

Mixed Data  
Research

Exploratory Data  
Analysis

Comparative  
Analysis

Qualitative Data  
Collection

Data Filtering

## Data Sources\*

Media Overview  
(Articles, Press Releases)

Industry-Specialized  
Databases

Publicly Available Sources  
(Websites)

Industry Reports and  
Reviews

Interviews with Industry  
Leaders

Relying on various research methods and analytics techniques, this report provides a comprehensive overview of the space industry. This approach has certain limitations, especially when it comes to leveraging publicly available data sources and secondary research. SpaceTech Analytics is not responsible for the quality of the secondary data presented herein; however, we do our best to eliminate said risks by using different analytics techniques and cross-checking data. Please note that we did not deliberately exclude certain companies from our analysis. The main reason for their noninclusion was incomplete or missing information in the available sources. Concerning the investors in the main database, we include only institutional investors who have invested into SpaceTech or SpaceTech-related companies. The companies included in the database belong completely to the SpaceTech Industry; that partially belong to it through working with clients from the SpaceTech Industry; or that have separate departments in a SpaceTech company which works in this sector or cooperates with clients from this sector.

# EXECUTIVE SUMMARY

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After over 6 decades of government spaceflight and slow progress on the high frontier, we are at the cusp of a new and exciting era of **commercial space activities** that will soon dwarf those of governments. A huge reduction in the cost of access driven by the commercial efforts is going to decrease the costs of all other space activities and in many cases will allow the creation of new ones that have been long dreamt of but remained unaffordable.

The space economy is currently estimated to be worth about **\$4.5 trillion**, and we expect it to reach **\$10 trillion by 2030**. While it is still largely dominated by huge aerospace and satellite companies serving government-funded interests, private and public companies are increasingly seizing the initiative. The number of IPOs is growing while SPAC deals are becoming a common way to go public.

Since the industry is expanding, a number of new **space-focused investment funds** are appearing. Moreover, prominent large funds have also placed stakes in the industry. Despite a slight decrease after going public, SpaceTech companies continue to dominate competitors from other industries in terms of performance and market expectations.

If 2021 was the year of the **private space tourism**, 2022 could be marked by the first steps toward a return to the moon as NASA and the growing space industry are seeking to maintain the momentum that has been building over the past several years in what could be named a renaissance of exploration.

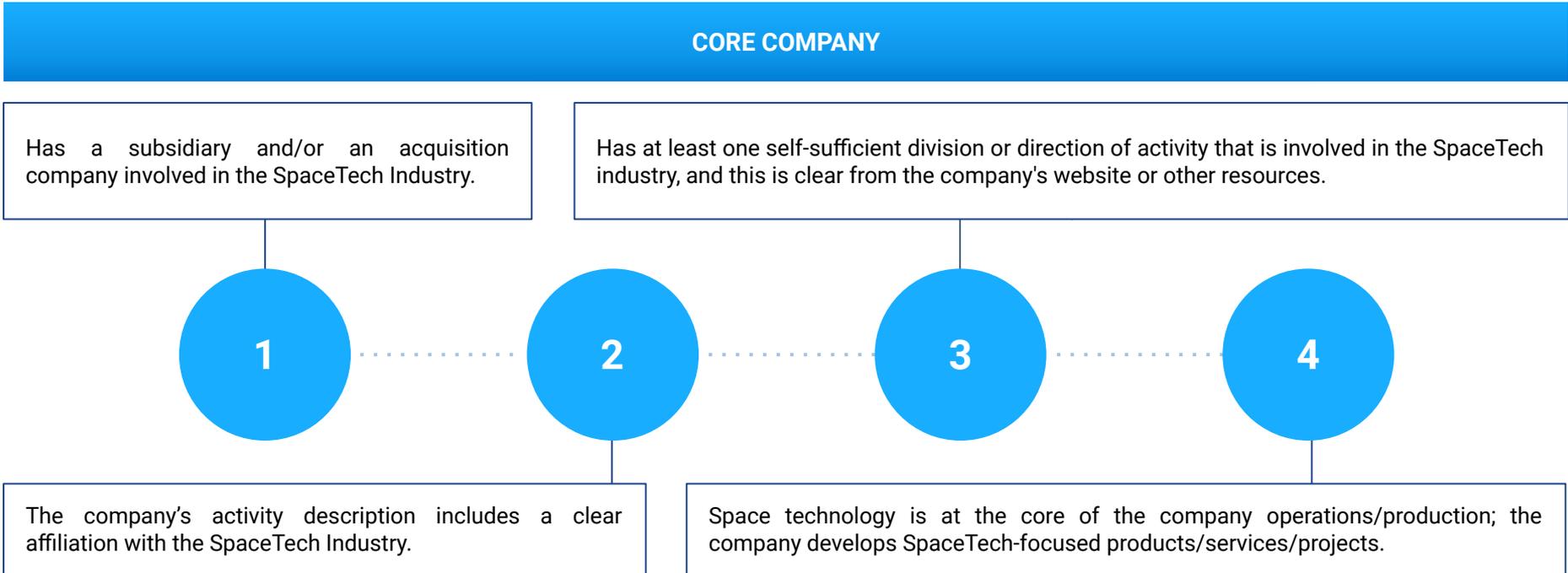
The Space industry has been **resilient despite disruptions** and economic headwinds from COVID-19. Rather than receding, the sector has made tremendous progress in 2021, successfully completing historic missions to Mars and the first purely commercial orbital human spaceflight.

As this report will show, the **future of space**, after the decades of only aspirations and dreams, fueled by the pursuit of new frontiers, has never been brighter.



# SPACETECH ANALYTICS METHODOLOGY

The analysis includes more than 12,000 SpaceTech companies that were chosen according to the original methodology. All the entities that were analyzed for the SpaceTech Industry Landscape Overview were divided into three main categories – Core Companies, Verge Companies, and Space-Applied Businesses, according to the following criteria:



# SPACETECH ANALYTICS METHODOLOGY

All analyzed companies were selected by manual and automated search from open web sources. The further sorting of the database was executed both manually and with the use of algorithms. The methodology may contain a slight inaccuracy due to the partially manual construction of the database.

## VERGE COMPANY

1

The company did not specify clearly the industries and customers, but its products and services could potentially be applied in the SpaceTech Industry. The company operates in the general categories of Aerospace, Telecommunication, Defense, Navigation, and/or some other related categories. Some combination of these factors allows us to assume that the company is space-related.

2

Has space technologies but not as a core technology or a core department.

3

One of the company's products is used in aerospace; it has products related to satellite communication.

4

SpaceTech is mentioned but not defined as a distinct sector; there is no specific space department.

5

Related through the application of Satellite Communication or other space technologies in their core solutions.

6

The company operates in the Aerospace Industry and has SpaceTech-related partners or buyers/users/suppliers.

7

The company has a SpaceTech-related project or program that recently appeared and might become a self-sufficient entity.

8

The connection to space technology is mentioned in external resources describing the company's activity.

# SPACETECH ANALYTICS METHODOLOGY

The largest share of the database consists of space-related companies. All of the companies included are currently developing technologies that will form the backbone of the rapidly growing Space Industry. Their technologies are at different stages of development, from prototype to first experiments to being placed into orbit or on another planet.

## SPACE-APPLIED BUSINESS

### Drones

Drones as a transportation solution may be used for spacewalk missions, space mining, space assembly, exploration, transportation, etc.

### Nano-technologies

NanoTech, and particularly molecular manufacturing, will be crucial for all advanced activities within the space industry.

### Smart Materials

Smart materials, including multiferroics and piezoelectrics, may significantly improve human viability in space and space settlement capabilities.

### Cybersecurity

With the growing amount of data transferred through space, the need for cybersecurity is becoming ever-more salient.

### Robotics

Robotics will form the main workforce on Earth and become an even more integral part of any space activity.

### Expert systems (AI)

Artificial Intelligence is especially important due to its connectivity to all of the other discussed technologies and to the increasing levels of data involved.

### Additive Manufacturing (3D)

Additive Manufacturing is crucial for providing construction or assembly in a quick, efficient, reliable, and inexpensive manner (on Earth or beyond it).

# SPACETECH ANALYTICS METHODOLOGY



# SpaceTech Market State in 2021

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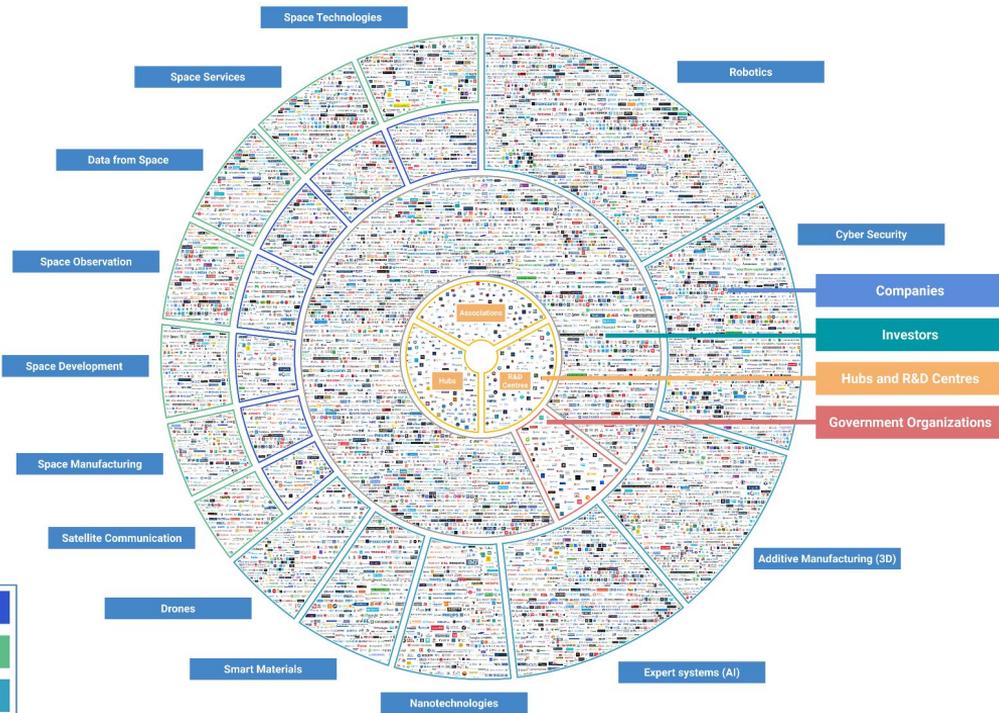
# GLOBAL SPACETECH ECOSYSTEM 2021

12,000 Companies

5,000 Investors

200 R&D Hubs and Associations

140 Government Organizations



USA

Canada

UK

Germany

China

France

India

Israel

Spain

Japan

Australia

Eastern Europe

Singapore

Turkey

Southern America

Ireland

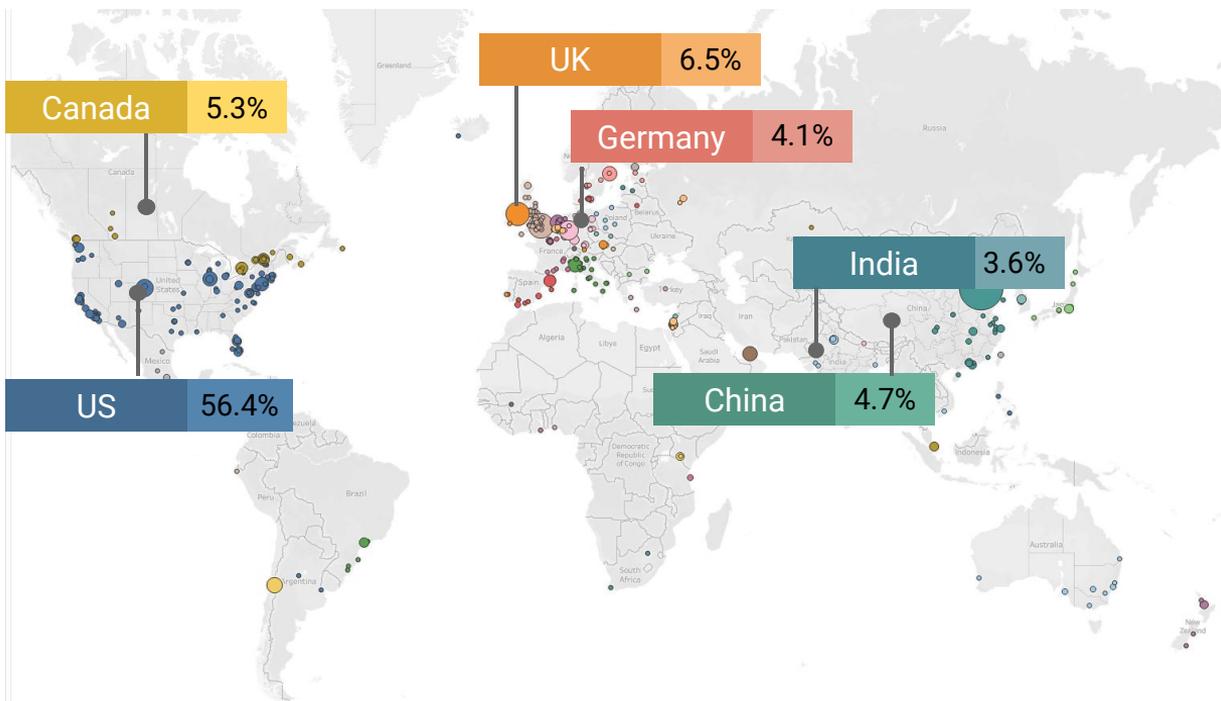
Gulf Region

EU

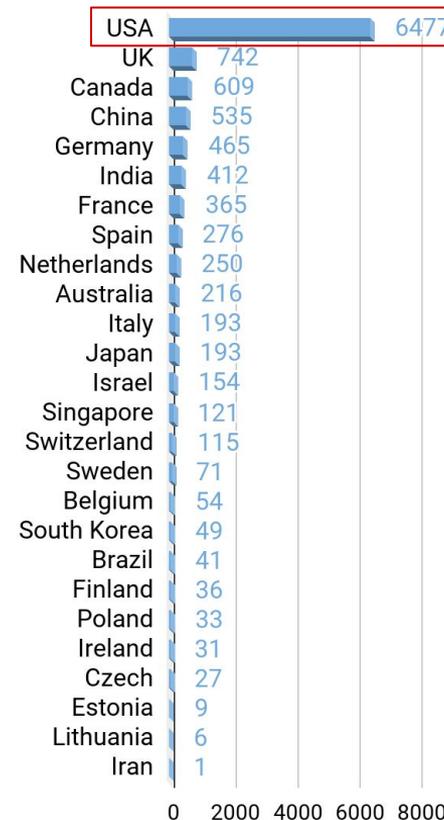
Africa

Sweden

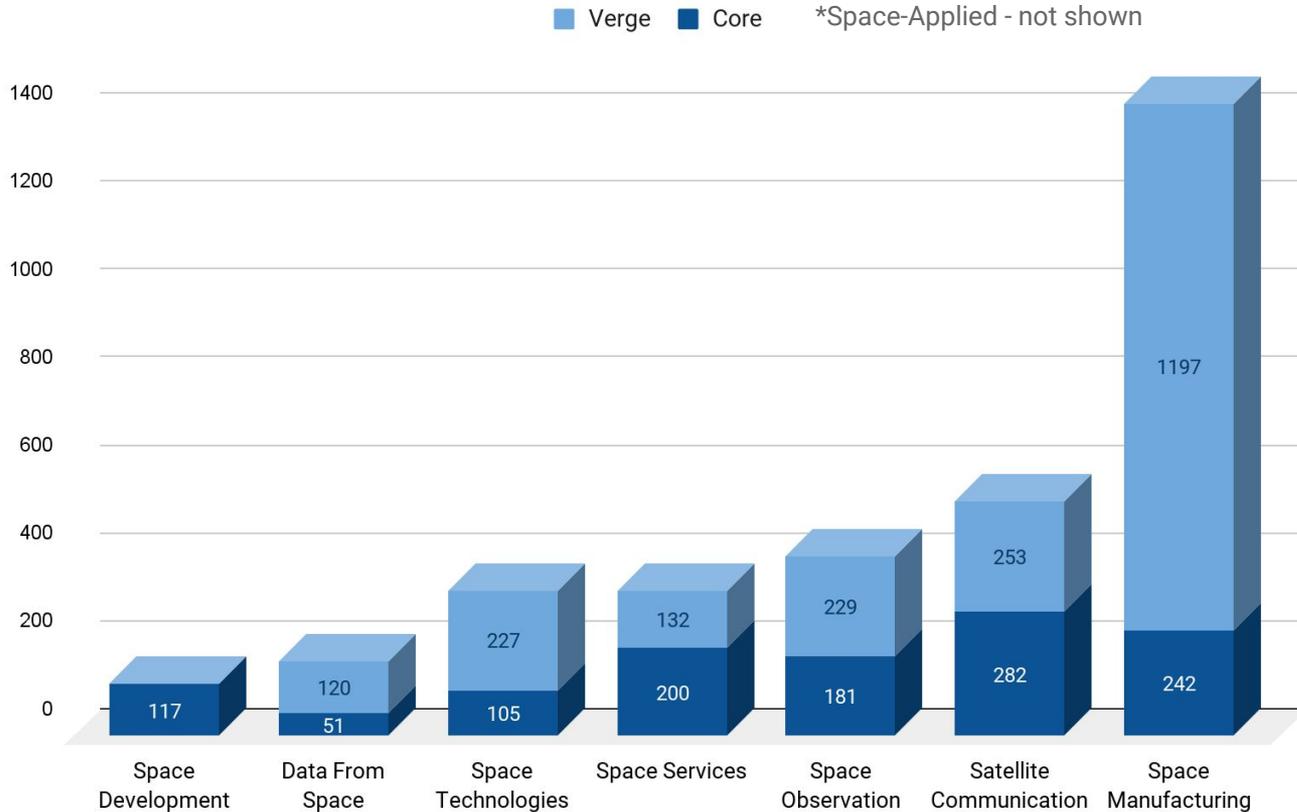
# REGIONAL DISTRIBUTION OF THE SPACETECH COMPANIES IN 2021



The USA is firmly in the lead, representing 56.4% of the world's SpaceTech companies. The UK ranks second (6.5%), followed by Canada, China, Germany, and India at 5.3%, 4.7%, 4.1% and 3.6%, respectively.



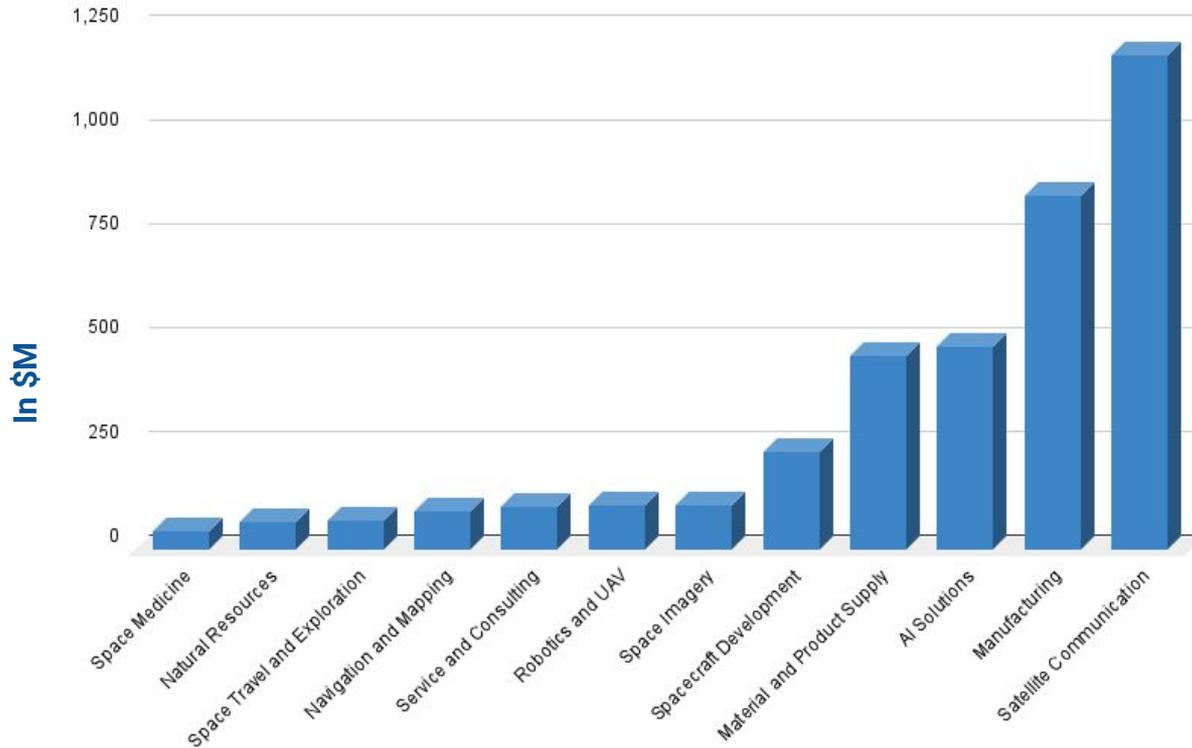
# SPACETECH CORE AND VERGE SECTORS BY NUMBER OF COMPANIES IN 2021



More than 3,000 core and verge SpaceTech companies have been classified into 14 categories.

Space Manufacturing and Satellite Communication appear to be the two largest sectors. The Space Observation subsector is also significant in its size. There is a large number of different subsectors fueling the space industry.

# TOTAL FUNDING BY CATEGORY IN 2021

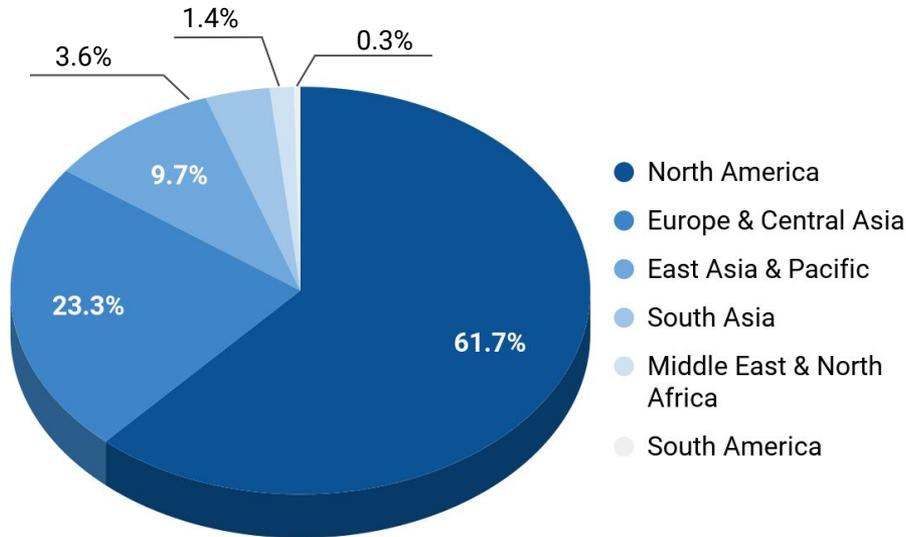


Companies in the SpaceTech Industry are currently receiving high rates of investment. This chart shows the total amount of investment received in different categories of the SpaceTech Industry in 2021. The Satellite Communication sector holds the top position, but the graph also shows that companies in the Manufacturing, AI Solutions, and Material and Product Supply sectors are receiving high levels of investment.

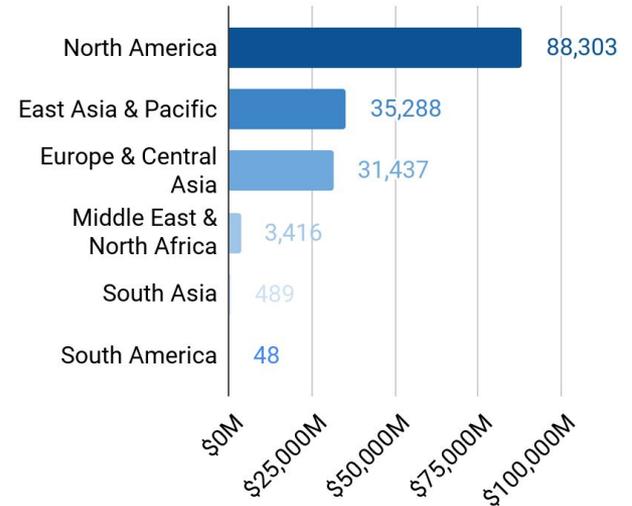
# INVESTMENT LEVELS BY REGIONS IN 2021

The USA and Canada are the world leaders by the number of SpaceTech companies and levels of investment received in 2021. East Asia and Europe have received similar levels of funding, but Europe has a higher number of companies. Despite a small share of companies (only 1.4% of the total), the Middle East and North Africa region has received more than \$3.4 billion in investment so far, putting it in fourth place by that measure.

Number of companies by region, %

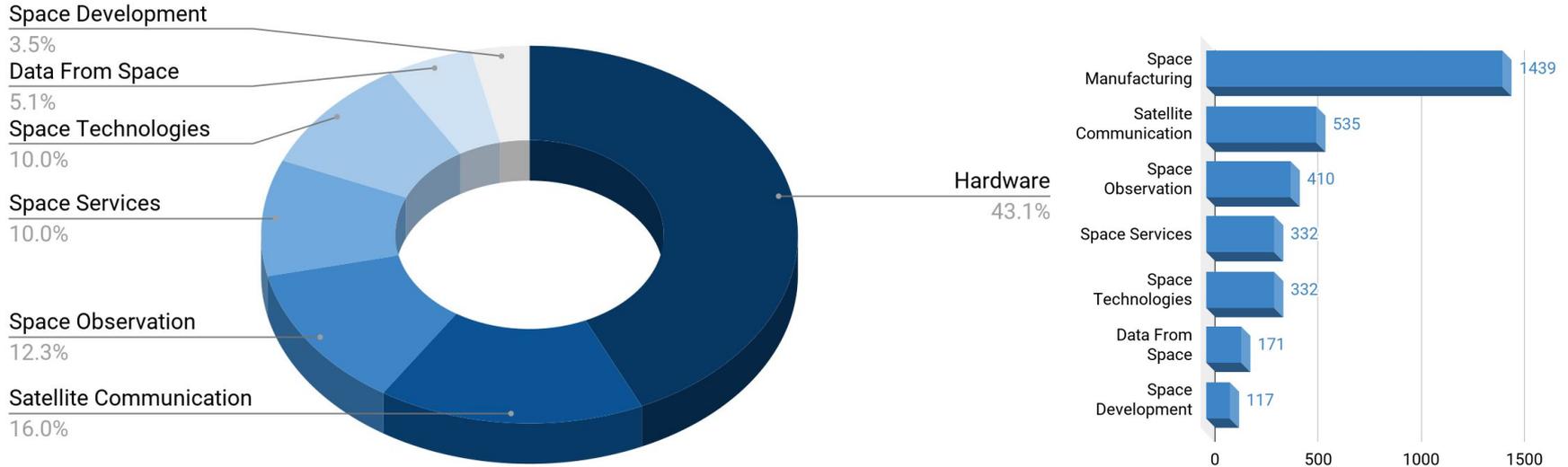


Investment levels in 2021 by region, M\$



# AREAS OF SPACETECH USAGE (CORE COMPANIES)

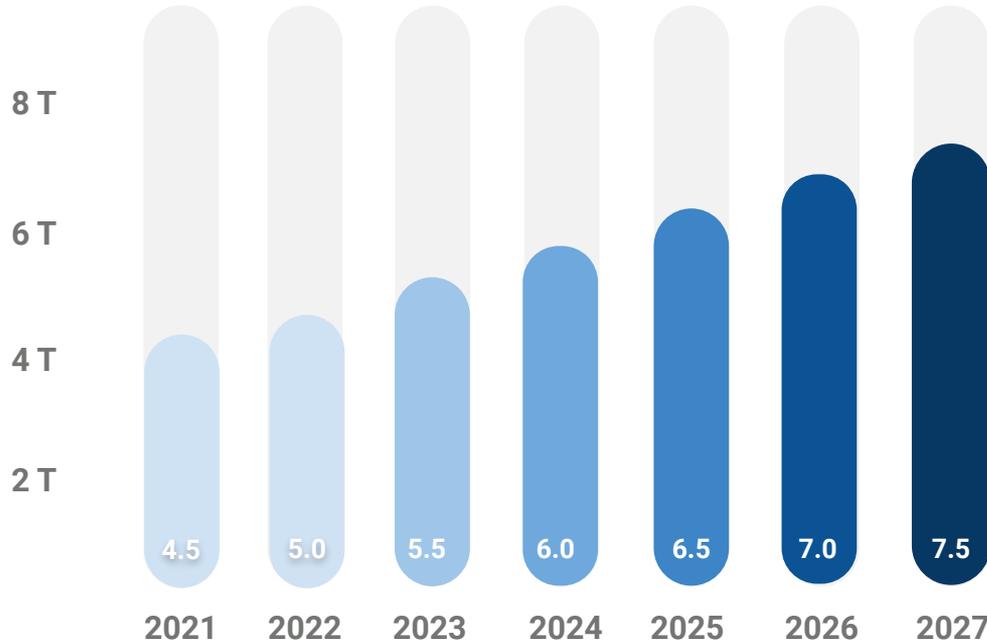
Over the past few decades, the Space Industry has attracted a large number of participants, with new space and non-space companies entering various industry-development chains. Most companies are involved in Space Manufacturing (over 1,400 companies, or 43.1% of all core companies), defined as building hardware for launch systems and satellites. This sector is followed by the Satellite Communication and Space Observation sectors, with 535 (16.0% of total) and 410 (12.3%) companies, respectively.



\* Data From Space includes 5G Communication, AI Solutions, and Data Solutions subcategories. Meanwhile, Space Observation includes Space Imagery, Remote Sensing, Navigation, and Mapping, respectively.

# THE GLOBAL SPACETECH ECONOMY

## World SpaceTech Industry Capitalization Projections, \$T



Showing stable growth, the global SpaceTech capitalization was estimated at **\$4.5 trillion** in the 2021 and is expected to grow to **\$10 trillion** by 2030. According to the most conservative estimates, it accounts for 5% of global GDP.

This will have a dramatic impact on the annual growth of the global SpaceTech market, primarily because of the growth of the development of satellite technologies, the **Space Exploration** sector, advances in **IT**, **FinTech**, and other digital technologies.

Public-Sector interest in the SpaceTech industry is expected to grow. In May 2020, NASA launched a crewed flight to the International Space Station (ISS) on a commercially developed US rocket. The launch represented the first time the USA had flown a crewed mission to ISS since 2011.

# GLOBAL SPACETECH ECOSYSTEM 2021

Cumulative Capitalization Dynamics, \$T



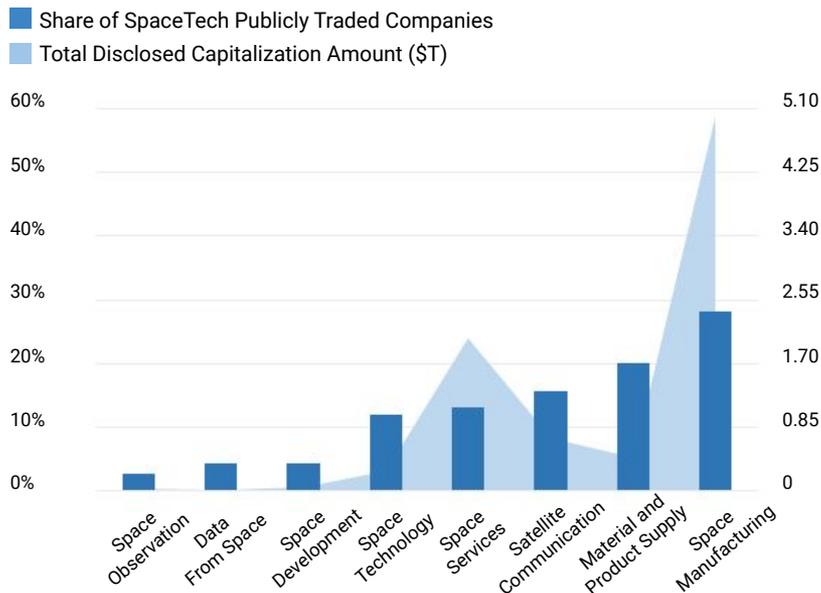
Despite the COVID-19 crisis and the dramatic fall in companies' capitalization levels in February 2020, the capitalization of **177 publicly traded companies** grew from **\$3.5 trillion** at the beginning of 2020 to **\$4.5 trillion** at the the end of 2021. The total capitalization increase in this period was 32.6%.

The largest core companies by market capitalization are AT&T Inc., and Honeywell International Inc., Boeing and Raytheon Technologies.

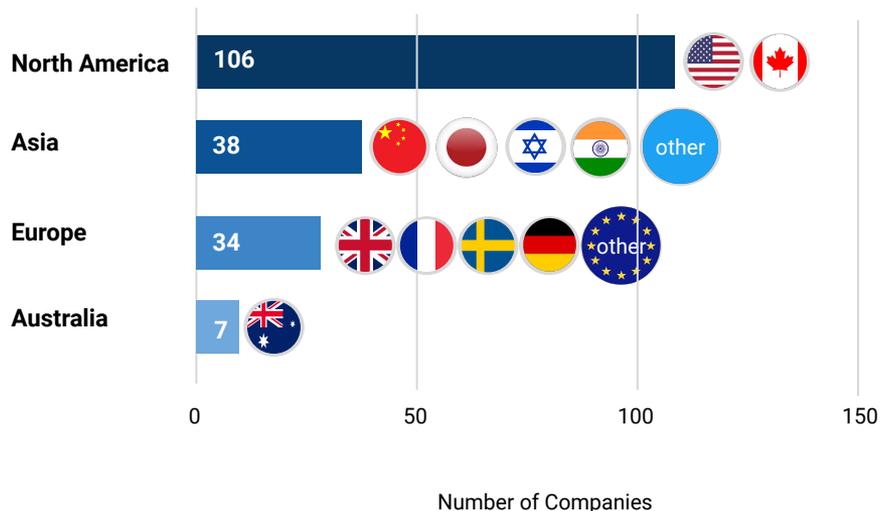
**SpaceTech** companies are similar to other companies in the sector (i.e., the ones that reached series B or C funding rounds), which means that the **growth** in their market capitalization can be an approximation of the dynamics in the entire sector. The anticipated growth in the industry is expected to **affect** the favorable market capitalization of SpaceTech corporations.

# PUBLICLY TRADED COMPANIES AT A GLANCE

## Publicly Traded Companies by Subsector



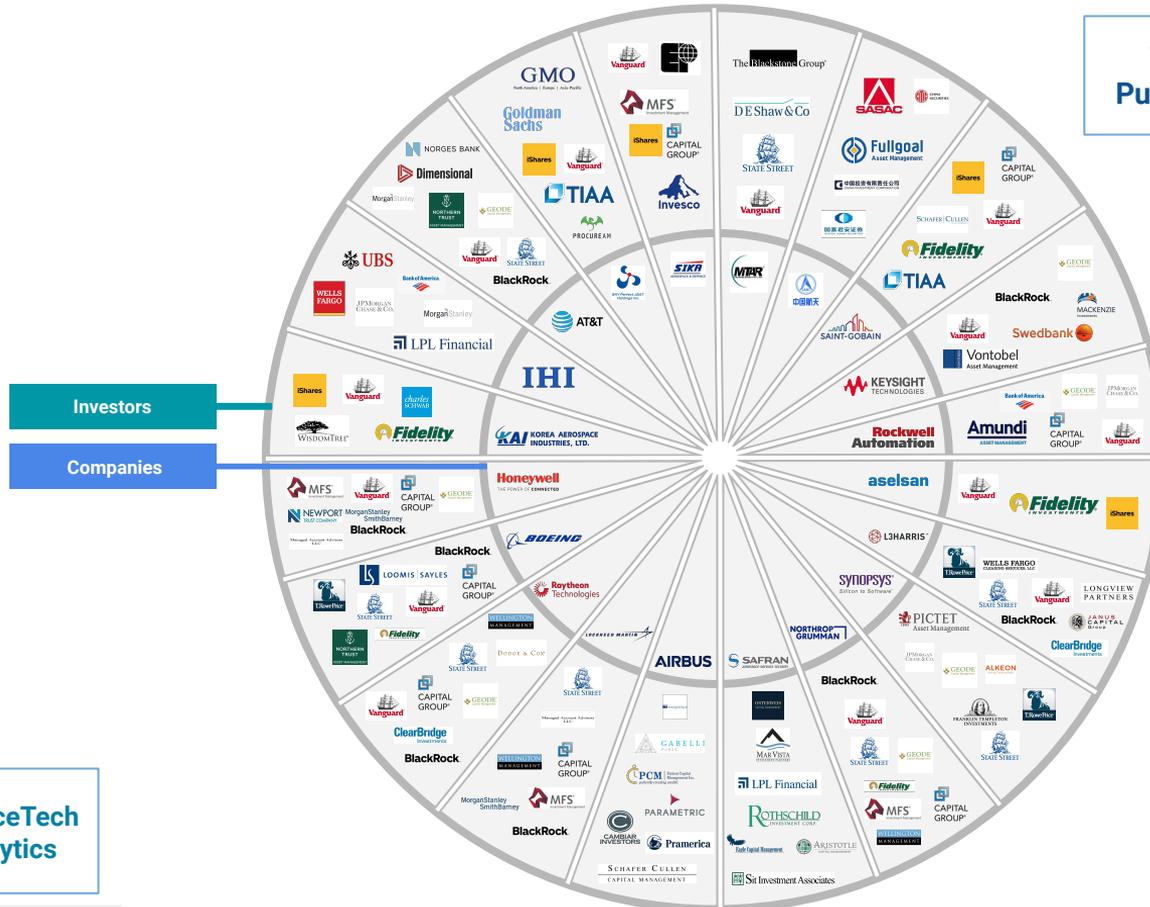
## Regional Distribution of Publicly Traded Companies, 2021



**Space Manufacturing** has the highest share of Publicly Traded Companies, followed by Material and Product Supply, Satellite Communication, and Space Services. Space Manufacturing is the most heavily funded subsector. The funding amount for the subsectors is mapped as a shaded area, revealing that the size of the subsector does not always correlate to the amount of funding received. The largest level of market capitalization by the end of the year among the public companies was reached by AT&T, which accrued \$181.6 billion. With respect to the regional distribution, while Asia outbids Europe and Australia, North America is the firm leader, with more than half of the world's Publicly Traded Companies, almost all of which are located in the USA.

# TOP 20 CORE PUBLICLY TRADED COMPANIES BY CAPITALIZATION IN 2021

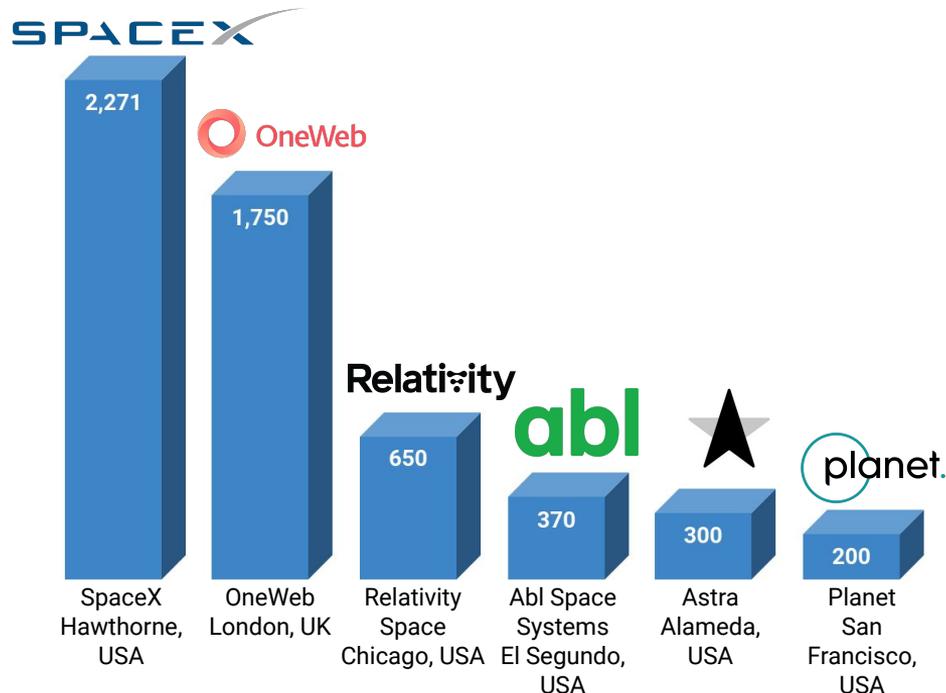
The Largest Shareholders of the Top Publicly Traded SpaceTech Companies



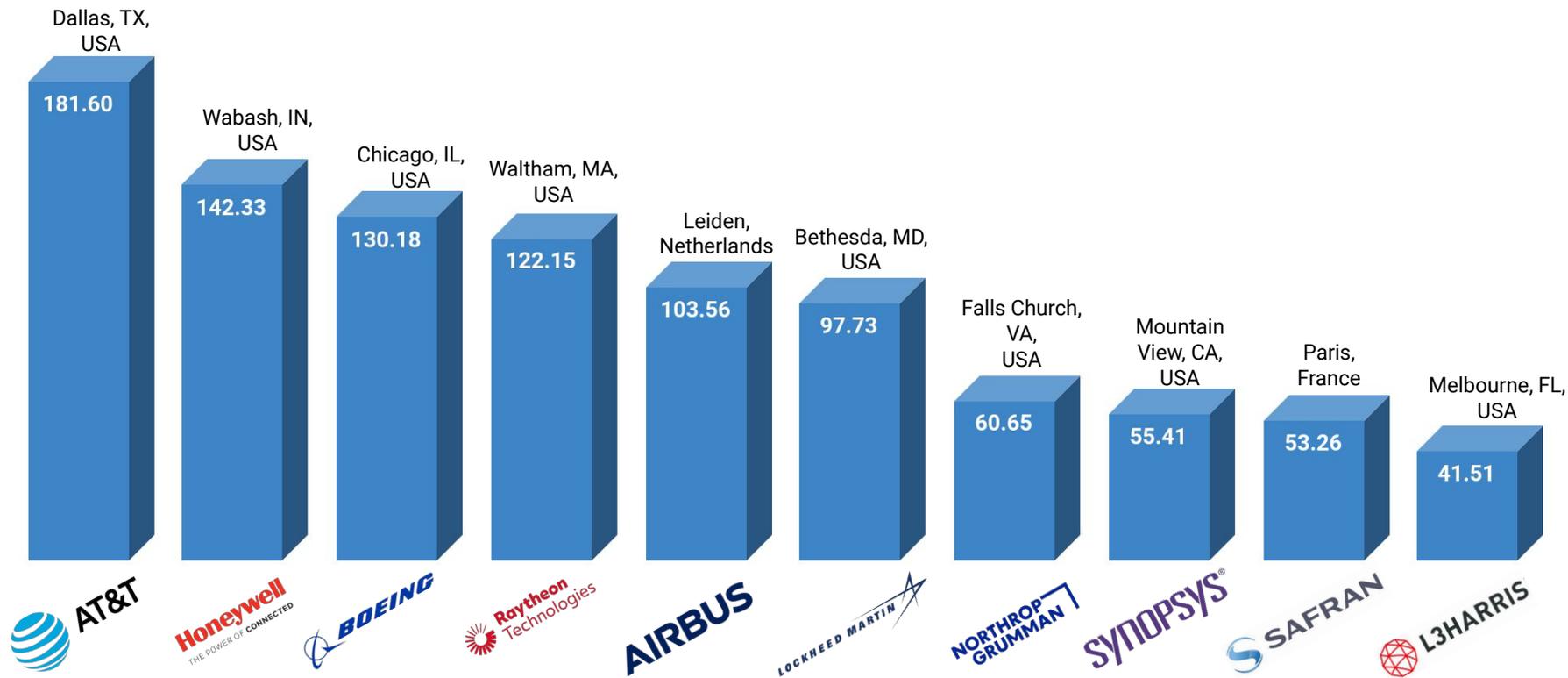
# PRIVATE INVESTMENT IN SPACETECH IS SOARING IN 2021

- Private investors deployed another **\$5 billion** in just six space infrastructure companies in 2021.
- Private investment in space companies in 2020 set a new annual record at more than **\$10 billion**.
- The company with the largest amount of funding in 2021 is SpaceX, attracting **\$2.27 billion** in regards to funding.
- Another company with a significant raise is **OneWeb**, attracting **\$1.75 billion**.
- Several other companies have raised significant amounts of money in 2021.
- One of the newer entries, Astra Space, has raised **\$300 million** in 2021, making the top six.
- Larger and later stage (**Series C and D**) financing rounds were planned that will account for more than **75%** of all investments in 2021, demonstrating the maturing of the ecosystem as investors make larger commitments to emerging category leaders.

Biggest SpaceTech Private Investment Raises in 2021 (in \$M)



# TOP 10 PUBLIC SPACETECH COMPANIES BY CAPITALIZATION IN 2021

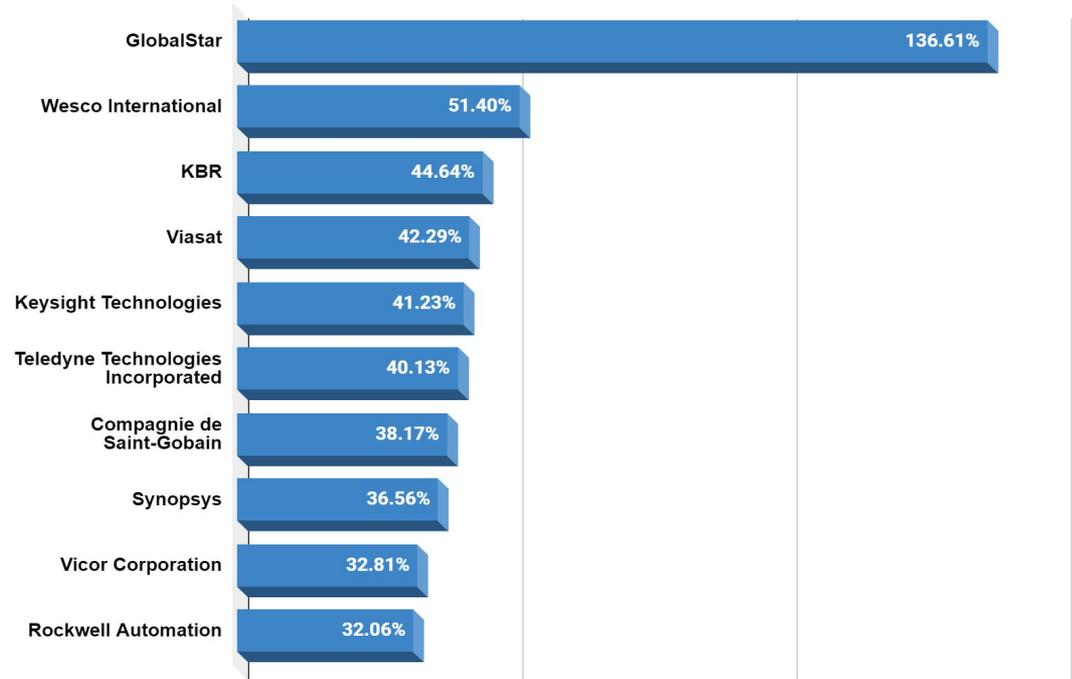


# MANY COMPANIES ARE EXPERIENCING GROWTH IN 2021

There was a market trend toward an increase in **capitalization** of the majority of SpaceTech companies in 2021:

- With **136.61%** growth in 2021, **GlobalStar** is the fastest-growing company among its competitors.
- **Wesco International** company has experienced the second largest level of growth at **51.40%**.
- **KBR** comes in third place at **44.64%**.
- Other companies (on the graph) also demonstrated growth of more than **30%** in 2021.
- One of the companies of with the top market capitalization, **Synopsys**, has also experienced a major growth of **36.56%**.

Companies by Market Capitalization Growth in 2021



# Leading SpaceTech Companies

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# 100 LEADING COMPANIES IN THE SPACETECH SECTOR\*

1	Advantech Wireless	12	BAE Systems	23	Curtiss-Wright
2	Aerojet Rocketdyne Holdings	13	Ball Aerospace	24	Cytec Industries
3	AirBorn	14	Bharat Sanchar Nigam	25	Dassault Aviation
4	Airbus	15	BlueHalo	26	DigitalGlobe
5	Akka Belgium	16	Boeing	27	DRS Defense Solutions
6	Amgen	17	Carlisle Interconnect Technologies	28	Dynetics
7	Anaren	18	CASIL	29	EaglePicher Technologies
8	Arqiva	19	China Resources	30	EchoStar
9	ASRC Federal	20	China Spacesat Technology	31	ELECNOR
10	Astronics	21	Collins Aerospace	32	EnerSys
11	Avibras	22	Comtech Xicom Technology	33	ENSCO

# 100 LEADING COMPANIES IN THE SPACETECH SECTOR\*

34 Eutelsat

35 Exede Satellite Internet

36 Gilat Satellite Networks

37 Heico

38 IHI Group

39 Inmarsat Plc

40 IRZ

41 Isdefe

42 Keysight Technologies

43 Korea Aerospace Industries

44 Kratos Defense

45 L-3 Communications

46 Latecoere

47 Leica Geosystems

48 LinQuest

49 LISI AEROSPACE

50 Lockheed Martin

51 Loral

52 Magellan Aerospace

53 Maxar Technologies

54 Microchip Technology

55 Microsemi

56 Mitsubishi Heavy Industries

57 NavCom Technologies

58 NEC Aerospace Systems

59 Nexteam Group

60 Northrop Grumman

61 OHB System

62 Orbital ATK

63 Orbital Sciences Corporation

64 Osi Systems

65 Pall

66 PIESAT

# 100 LEADING COMPANIES IN THE SPACETECH SECTOR\*

67	QinetiQ	78	SpaceX	89	Turkish Aircraft Industries		
68	Radiall Corp	79	Spirit Aerosystems	90	Turksat A.S.		
69	Safran	80	SPS Technologies	91	United Launch Alliance		
70	Scitor Corporation	81	SSL	92	United Space Alliance		
71	Semafo	82	TeleCommunication Systems	93	United Technologies		
72	Sener	83	Teledyne Technologies	94	UTC Aerospace Systems		
73	SES Networks	84	Tesat	95	ViaSat		
74	Sierra Nevada Corporation	85	Thaicom Public Company	96	Vicor Corporation		
75	Singapore Technologies Electronics	86	The Aerospace Corporation	97	Virgin Orbit		
76	Sonaca	87	TriQuint Semiconductor	98	Yuzhnoye State Design Office		
77	Space Shuttle Hi-Tech	88	Turbocam International	99	Weinschel	100	Wesco Aircraft

# 100 LEADING COMPANIES IN THE SPACETECH INDUSTRY\*

0.5-1K



1-5K



5-10K



>10K



\*by number of employees

# TOP MANUFACTURING COMPANIES BY REVENUE\*



The top manufacturing companies in the space industry have a range of estimated revenues, but even the companies with relatively low revenue can be important. However, companies with the highest revenues have a wider range of products beyond those that are space-related.

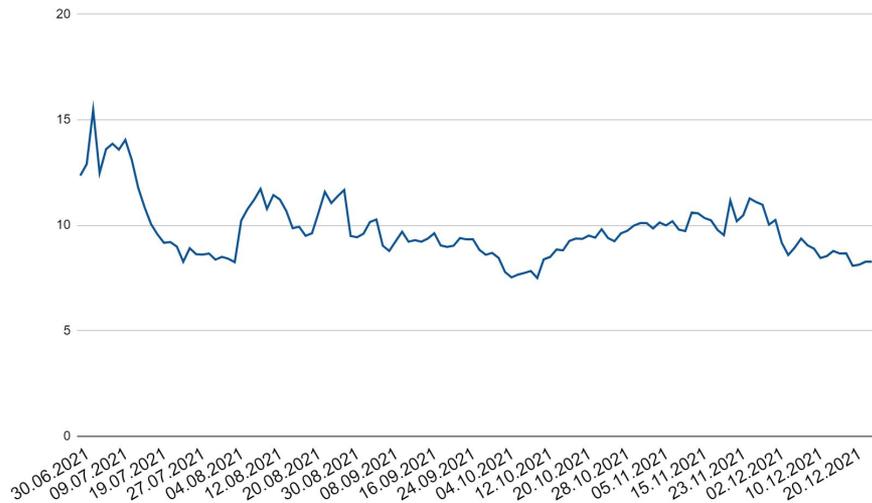
# TOP SATELLITE COMPANIES BY FUNDING



The total funding received by satellite manufacturing companies has greatly increased during 2021.



### Astra Space Stock Performance in US\$



**Astra Space** focuses on delivering a new generation of space services that is enabled by new constellations of small satellites in low Earth orbit and aims to solve this problem with a mass-produced dedicated orbital launch system, consisting of small launch vehicles and mobile ground infrastructure. Astra Space serves customers worldwide. One of the recent achievements of the company is its first successful orbital launch on November 20, 2021, making it the first company to achieve this in the first 5 years of existence. Apart from that, the company has managed to raise \$200k in 2021, tripling the amount raised by Astra.

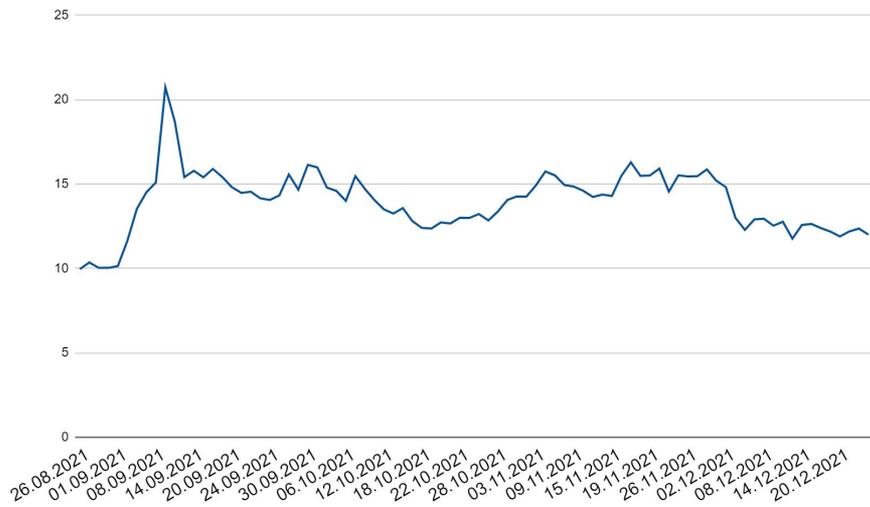
In terms of stock performance, Astra Space has concluded its IPO by June 30, 2021, at the price of **\$12.35** per share on **NYSE**. As with most companies, it has experienced a drop in the first month of activity, but otherwise has performed well, even having several rises in August and November, corresponding with the test launch and the first orbital launch, respectively. The volatility still remains high mostly due to the low amount of time passing since IPO. As of December 23, 2021, the stock price of Astra Space stands at **\$8.27** per share.

<b>IPO Date</b>	<b>06.30.21</b>	<b>Mean Daily Return</b>	<b>-0.33%</b>
<b>Ticker</b>	<b>ASTR</b>	<b>Volatility of Daily Returns</b>	<b>6.03%</b>

# NEWEST PUBLIC ENTRIES: ROCKET LAB



## Rocket Lab Stock Performance in US\$



IPO Date

08.25.21

Mean Daily  
Return

0.17%

Ticker

RKLB

Volatility of  
Daily Returns

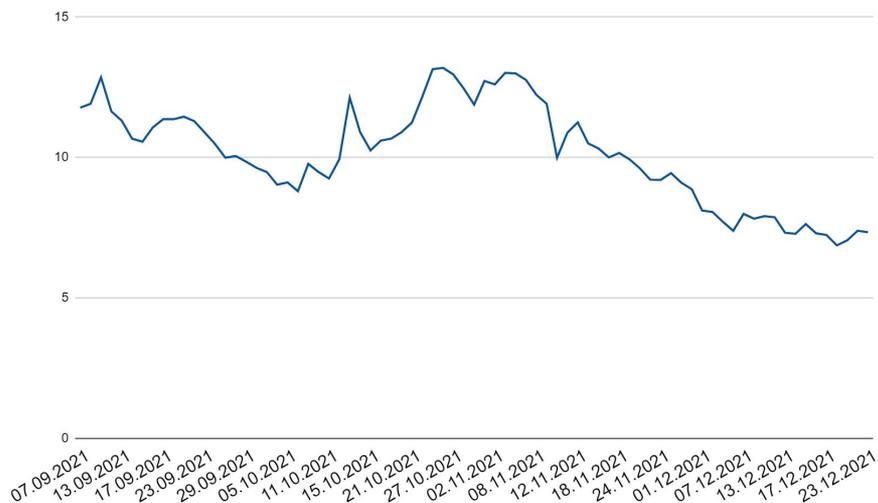
6.37%

**Rocket Lab** delivers a range of complete rocket systems and technologies for fast and low-cost payload deployment. It is an end-to-end space company delivering reliable launch services, spacecraft, satellite components, and on-orbit management. As of 2021, the company operates three launch systems for satellite deployment. The company has also marked its place as the first company to reach space from the southern hemisphere. Rocket Lab has partnered with several other major SpaceTech companies such as BlackSky and Spire Global, allowing to use its systems to launch their satellites.

Rocket Lab's stock has performed relatively well after its IPO on August 25, 2021, on the **NYSE**. Launching at the price of **\$10.43** per share, it experienced a significant rise in the first month, peaking at **\$20.72** on September 9, 2021. Since then, the stock price has relatively stabilized, but the volatility still remains rather high, mostly due to a small amount of time passing since the company's IPO. That said, the price stands at **\$12.00** per share as of December 23, 2021. The company has also maintained a positive high Mean Daily Return ratio of **0.17%**.



**Redwire Stock Performance in US\$**

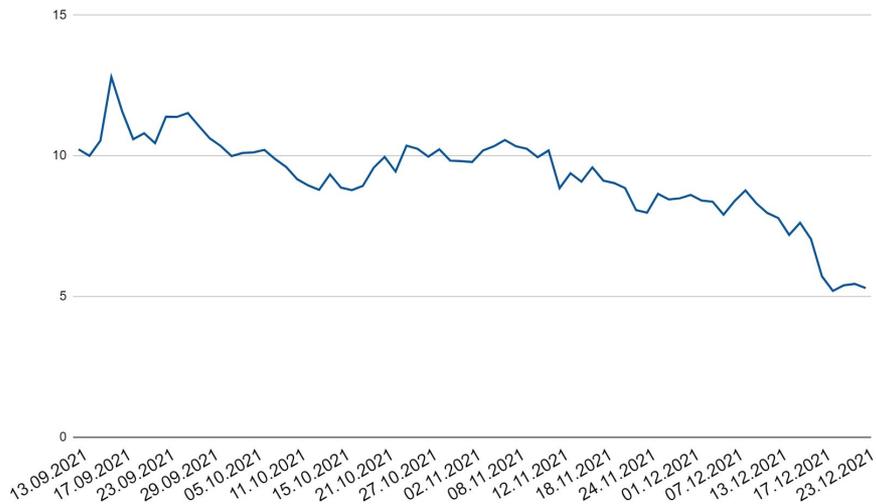


<b>IPO Date</b>	<b>09.03.21</b>	<b>Mean Daily Return</b>	<b>-0.66%</b>
<b>Ticker</b>	<b>RDW</b>	<b>Volatility of Daily Returns</b>	<b>5.34%</b>

**Redwire Corporation** is an American aerospace manufacturer and space infrastructure technology company headquartered in Jacksonville, Florida. Formed on June 1, 2020, by private equity firm AE Industrial Partners, Redwire was initially created through the merger of Adcole Space and Deep Space Systems. Shortly after formation, Redwire acquired Florida-based Made In Space, Inc. The addition of Made in Space added 3D printing and other actual space manufacturing to the company's portfolio. Redwire Corporation is accelerating humanity's expansion into space by delivering reliable, economical, and sustainable infrastructure for future generations.

Redwire's stock has performed relatively well after its IPO on September 3, 2021, on the **NYSE**. Launching at the price of \$12.24 per share, it experienced a slight rise in the first few months, peaking at \$13.19 on October 26, 2021. Since then, the stock price has relatively stabilized, but the volatility still remains rather high mostly due to a small amount of time passing since the company's IPO. That said, the price stands at **\$7.34** per share as of December 23, 2021. The company has also maintained a positive high Mean Daily Return ratio of **-0.66%**.

### BlackSky Stock Performance in US\$



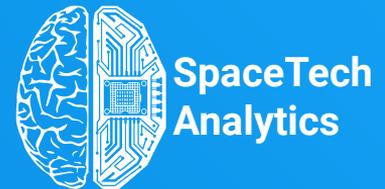
<b>IPO Date</b>	<b>09.10.21</b>	<b>Mean Daily Return</b>	<b>-1.00%</b>
<b>Ticker</b>	<b>BKSY</b>	<b>Volatility of Daily Returns</b>	<b>5.77%</b>

**BlackSky Global** is a provider of real-time geospatial intelligence. Leveraging its own satellite constellation and harnessing the world’s emerging sensor network, the company monitors the activities and locations worldwide that matter most to its customers. BlackSky’s on-demand constellation of proprietary satellites, together with the sensors in its partners’ constellations, are capable of imaging targeted locations on Earth multiple times a day in a variety of conditions. BlackSky announced it entered into a business merger agreement with Osprey Technology Acquisition Corp.

BlackSky’s stock has performed relatively well after its IPO on September 10, 2021, on **NYSE**. Launching at the price of **\$11** per share, it has experienced a significant rise in the first month, peaking at **\$11.52** on September 27, 2021. Since then, the stock price has relatively stabilized, yet the volatility remains high mostly due to a small amount of time passing since the company’s IPO. As of 12.23.2021, the price stands at **\$5.3** per share due to a lower expectations as it usually happens after the company becomes public. The company has also maintained a positive high Mean Daily Return ratio of **5.77%**.

# Leading SpaceTech Investors

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# 100 LEADING INVESTORS IN THE SPACETECH SECTOR\*

1	3i Group	12	Benchmark	23	DCVC
2	500 Startups	13	Berkeley SkyDeck	24	East Ventures
3	Accel	14	Bessemer Venture Partners	25	Eight Roads Ventures
4	Acequia Capital	15	Blue Cloud Ventures	26	Enterprise Ireland
5	Alchemist Accelerator	16	BoxGroup	27	Felicis Ventures
6	Alumni Ventures Group	17	Brand Capital	28	First Round Capital
7	Andreessen Horowitz	18	Canaan Partners	29	Five Arrows Principal Investments
8	AngelList	19	Carbon Trust	30	Foundation Capital
9	Atlas Venture	20	Creative Destruction Lab	31	Founder Collective
10	Bain Capital Ventures	21	Crosslink Capital	32	Founders Fund
11	BDC Venture Capital	22	CRV	33	FundersClub

# 100 LEADING INVESTORS IN THE SPACETECH SECTOR\*

34 Genesis Ventures

35 Global Founders Capital

36 Great Oaks Venture Capital

37 GV

38 HAX

39 High-Tech Grunderfonds

40 Highland Capital Partners

41 IDG Capital

42 Initialized Capital

43 Innovate UK

44 Innovation Works

45 Insight Partners

46 Intel Capital

47 InterWest Partners

48 Khosla Ventures

49 Kima Ventures

50 Kleiner Perkins

51 Lightspeed Venture Partners

52 Madrona Venture Group

53 MassChallenge

54 Mastercard

55 Matrix Partners

56 Mayfield Fund

57 Mitsubishi UFJ Capital

58 National Institutes of Health

59 National Science Foundation

60 Neotribe Ventures

61 New Enterprise Associates

62 Newchip

63 NortonLifeLock

64 Norwest Venture Partners

65 Ocado Group

66 OrbiMed

# 100 LEADING INVESTORS IN THE SPACETECH SECTOR\*

67	Pario Ventures	78	Shenzhen Capital Group	89	Tech Coast Angels		
68	Partech	79	Silicon Valley Bank	90	Mitsubishi UFJ Capital		
69	Paua Ventures	80	Slow Ventures	91	Techstars		
70	Pitch@Palace	81	SMBC Venture Capital	92	TenEleven Ventures		
71	Polaris Partners	82	Social Capital	93	True Ventures		
72	Qualcomm Ventures	83	Social Starts	94	Venrock		
73	Right Side Capital Management	84	Spark Capital	95	Venture Kick		
74	RRE Ventures	85	Spero Ventures	96	Vertex Ventures		
75	Salesforce Ventures	86	Start-Up Chile	97	Warburg Pincus		
76	Seedcamp	87	Startupbootcamp	98	Wavemaker Partners		
77	Shasta Ventures	88	Summit Partners	99	Wayra	100	Y Combinator

# 30 CORE SPACETECH INVESTORS

1	Copernic Space	11	IoT Tribe Space	21	Space Ventures Investors
2	CosmiCapital	12	NewSpace Capital	22	Spaced Ventures
3	Delta-V	13	NewSpace NYC	23	SpaceFund
4	Earth Space Robotics	14	Noosphere Venture Partners	24	SpaceStarters
5	EBAN Space	15	Orbital Ventures	25	SpaceTech Capital
6	Explorer 1 Fund	16	Promus Ventures	26	SPARX Space Frontier Fund
7	Future Space Accelerator	17	Seraphim Capital	27	Starbridge Venture Capital
8	GEN Space	18	Silicon Valley Space Center	28	Starburst Ventures
9	Hemisphere Ventures	19	Space Angels	29	Type One Ventures
10	Interplanetary Fund Management Group	20	Space Capital	30	Voyager Space Holdings

# COMPARISON OF INVESTMENT FUNDS BY SECTOR AND STAGE

		Investment Sector		
		Space Technology (Hardware)	Space Technology (Software)	Other/Diversified
Investment Stage	Early Stage	   	     	      
	Middle/Late Stage	    	   	   

# 100 LEADING INVESTORS IN THE SPACETECH SECTOR\*

## 501-1000



## 1001-3000



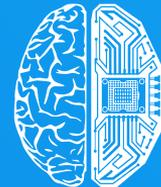
## 300-500



\* by numbers of investments

# 2021 in News, Top Deals, and Events

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# TOP MOMENTS THAT MADE HEADLINES IN 2021 SPACE INDUSTRY

## Lucy in the sky with asteroids

NASA launched Lucy on a grand 12-year asteroid tour last fall with plans to fly by several space rocks that share Jupiter's orbit. Lucy – a mission named after a fossilized early human, who was named after The Beatles' song – will study the origins of the solar system. The asteroids are thought to be leftover pieces from planetary formation. The spacecraft will explore one asteroid in the solar system's main belt and seven Trojan asteroids. The latter are thought to be remnants of the early solar system trapped in stable orbits.



The spacecraft launched with an Atlas V rocket on October 16 and will travel 4 billion miles in a sort of loop-the-loop, circling back to Earth three times for gravity boosts. That means it will be the first vehicle to return to Earth's vicinity from the outer solar system.

## That time the sky was falling...

On May 8, a piece of China's biggest rocket, Long March 5B, entered the atmosphere above the Maldives in the Indian Ocean, with most of it burning up in the process. People in the Middle East reported they saw debris, but no one was hurt. For a brief moment, though, it gave some people a case of Chicken Little: Despite scientists' best estimates, no one knew exactly where in the world it was going to strike. Forecasts indicated a chance the enormous rocket could rain debris on major cities.



Astrophysicists tracking the rocket core said it was statistically unlikely that the barreling fragment would hit land, endangering people. Most of the junk that plunges back to Earth burns up or splashes into the ocean.

# TOP MOMENTS THAT MADE HEADLINES IN 2021 SPACE INDUSTRY

## Russia blew up a satellite

Russia gave the International Space Station a rude awakening on November 15 when the country ran an unannounced missile test to smash a defunct satellite.



**NASA astronaut Thomas Marshburn's camera points downward toward the International Space Station during a spacewalk to replace a failed antenna system. Credit: NASA**

Seven astronauts got an early morning warning from a ground controller to suit up and evacuate to their ships as debris threatened to collide with the station. NASA said the incident caused at least 1,500 pieces of wreckage to scatter, along with countless other bits too small to track. The swirl of refuse didn't hurt anyone this time but will continue to pose danger to astronauts over the coming years, the US officials said.

## The first black woman pilot a spacecraft

SpaceX pioneered the first amateur crew to circle the world without a professional astronaut in September, a feat that signaled the arrival of the commercial space tourism industry.



**Sian Proctor, 51, became the first black woman to pilot a spacecraft on September 15. Credit: SpaceX**

The trip, known as the Inspiration4 mission, coincided with another trailblazing moment: the first black woman to serve as a spacecraft pilot. Sian Proctor, a 51-year-old geoscientist from Tempe, Arizona, led the all-civilian ride to orbit. The spacecraft reached an altitude of 363 miles, passing the International Space Station by about 100 miles. Proctor was a finalist to become a NASA astronaut in 2009 but did not make it. Four years later, she lived in a small building in Hawaii for months as part of an isolation study for journeys to Mars.

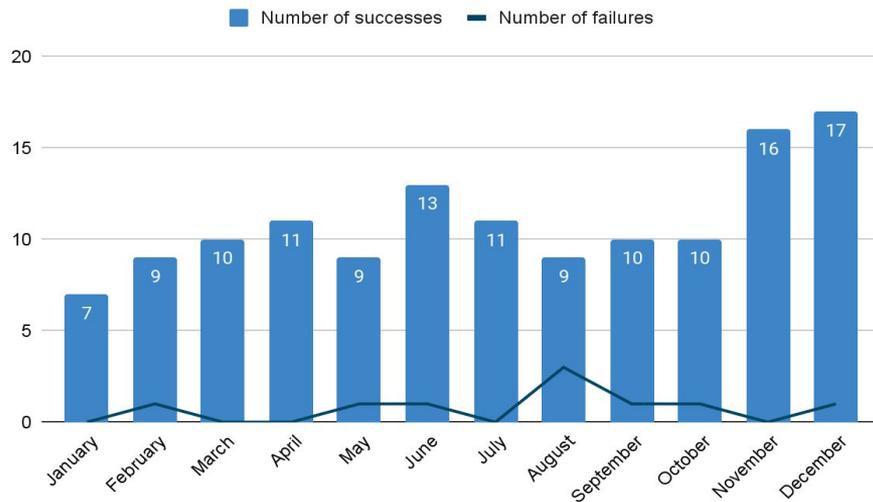
# TOP MOMENTS THAT MADE HEADLINES IN 2021 SPACE INDUSTRY

The trend toward cost reduction in access to orbit continued with the continued development of smaller rockets by multiple commercial launch providers and larger next-generation vehicles by more established players. While multiple high-profile next-generation rockets were originally planned to make their maiden orbital flights in 2021, all were ultimately shifted to 2022 due to development delays. These included the maiden flight of Vulcan, designed to gradually replace Atlas V and Delta IV Heavy at lower costs, which was postponed in June 2021; the Mitsubishi Heavy Industries' H3 launch vehicle, planned to cost less than half that of its predecessor H-IIA; the maiden launch of NASA's Space Launch System (SLS) super heavy-lift rocket on the Artemis 1 mission, which was postponed mid-year to early 2022; and the first orbital test flight of a prototype of the SpaceX Starship.



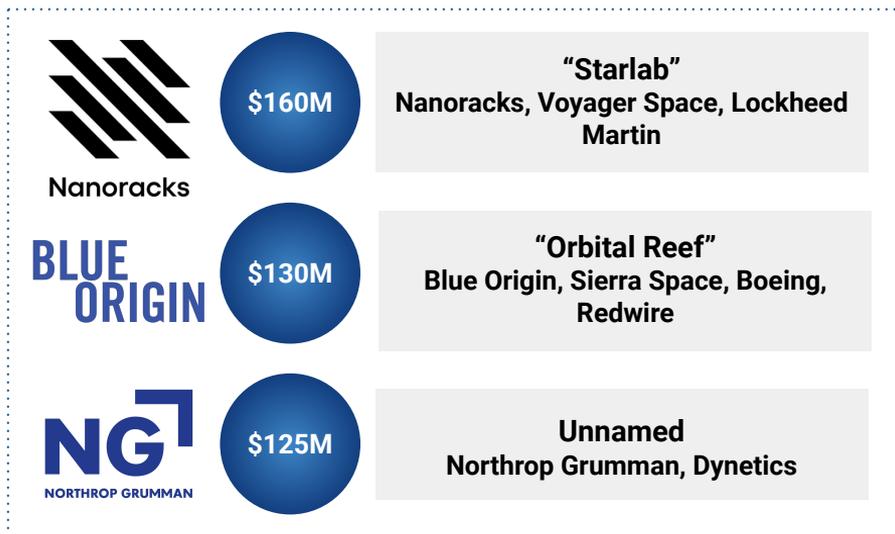
The latter rocket's development continued through 2021 at SpaceX's facility in Boca Chica, Texas, with a suborbital testing campaign continuing from the previous year. Starship prototype SN15 was the first testbed of the future rocket family to survive a launch and soft touchdown on May 5, 2021. The first-ever full-stack fit check of Starship prototype SN20 with the booster stage followed in August.

## List of orbital launches



# TOP MOMENTS THAT MADE HEADLINES IN 2021 SPACE INDUSTRY

NASA awards **\$415M** to private space stations



In 2021, NASA named SpaceX the winner of the lunar program and awarded it with **\$2.9 billion**. However, **Blue Origin** did not agree with the decision and filed a lawsuit, which it lost.

**Axiom Space** was awarded **\$1.69 million** for the first private astronaut mission to the International Space Station.



On **April 19**, it became clear that **Amazon** has secured Atlas V rocket by **United Launch Alliance** for nine launches, supporting deployment of its **Project Kuiper** initiative. According to the estimated launch cost dating back to 2016, the deal can vary from **\$990 million** to **\$1,38 billion**. Project Kuiper is a third initiative (apart from Starlink and OneWeb) that plans to establish a global broadband internet access through a constellation of modern satellites in low earth orbit. The plan is to put 3,236 advanced satellites on orbit. Atlas V is going to be gradually replaced by a two-stage-to-orbit **Vulcan Centaur** rocket. The first flight of this vehicle is planned to take place in **2022**.



# SPACEX Led the Way in 2021

Being currently the most active and prominent company, **SpaceX** continues hitting its milestones, albeit sometimes late. **Starlink** is being implemented by sending swarms of Internet satellites into space. Crew-rotation missions aboard the **ISS** have become routine. With the use of **Crew Dragon**, the effectiveness of the space station has increased as has the number of astronauts that can be hosted on it. The company's Mars settlement plans are also moving toward technological readiness. At a slow steady pace, disruptive engines, habitats, and artificial gravity systems are developed. NASA seems to rely now on the capabilities of Elon Musk's company for its lunar plans, but that should not be viewed as a bad thing for the agency.



Date	Vehicle	Achievement
24 January	Transporter-1,Falcon 9	Most spacecraft launched into space on a single mission. (143 satellites)
16 April	HLS Starship	Selected by NASA to develop first three human lunar landers for the Artemis mission
23 April	Crew Dragon Endeavour	First reuse and reflight of a crewed space capsule.
6 May	Starship SN15	Successful Starship Test Launch and Landing
17 June	GPS III-05, Falcon 9	First reused booster launch for a 'national security' mission.
16 September	Crew Dragon Resilience, Falcon 9	First orbital launch of an all-private crew (Inspiration4)

# ASTRA REACHES ORBIT

Alameda, CA., November 20, 2021. Astra Space, Inc. ("Astra") (**Nasdaq: ASTR**) successfully completed its first commercial orbital launch for the United States Space Force November 19, 2021.



The launch was conducted from Astra's Kodiak Spaceport, located at the Pacific Spaceport Complex in Kodiak, Alaska.

Astra's launch system successfully demonstrated the orbital placement of a test payload to

an inclination of 86.0 degrees at an altitude of 500 km

an orbital velocity of 7.61 kilometers per second in 8 minutes and 47 seconds.



"I think the vehicle's ready for launch," Astra co-founder and CEO Chris Kemp said, referring to LV0008 launch vehicle. "We're working on all the details around the dates and the range, and we'll be making some announcements soon as to the schedule. But don't expect a long wait for the next flight."

# SPACE WEEK ON DUBAI EXPO 2020

Space Week was held at Expo 2020 Dubai on October 17-23 as part of the thematic weeks dedicated to the global challenges of humanity. In continuation to bring Expo 2020 Dubai to a global digital audience, the number of virtual visitors has risen to

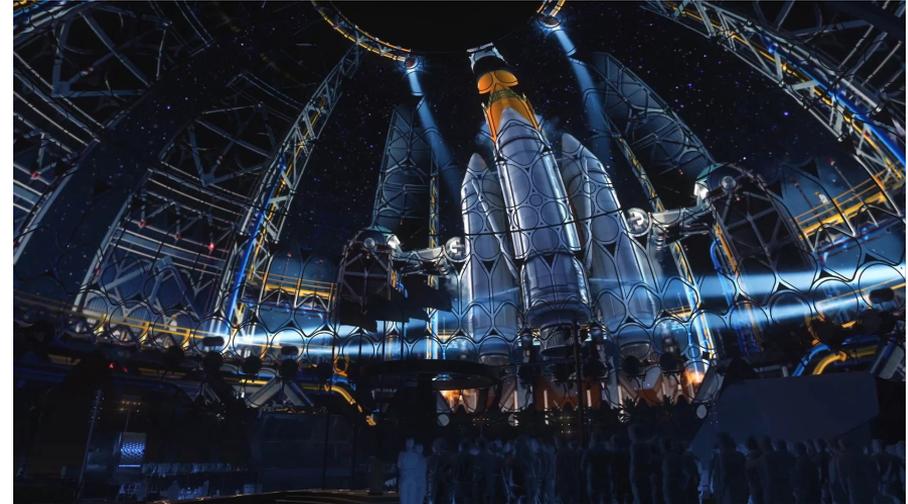
**10.8 million**

Space Week, the first in a series of exciting themed events at Expo 2020, was kicked off by Her Excellency Rim Al Hashimi, Director General of the Bureau of Expo 2020 Dubai and Minister of State for International Cooperation of the UAE.

Speakers at the event were Her Excellency Sarah Al-Amiri, UAE Minister of State for Advanced Technology, Chairman of the UAE Space Agency, and Science Director of the UAE's first interplanetary mission to Emirates Mars, and James L. Green, Chief Scientist of the National Aeronautics and Space Administration (NASA).

Thematic weeks, focusing on specific issues, – climate and biodiversity, health, urban and rural development, transport, and networking – will be held during the 6 months of the exhibition, from October 1, 2021, to March 31, 2022.

Being held in the South District of the Emirate of Dubai, near the Al Maktoum International Airport, the exposition will last 6 months and includes over 200 participants from 192 countries. Millions of visitors, local and from abroad, are set to join to celebrate human achievement.





## Lunar Pathfinder

On **September 15, 2021**, in London, a contract between **Surrey Satellite Technology Limited (SSTL)** and the **European Space Agency (ESA)** was signed. It established a partnership between the two agencies and makes ESA an "anchor customer" of SSTL's lunar satellite, planned to be launched by 2024. The satellite is called



**Pathfinder** and represents a relay platform for telecommunications. The vehicle will operate in a wide elliptical orbit of the Moon for at least 8 years, communicating with other vehicles in lunar orbits and the surface. It will be using S-band and UHF frequencies for communications in space and X-band to transmit back to Earth.



## Alternative Spacecraft Launcher

**Spinlaunch** is an innovative start-up that has raised **\$80 million** in investment last year. They had a successful test launch of their one-of-a-kind yeet cannon on **October 22**. The idea is to launch payloads into orbit without the first-stage rocket by accelerating the spacecraft in a spinning vacuum chamber. The company promises to deliver commercial payloads to LEO (Low Earth Orbit) at a price of **\$1000/kg**, but it cannot deliver humans due to high acceleration.



# 2021 ACQUISITIONS



Acquired by



## Raytheon acquired SEAKR Engineering, Inc.

Raytheon Intelligence & Space acquired a space electronics manufacturer for an undisclosed sum on November 29.



Acquired by

**BAE SYSTEMS**

## BAE Systems acquired In-Space Missions

In-Space Missions is a UK company that designs, builds, and operates satellites and satellite systems.



Acquired by



## SpaceX acquired Swarm

Swarm, a satellite data and communications start-up, was acquired by SpaceX on July 16.



Acquired by



## Astra acquired Apollo Fusion

Apollo Fusion offers electric propulsion engines. Astra will incorporate their technology for delivering payloads to GEO.



Acquired by



## OneWeb acquired TrustComm

The acquisition of the satcoms provider allows OneWeb on strengthening the cooperation with the US Government.

# 2021 ACQUISITIONS

exactEarth®

Acquired by

spire

## Spire Global acquired ExactEarth

Both companies provide satellite-AIS data services. This is Spire's first acquisition since going public.

SolAero  
TECHNOLOGIES

Acquired by

ROCKET LAB

## Rocket Lab acquired SolAero

Being a launch service company, Rocket Lab is developing further by acquiring a space solar power provider SolAero.

ASI  
BY ROCKET LAB

Acquired by

ROCKET LAB

## Rocket Lab acquired Advanced Solutions, Inc.

In October Rocket Lab also bought a space software company Advanced Solutions for \$40 millions.

techshot

Acquired by

REDWIRE

## Redwire acquired Techshot

Techshot is a BioTech company that works on microgravity, bioprinting, and on-orbit manufacturing.

DSS Deployable  
Space Systems

Acquired by

REDWIRE

## Redwire acquired Deployable Space Systems

Before going public, Redwire acquired a supplier of deployable solar arrays and other space structures.

# 2021 ACQUISITIONS



Acquired by



**Voyager Space Holdings acquired The Launch Company**  
The Launch Company develops standardized hardware and works to support space launches through automation.



Acquired by



**Voyager Space Holdings acquired X.O. Markets**  
Earlier in 2021, Voyager acquired a holding company that owns and operates **Nanoracks**.



Acquired by



**Noosphere Ventures acquired Dragonfly Aerospace**  
Max Polyakov continues developing his space ecosystem by acquiring a satellite imaging manufacturing company.



Acquired by



**Phantom Space acquired Micro Aerospace Solutions**  
SpaceX co-founder, Jim Cantrell, has acquired space systems developer Micro Aerospace Solutions.



Acquired by



**Phantom Space acquired StratSpace**  
Last May, Phantom Space also acquired a propulsion space systems developer company StratSpace.

# 2021 ACQUISITIONS



**Comtech Telecommunications acquired UHP Networks**  
UHP Networks is a satellite ground station technology company bought by advanced communications company.



**Viasat acquired Inmarsat**  
The two satellite communication companies started working together by the price of \$7.3 billions on November 8.



**Planet acquired VanderSat**  
Earth data company VanderSat goes to Planet with the deal of \$18 million in Planet shares and \$10 millions in cash.



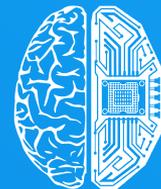
**4iG acquired Spacecom**  
The Israeli satellite operator has been acquired by a Hungarian telecommunications company for \$68 millions.



**Maury Microwave acquired dBmCorp**  
Radio Frequency solutions manufacturer Maury Microwave acquired a satellite testing equipment developer.

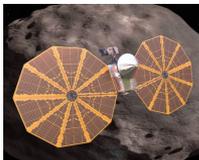
# Missions Status Updates

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# MISSION STATUS



## Lucy Mission

**Successfully launched on** October 16, 2021.

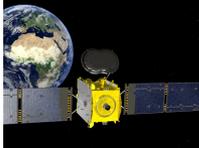
Lucy is the first space mission to study the Trojan asteroids associated with the planet Jupiter. One solar array is not deployed properly; NASA is working to fix it.



## James Webb Space Telescope

**Successfully launched on** December 25, 2021.

The James Webb Space Telescope will find the first galaxies that formed in the early universe and peer through dusty clouds to see stars forming planetary systems.



## Eutelsat Quantum

**Successfully launched on** 30 July, 2021.

A communications satellite developed thanks to a partnership between the ESA, Eutelsat, and Airbus, launched by Arianespace together with a Brazilian satellite.



## European Robotic Arm

**Successfully docked on** July 29, 2021.

The Robotic Arm was launched to the ISS and attached to the Russian Segment. This will notably improve the effectiveness of extravehicular activities and help the astronauts.



## Tiangong Space Station

**Successfully launched on** April 29, 2021.

This is the core module of the Chinese space station in the Earth orbit. The carrier rocket then went to an uncontrolled fall. Other modules may be launched in May and June 2022.



## Boeing Orbital Flight Test 2

**Rescheduled for** late May 2022.

The second uncrewed flight of the Boeing's Starliner spacecraft intended to dock with the ISS was rescheduled due to several technical issues.



## Artemis 1

**Rescheduled for** March 12, 2022.

The first uncrewed launch of the SLS that was to deploy 13 cubesats to a distant lunar retrograde orbit was rescheduled due to an issue with an engine controller.



## New Glenn

**Rescheduled for** Q4, 2022.

Blue Origin's reusable heavy-lift launch vehicle capable of carrying people and payloads to the Earth orbit has been delayed since 2020.



## Gaganyaan

**Rescheduled for** June 2022.

Gaganyaan is the first Indian vehicle capable of flying crew with three members. ISRO will launch Vyomitra, a humanoid robot, in it to conduct some tests.



## Ariane 6

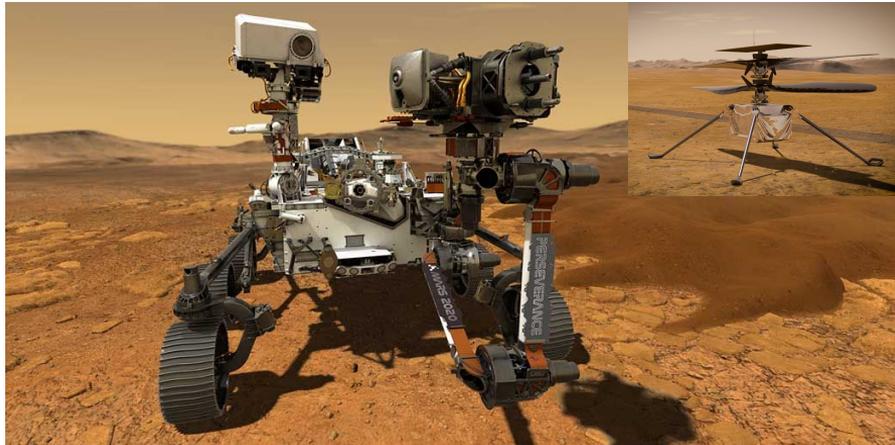
**Rescheduled for** Q2 2022.

European expendable launch system developed by ArianeGroup on behalf of ESA is said to have been delayed due to the COVID-19 pandemic.

# MISSION STATUS: MARTIAN MISSIONS

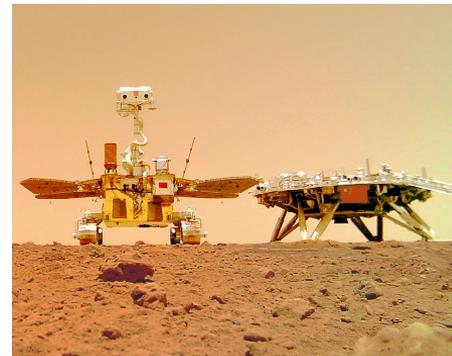
## Perseverance Rover

**NASA's Perseverance Rover** together with its companion **Ingenuity** successfully landed on the Martian surface on **February 18, 2021**. Its mission is to determine whether life ever existed on Mars, collect soil samples that can be returned to Earth in a decade or so, characterize the climate and the geology of Mars, and prepare for human exploration of Mars via testing a technology that produces oxygen from Martian atmosphere. **Ingenuity**, the first Martian helicopter, has shown good results and is used for reconnaissance.



## Zhurong Rover

The first Chinese rover to touch the red planet's surface landed on **May 14, 2021**. Brought there by the **Tianwen-1** mission, it is intended to study Mars' surface for the planet's habitability and presence of life in any form. Unlike **Perseverance**, **Zhurong's**



landing site was decided during the mission itself. The vehicle stayed in a Martian orbit for 3 months, studying possible landing sites. China became the first nation to launch an orbiter, lander, and rover in a single mission with its **Tianwen-1**.



## The Hope Probe

On **February 9, 2021**, the first **UAE** Martian orbiter reached the orbit of Mars. The goal of the mission is to make the first complete picture of the martian atmosphere using innovative instruments.

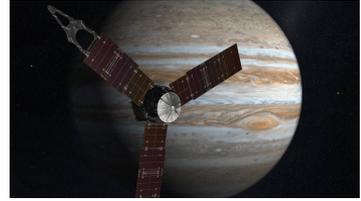
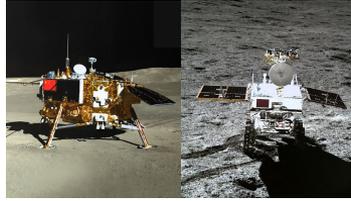
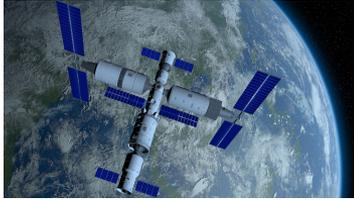
# MISSION STATUS: SPACE TOURISM

## Modern Space Race

The year 2021 witnessed a “competition” for launching civilians into space. Three companies took part in this: **Virgin Galactic**, **Blue Origin**, and **SpaceX**. The first one to complete a tourist spaceflight was Richard Branson on **July 11**, with Virgin Galactic’s **VSS Unity** carried by **VMS EVE** that reached **53 miles (85 km)** on its suborbital flight. The crew experienced 5 minutes of weightlessness. There were two pilots, Branson, and three mission specialists who work in the space industry. The second was Jeff Bezos on **July 20**, reaching “international space border” of **66 miles (106 km)** on his New Shepard rocket. Bezos took his brother, the oldest, and the youngest person to ever be in space with him. After that, SpaceX’s Crew Dragon carried “amateur astronauts” up to an altitude of **357 miles (575 km)** on **September 15**. They spent 3 days in space. The debate on “Who won” still goes on as Branson’s vehicle only reached the American standard of “where space begins.” Others say that suborbital flights do not count at all, and only Musk’s crew actually went to space. To the rest of the world, that does not matter because there are still three private companies in the world that offer real space tours, which is indeed exceptional.



# MISSION STATUS: PLANETARY SCIENCE



Spacecraft from three Mars exploration programs from the United Arab Emirates, China, and the United States (Hope, Tianwen-1, and Mars 2020) arrived at Mars in February.

China began construction of the Tiangong space station (Phase 3 of the Tiangong program) with the launch of the Tianhe core module on April 29, 2021. A Tianzhou cargo delivery mission was launched on May 29, 2021, and the Shenzhou 12-crew mission – on June 17, 2021.

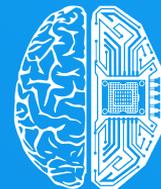
China's Chang'e-4 lander and Yutu-2 rover reached a 1,000-day milestone on the far side of the moon while remaining operational. The lander and rover are reportedly in good condition. The payloads aboard are also working properly and will continue the scientific exploration in the first mission on the far side of the moon.

The IXPE telescope was launched on a Falcon 9 on December 9, 2021. The long-delayed James Webb Space Telescope, the largest optical space telescope ever built, was launched toward the Sun–Earth L2 point by a European Ariane 5 rocket on December 25, 2021. The complex deployment of the spacecraft has begun, and will take months to complete.

The Juno probe continues its exploration of Jupiter. Originally, its mission was intended to conclude on July 31 by burning up in Jupiter's atmosphere following its 35th perijove. However, on January 8, 2021, NASA announced that the probe was granted a second mission extension through September 2025.

# Future Projections and Conclusions

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# KEY POINTS

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The space industry market continues to grow rapidly as the overall capitalization of the market changed from **\$3.5 trillion** to **\$4.5 trillion** since the beginning of 2021. SpaceTech Analytics expects the industry to reach the value of **\$10 trillion** by **2030**. Those numbers are estimated while taking into account all companies involved in any space-related activities.

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Private and public companies are growing in both strength and capabilities. The world has seen commercial space missions, all-private space crews, and civilian space tours last year. Beyond that, there are many plans for collaboration between governmental agencies and commercial companies that will shortly impact the whole world.

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The speed of research and development of space technologies is accelerating and appears to be unhindered by COVID-19. New launch vehicles are being actively tested and launched by both agencies and companies. Other spheres of intense research include: propulsion systems, communication systems, observation technologies, space assembly, and additive manufacturing. The cost of delivering a kilogram of payload to LEO is also being reduced by a range of means. It is expected to reach **\$100/kg or less** by 2030.

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2021 was a prominent year for innovation in the world of space technologies. Three vehicles were delivered to Mars, and one of them had the first Martian aircraft to ever fly in the Martian atmosphere. The most powerful telescope in humanity's history was launched to Sun-Earth L2. Massive satellite constellations, reusable rockets, alternative launch systems, and many more things were sent into space last year for the first time.

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More than 20 acquisitions were completed in 2021. Dozens of companies went public either via an Initial Public Offering or Special-Purpose Acquisition Companies. Most of them did not perform well at first, but this is normal as space technologies can require much time to be developed and refined.

# MAJOR TRENDS IN THE NEW SPACE ECONOMY

## A Growing Relationship Between Space and Climate Change

Space and sustainability have aligned. With more governments and investors focused on **environment, social, and governance (ESG) factors**, satellite imagery will provide them with key data on the environmental impact of all space activities.

## Increased Capital Formation

Despite COVID-19, last year saw the biggest **private investment in space** to date, with space capital formation on multiple fronts. First, investors are rethinking “old” vs. “new” space. It is less about the disruption and replacement of traditional players and more about how the capabilities of new entrants complement them.

## Mitigating Orbital Debris

According to the US National Oceanic and Atmospheric Administration, the number of active satellites in orbit could **increase by 50%** or more in 2022. As space becomes more congested, the threat of “space junk” — orbital debris from old spacecraft and satellites — to **new satellites and rocket launches** has grown.

## Space Security

Space has become an increasingly **contested domain among countries**, underscoring the need for “**space domain awareness**” by private and governmental players. That means identifying, characterizing, and understanding objects in the orbit. In the USA, space could, therefore, become even less of a partisan issue.

## Telecoms a Near-Term Focus

Satellite operators see value across all three orbital altitudes — **GEO, MEO, and LEO (Geostationary Equatorial Orbit, Medium Earth Orbit and Low Earth Orbit, respectively)** — with companies taking different approaches to blending them.

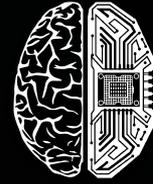
# 2021 WAS A TURNING POINT IN THE SPACETECH INDUSTRY

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The year 2021 will probably go down in the annals of space history as a turning point, a moment when ordinary citizens started leaving Earth on a regular basis. Multiple crews lifted off on several different spacecraft, and for a brief moment this year, there were a record 19 people in the weightless environment of space, and eight of them were private citizens.

If 2021 was the year of the private space tourism, 2022 could be marked by the first steps toward a return to the moon as NASA and the growing space industry seek to maintain the momentum that has been building over the past several years in what has amounted to a renaissance of exploration. The rapid expansion of the commercial space industry over the last couple of years has led early-stage investors to consider very different types of companies than they did when space start-ups were a novelty. The availability of more affordable rides to space, the maturity of ground infrastructure, and improvements to accessibility and usability of earth observation data have combined to position entirely new breeds of space-related ventures as ripe for high-risk, high-growth investment. Starship in particular will open opportunities for previously unimaginable levels of space activity.





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Analytics**

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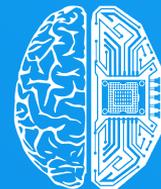
**CONTACT US**

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[www.SpaceTech.global](http://www.SpaceTech.global)  
[info@SpaceTech.global](mailto:info@SpaceTech.global)

# SpaceTech Analytics Year Overview

January 2022  
[www.SpaceTech.global](http://www.SpaceTech.global)



SpaceTech  
Analytics

# SpaceTech Analytics

## New Era in Big Data Analytics for SpaceTech Industry

SpaceTech Analytics is a strategic analytics agency focused on markets in the Space Exploration, Spaceflight, Space Medicine, and Satellite Tech industries. The range of activities includes research and analysis on major areas of high potential in the SpaceTech Industry, maintaining profiling of companies and governmental agencies based on their innovation potential and business activity, and providing consulting and analytical services to advance the SpaceTech sector.



**SpaceTech Industry Landscape Overview**

Q3 2021

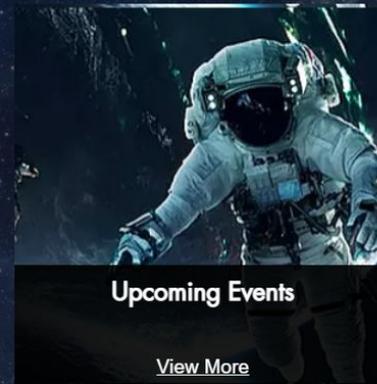
**SpaceTech Industry 2021/Q3 Landscape Overview**

[View More](#)



**1000+ SpaceTech Leaders Full Database**

[View More](#)



**Upcoming Events**

[View More](#)



**INVESTMENT DIGEST**

SpaceTech Industry 2021 / Q2

July 2021  
[www.spacetechnology.com](http://www.spacetechnology.com)

 SpaceTech Analytics

**Investment Digest**

[View More](#)

# MEET OUR TEAM

## Board of Advisors (in a progress more people to be confirmed)



**Glenn Reynolds**

Chaired Professor of law  
at University of  
Tennessee



**Dr. Dana G. Andrews**

University of Washington  
Seattle | UW · Aeronautics  
Doctor of Philosophy



**Courtney Stadd**

Former and first Head of  
the Office of Commercial  
Space Transportation at the  
Department of  
Transportation



**Dr. Andrew Aldrin**

Director of the Aldrin  
Space Institute at Florida  
Institute of Technology



**Egbert Edelbroek**

CEO SpaceBorn United,  
space life science  
researcher



**John Weathersby**

Founder and CEO of  
StellarModal Intermodal  
Transportation Association



**Jennifer Fogarty**

Director of Applied  
Health and  
Performance at Sophic  
Synergistics LLC

## Our Partners (constantly growing)



## Open Access Analytics

View more

### Industry Overviews and Investment Digests



### Case Studies



## Space Medicine Activity

With the growing financial capabilities of the space industry, the commercialization of space travel is inevitable. As long-term spaceflights are becoming closer to reality, we shall consider the possibility of human gestation on other planets to ensure the safeness and success of future generations of space explorers.

Our interest in space medicine topic is dedicated to state-of-the-art technologies that will enable humankind to survive in the space environment, give birth, and endure interplanetary journeys in the future of space exploration.

### Special Case Studies and Joint Reports

#### Space Medicine and Human Longevity in Space

Q3 2021

[www.aginganalytics.com](http://www.aginganalytics.com)  
[www.spacetech.global](http://www.spacetech.global)  
[www.femtech.health](http://www.femtech.health)



#### Mitochondria in Longevity and Space Medicine

Q3 2021



[www.aginganalytics.com](http://www.aginganalytics.com)

#### Giving Birth in Space

Q3 2021

[www.spacetech.global](http://www.spacetech.global)



# EVENTS BY SPACETECH ANALYTICS



SpaceTech Analytics

## Space Mining The High Frontier

Conference

28 July 2021 | 5 PM BST

The banner features a space-themed background with an astronaut floating in space against a backdrop of Earth and the moon. The SpaceTech Analytics logo is in the top left corner.



SpaceTech Analytics

## Staying Healthy in Space

Conference

15 September 2021 | 5 PM BST

The banner features a space-themed background with an astronaut in a space suit. The background is dark with some red and blue lighting. The SpaceTech Analytics logo is in the top left corner.



SpaceTech Analytics

AER OX

DEEP KNOWLEDGE GROUP

## The Future of Space Medicine

Conference

15 October 2021 | 5 PM BST

The banner features a futuristic, high-tech background with a glowing blue interface and a human figure. The SpaceTech Analytics logo is in the top left corner, and logos for AER OX and DEEP KNOWLEDGE GROUP are in the top right corner.

The virtual conference that took place on July 28, 2021, where SpaceTech Analytics business development consultant Rand Simberg and speakers from the space-mining industry discussed the opportunities presented by the rapidly emerging interest in in-situ resource utilization (ISRU) – as a key part of expanding human presence in space and in generating economic benefit both off planet and terrestrial from space activities. Speakers also addressed the need to conduct space-resource utilization in a sustainable manner to allow healthy growth of the off-world economy.

The virtual conference taking place on September 29, 2021, in which speakers from the space-medical community discussed the opportunities and challenges presented by the coming rapid growth in the number of humans working, playing, and perhaps even living in space as a key part of expanding human presence in space and in generating economic benefit both off-planet and terrestrial, from space activities. Speakers will address the issues, potential solutions to them, and identify areas of necessary research to better understand both the issues and best solutions.

Understanding of new technologies emerging for space medicine will become ever more important with the soon-to-come plunging of launch prices, enabling thousands of people, many not necessarily in the best of physical health, to visit space in the near future. In addition, with that much activity, the chances of accidents will vastly increase, and many of them will need to be dealt with in space because waiting for an ambulance to get back to Earth may be too late. But we have not developed protocols or procedures for surgery or burn treatments in free fall (though ironically, that may be the best environment in which to treat a burn victim, and conceivably, there could even be orbital hospitals for such cases).

## Upcoming Conferences

» Commercial Space Stations

» Space Longevity

» Investment in Final Frontier

# COOPERATION



**Private Investors**

**Institutional Investors**

- Acquisition of investments
- Access to the dashboard with algorithm-driven data
- SpaceTech ETF development
- Technical due diligence
- M&A target search
- Market consulting
- Specialized case studies and thematic proprietary analytics

**Startups**      **Corporations**

**Private Companies**

**Public companies (IPO and SPAC)**

- Joint reports
- Market investigation and insights
- Investment fundraising
- Proprietary analytics
- Joint ventures
- Assistance in business development and investors and government relations

**Space Agencies and other Government Organizations**

**Nonprofits and Universities**

**Hubs and R&Ds / Associations**

- Joint reports
- Market research and analytics
- Cross-communication support
- Partnership network contribution
- Mutual promotion
- Joint Ventures reports

**Think Tanks**

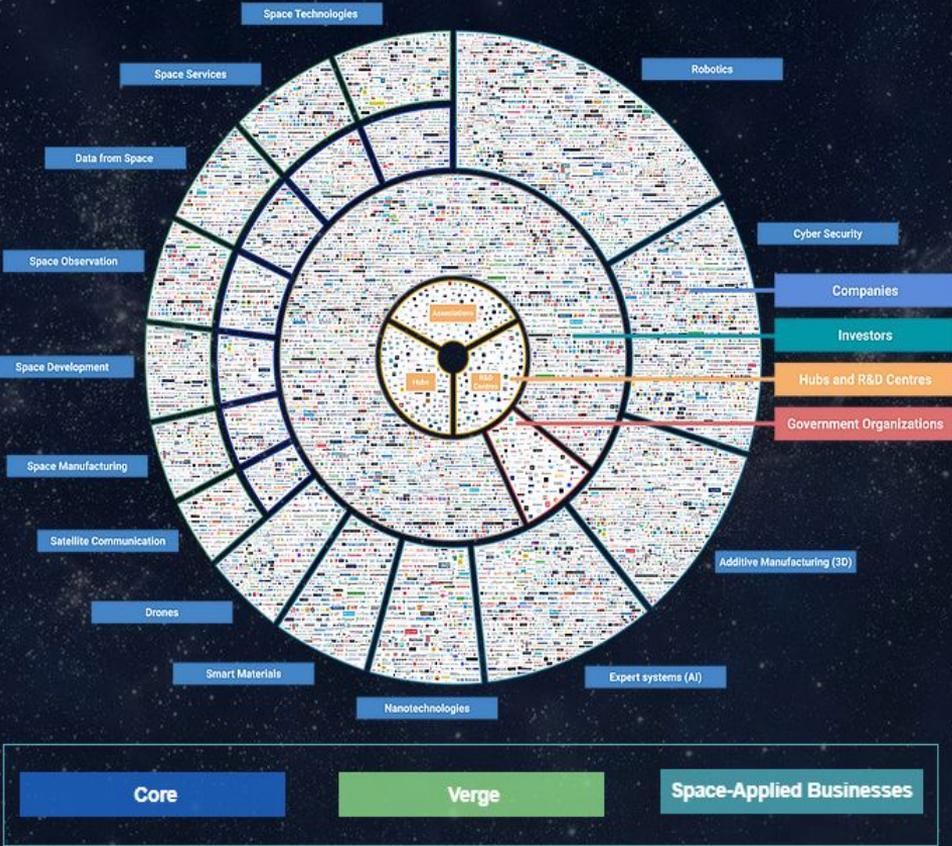
**Analytical Agencies**

**Journalists and Industry Leaders**

**Consulting Companies**

- Joint reports
- Conferences
- Webinars
- Early access to reports
- White label personalized content
- Mutual promotion

# SPACETECH ANALYTICS INTERACTIVE MINDMAPS



- Space Technologies
- Space Services
- Data from Space
- Space Observation
- Space Development
- Space Manufacturing
- Satellite Communication

- Drones
- Nanotechnologies
- Smart Materials
- Cyber Security
- Robotics
- Expert systems (AI)
- Additive Manufacturing (3D)

### SpaceTech Investors

[View More](#)

### R&D Hubs, Associations, and Governmental Organizations

[View More](#)

# Introduction the new home for SpaceTech:

[SpaceTech Analytics: Dashboard](#)

**Access now!**

Navigate 12,000 SpaceTech companies and more

The dashboard is organized into two main horizontal sections. The top section, labeled 'SpaceTech Companies', includes a sidebar with 'Top Public Companies', 'Funding Rounds', and 'Leading Companies & Investors'. The main content area features a 'SpaceTech Mindmap' (a circular network diagram), a 'Dashboard Parameters' table, and a 'List of Companies' table. The bottom section, labeled 'Other Assessments', includes a sidebar with 'Space Medicine Industry', 'Space Law & Economics', and 'Unidentified Aerial Phenomena'. The main content area features three report cards: 'National Space Programms' (with a satellite image), 'Space Travel Industry' (with a space window view), and 'SpaceTech Industry 2021 Report' (with a landscape overview). Each report card has a 'View More' button.

COMPANIES	INVESTORS	HUBS AND R&D
10000+	5000	280
INDUSTRY SECTORS	PARAMETERS	DATA POINTS
20+	100+	1499985

Company Name	Investment	Year
SpaceX	\$1.3B	2002
Boeing	\$1.0B	1996
Space.com	\$1.0B	2000
Space.com	\$1.0B	2000
Space.com	\$1.0B	2000



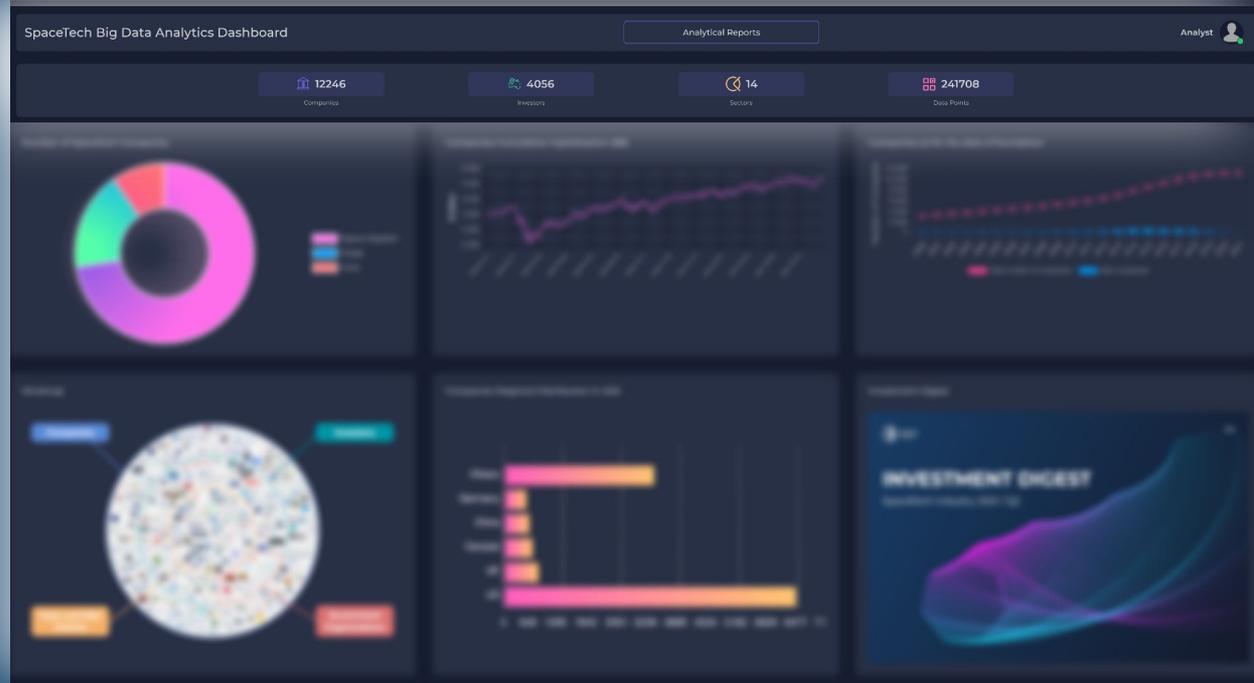
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[www.SpaceTech.global](http://www.SpaceTech.global)

# Introducing the New SpaceTech Big Data Analytics Dashboard

Coming Soon!

SpaceTech Analytics will soon be releasing an analytically sophisticated dashboard that will incorporate Big Data analytics, Machine Learning, AI engine, and investment analytics technologies already developed and validated by SpaceTech Analytics' parent company, Deep Knowledge Group, and its various analytical subsidiaries (including Aging Analytics Agency and Deep Pharma Intelligence).



SpaceTech  
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[www.SpaceTech.global](http://www.SpaceTech.global)

## OUR CONSORTIUM

Deep Knowledge Group is a consortium of commercial and non-profit organizations active on many fronts in the realm of DeepTech and Frontier Technologies (AI, Longevity, FinTech, GovTech, InvestTech), ranging from scientific research to investment, entrepreneurship, analytics, media, philanthropy and more.

### Analytical Subsidiaries

[Aging Analytics Agency](#)

[Deep Knowledge Analytics](#)

[Deep Pharma Intelligence](#)

[NeuroTech Analytics](#)

[GovTech E-Governance Analytics](#)

[COVID-19 Analytics](#)

[Innovation Eye](#)

[Interactive MindMaps](#)

### For Profit & Non-Profit Activities

[Deep Knowledge Ventures](#)

[Longevity Capital Fund](#)

[Longevity FinTech](#)

[Notable Acknowledgements](#)

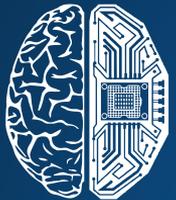
[Biogerontology Research Foundation](#)

[Longevity International UK](#)

[Longevity Book](#)

[Media Digest](#)

*\*Please click on buttons to learn more*



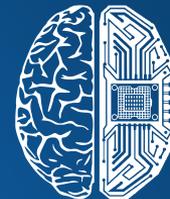
Deep  
Knowledge  
Analytics

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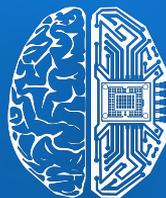
SpaceTech  
Analytics

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