



NOOSPHERE
VENTURES
Technology Knowledge Humanity

VENTURE INVESTMENTS IN SPACE MARKET

Q4 2019 REPORT

www.noosphereventures.com

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OUR METHODOLOGY AND DATA SOURCES



Venture Investments in Space Market reports of venture type of investments of all stages and equity investments in space startup companies on a quarterly basis. Our report dataset is sourced from databases, such as PitchBook, Crunchbase, FactSet, NewSpace Hub, CB Insights and other sources. The dataset includes only publicly reported deals, it does not include proprietary investment information.

OUR DEFINITION

A company from a space market is a business entity that provides products or services, including, but not limited to:

- satellite manufacturers constructing space satellite platforms of all sizes for commercial, scientific and military purposes
- providers of payloads, satellite parts or spacecraft components
- launch vehicles manufacturers and launch service providers
- rocket engine manufacturers
- companies related to satellite sector, including satellite operators and satellite service providers, companies with products and services based on GPS and GNSS systems, satellite connectivity and other satellite technologies to provide its services
- companies involved in exploring and commercializing outer space, such as space tourism, space mining and setting up space colonies
- companies manufacturing satellite ground equipment such as antennas, VSAT, SSPAs & BUCs etc. intended primarily for the B2B market
- data analytics companies, actively using satellite imagery and other earth observing methods to create their products and services, remote sensing and geospatial analytic products and services

Q4 2019 VENTURE INVESTMENTS IN SPACE MARKET: KEY NUMBERS

38 Rounds closed

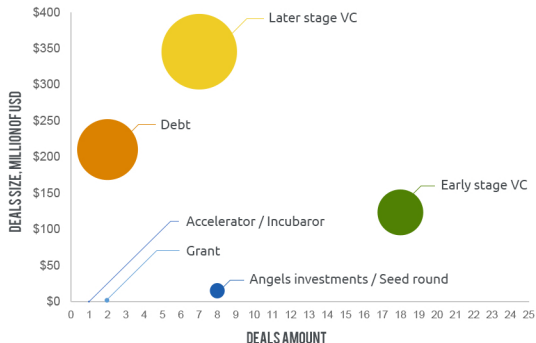
\$696M Total investments

94 Funds participated in funding

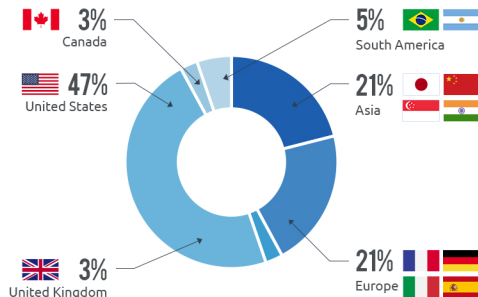
~30% Share of debt financing to satellite operators & service providers

~33% Share of investments dedicated to space launches

DEAL TYPES



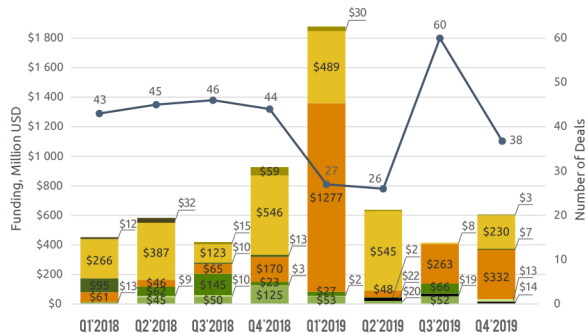
INVESTED COMPANIES BY GEOGRAPHIC AREAS



DEALS AMOUNT, DEFINED BY LOCATION OF COMPANIES HEADQUARTERS

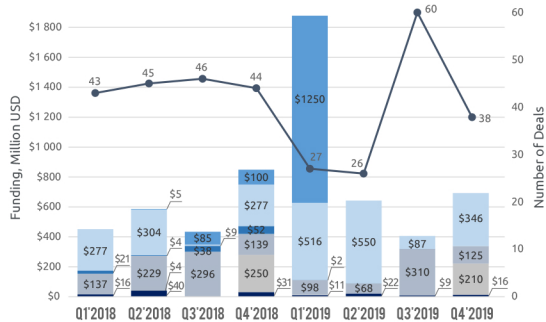
DYNAMICS OF VENTURE INVESTMENTS IN SPACE MARKET, 2018-2019

DEALS BY INDUSTRIES



- Rocket engines
- Spaceport operators
- Space exploration & commercialization
- Satellite manufacturing & servicing companies
- Materials & parts suppliers
- Space infrastructure & in-orbit services
- Space launch
- Satellite operators & service providers
- Satellite ground equipment & solutions
- Earth observation & geospatial analytics
- ◆ Deals

DEALS BY STAGES



- Angel / seed round
- Debt
- Early stage VC
- Grant
- Later stage vc
- PE growth / expansion
- ◆ Deals

VENTURE INVESTMENTS Q4 2019: LANDSCAPE OF FUNDED PROJECTS



ROCKET ENGINES MANUFACTURERS



SPACE LAUNCH



MATERIALS & PARTS SUPPLIERS



SPACE ENGINEERING & CONSULTANCY



SATELLITE MANUFACTURING & SERVICING



PROPULSION SYSTEMS PROVIDERS



SATELLITE OPERATORS AND SERVICE PROVIDERS



SATELLITE GROUND EQUIPMENT & SOLUTIONS



SPACE INFRASTRUCTURE & IN-ORBIT SERVICES



EARTH OBSERVATION & GEOSPATIAL ANALYTICS



SPACE EXPLORATION & COMMERCIALIZATION



LARGEST DEALS OF Q4 2019 VENTURE INVESTMENTS IN SPACE MARKET



\$160M Debt

Credit facilities secure long-term financing that enables Kacific to repay short term facilities used to fund the construction, as well as associated infrastructure and launch costs of Kacific1 payload, which is commencing operation in early 2020

Relativity

\$140M | \$430M Post valuation

Relativity will use the funds to advance its 3D-printing technology and develop its test site (Jackson, Mississippi), and rocket launch facility (Cape Canaveral, Florida)

LANDSPACE

\$71M

The new funding will be mainly used for the development of a new launch vehicle, the two-stage Zhuque-2 (Vermillion Bird-2) medium-lift one. The funding will also go towards verification of reusable rocket technology



\$50M | \$480M Post valuation

The new capital raised will be used to accelerate product innovation and expansion of the company's software solution, Orbital Insight GO. Current use cases include supply chain monitoring, real estate analysis, infrastructure mapping, and defense and intelligence

SATELLOGIC

\$50M

New funding round will enable it to scale up its satellite constellation, with 16 satellites scheduled for launch in 2020

BLACKSKY
YOUR WORLD NOW

\$50M Debt

The new capital will augment existing assets and alliances, ensuring BlackSky remains a leader in delivering actionable Earth intelligence. Over time, BlackSky could incorporate access to Intelsat's robust global communications infrastructure, delivering first-to-know insights to customers



\$29.4M | \$154.4M Post valuation

The company is fully funded to complete its seven satellite SAR constellation launch in 2020



\$26M

The new investment will help the company to meet the expanding industry and government requirements for positioning, navigation, and timing solutions. The company will expand its sales and marketing efforts, broaden the partner network, and accelerate product development



\$20M | \$220M Post valuation

The company has raised capital to accelerate its mission to build a digital twin of the planet from diverse sources of information from historical and current satellite data, sensors, and data from our customers, to generate actionable intelligence

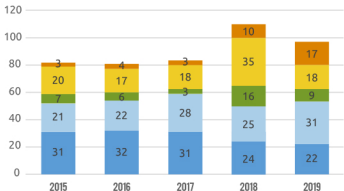


\$17M

The funding round enables the company to progress in the development of sustainable, environmentally-friendly launch vehicles. The company is developing Spectrum, a two-stage, liquid-fueled rocket designed to launch 1,000 kilograms to low Earth orbit

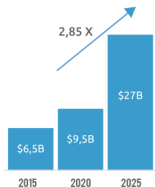
SUCCESSFUL SPACE LAUNCHES, 2015-2019

SPACE LAUNCHES BY ORBITS



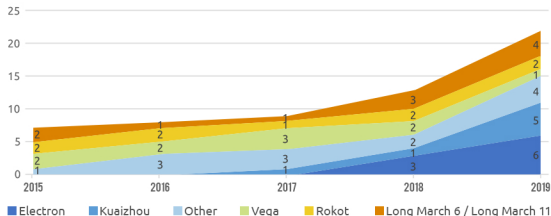
- SSO (sun-synchronous orbit)
- MEO (medium Earth orbit)
- GEO (geosynchronous equatorial orbit)
- LEO (low Earth orbit)
- Other orbits

SPACE LAUNCH AND SPACEFLIGHT MARKET SIZE



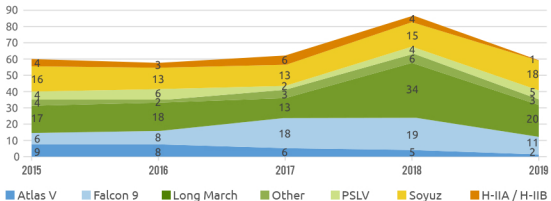
LAUNCHES OF SMALL-LIFT VEHICLES

(capacity of lifting up to 2,000 kg of payload into LEO)



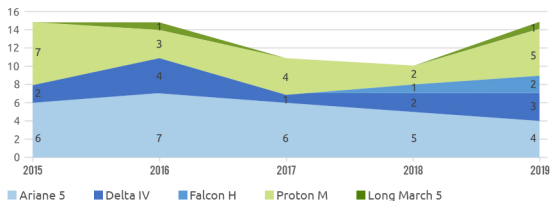
LAUNCHES OF MEDIUM-LIFT VEHICLES

(capacity of lifting up 2,000 to 20,000 kg of payload into LEO)



LAUNCHES OF HEAVY-LIFT VEHICLES

(capacity of lifting up 20,000 to 50,000 kg of payload into LEO)



VENTURE FUNDS TARGETED IN SPACE MARKET



FUND



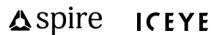
FOUNDED

2014

2007

2006

ICONIC INVESTMENT



CURRENT FOCUS

Current investment plans are to add to our portfolio various companies from different segments of the space ecosystem:

- Component suppliers for small satellites
- Small satellite manufacturers
- Space tugs and debris removal systems
- Ground and communication services
- Earth observation and data analysis
- Moon projects and commercial deep space exploration missions

Singular focus on early-stage space ventures puts it in the position to weed out unqualified opportunities (only less than 5% applications satisfied investment criteria)

The fund invests in both downstream (software), and upstream (hardware) 'New Space' opportunities, along with technologies which rely on satellite data such as drones and the Internet of Things, or which have potential space applications such as artificial intelligence, robotics and nanomaterials

ABOUT NOOSPHERE VENTURES

NOOSPHERE VENTURES

is a team of professionals who believe in New Space and are building a streamlined space business ecosystem. We invest in world class teams, technologies and business systems that can change the world.

CONTACTS

If you have a relevant business that is looking for venture capital funding, submit your business plan for review pitchdeck@noosphereventures.com

Our professional team has excellent investment and technical background, and our expertise helps to assess the prospects of projects and pursue it for many years to come.

For questions & feedback about the report industry@noosphereventures.com



OUR SPACE PORTFOLIO



FIREFLY
AEROSPACE



EARTH
OBSERVING
SYSTEM
Listening To The Pulse Of The Planet



SETS
SPACE ELECTRIC THRUSTER SYSTEMS



ABOUT NOOSPHERE VENTURES

We are engaged in the strategic development and expansion of the space sector.

We invest in teams and companies from seed to emerging growth stages and provide a powerful combination of capital and alternative resources for space companies. We are happy to lead deals or syndicate with other quality investors.

So far, we have invested over \$100M in launch vehicles provider Firefly Aerospace, and lesser amounts in other projects.

“Noosphere is focusing on everything in between, which is constellations and other systems.

We are open to cooperation and are currently looking for bus providers and a constellation owner to deploy and monetize the constellation. The constellation (EOS SAR) will be part of a fully US owned and operated commercial remote sensing enterprise.

– Dr. Max Polyakov

www.spaceintelreport.com/noosphere-ventures-firefly-launch-vehicle-then-data-analytics-then-satellite-production-then

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DR. MAX POLYAKOV

Managing Partner of Noosphere Ventures