



*Venture Capital and  
the New Space Economy*

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Raffaele Mauro,  
Partner – Primo Space Fund

An aerial photograph of a river delta system, likely the Mississippi River, showing a complex network of channels and distributaries. The image is overlaid with a semi-transparent blue filter. In the lower right quadrant, a city grid is visible, suggesting the intersection of natural and urban environments.

# **Opportunity: The New Space Economy**

# New Space Economy

## Key drivers

### Cost reduction

- Dramatic launch cost decrease
- Growing rocket reusability trend
- Shift from large custom-made satellites to small cubesats & nanosatellites

### New applications

- Easier access to space for commercial industries
- Space-related applications on an everyday basis (tv, mobile phones, weather forecasts, autonomous driving, etc.)
- Key role in the digital economy
- Space medicine, precision agriculture, natural resource management, global broadband Internet access, e-logistics, tele-education, advanced insurance solutions, risk assessment & management.

### New Investments

- Top VCs now investing in SpaceTech: Sequoia, Founders Fund, Bessemer, In-Q-Tel, Koslha Ventures, First Round Capital, DFJ, Shasta, 500 Startups
- “Space Barons”: Jeff Bezos, Elon Musk, Richard Branson
- Late stage global investors: from Saudi and Abu Dhabi sovereign wealth funds to Softbank in Japan

### Geopolitics

- New space race with Chinese, Indian, Russian, European, Japanese and Israeli investments and missions
- China’s Tiangong Space Station
- Competing Lunar and Mars missions

# New Space Economy

A new wave of investments

## Venture capital deals

- Almost \$8 Bn invested in space start-ups in 2020, with \$4.9 Bn invested by Venture Capital funds
- 140 venture rounds in 124 space economy start-ups worldwide in 2020
- Morgan Stanley estimates \$ 1 Trn annual revenue for the global space industry by 2040

## Valuations

- Investors liquidated \$37.5 Bn of value in 43 space company exits in 2020
- Outliers (example): SpaceX (+100 Bn valuation)
- Unicorns (example): Rocket Lab (low cost deployment), Planet Lab (earth observation with nanosatellites), Astranis (geostationary satellites)

## Acquisitions

- Examples: Google acquired Terra Bella (\$ 500 Mn), Uber acquired deCarta. Apple acquired Mapsense
- 1 Bn of space-related acquisitions in 2016

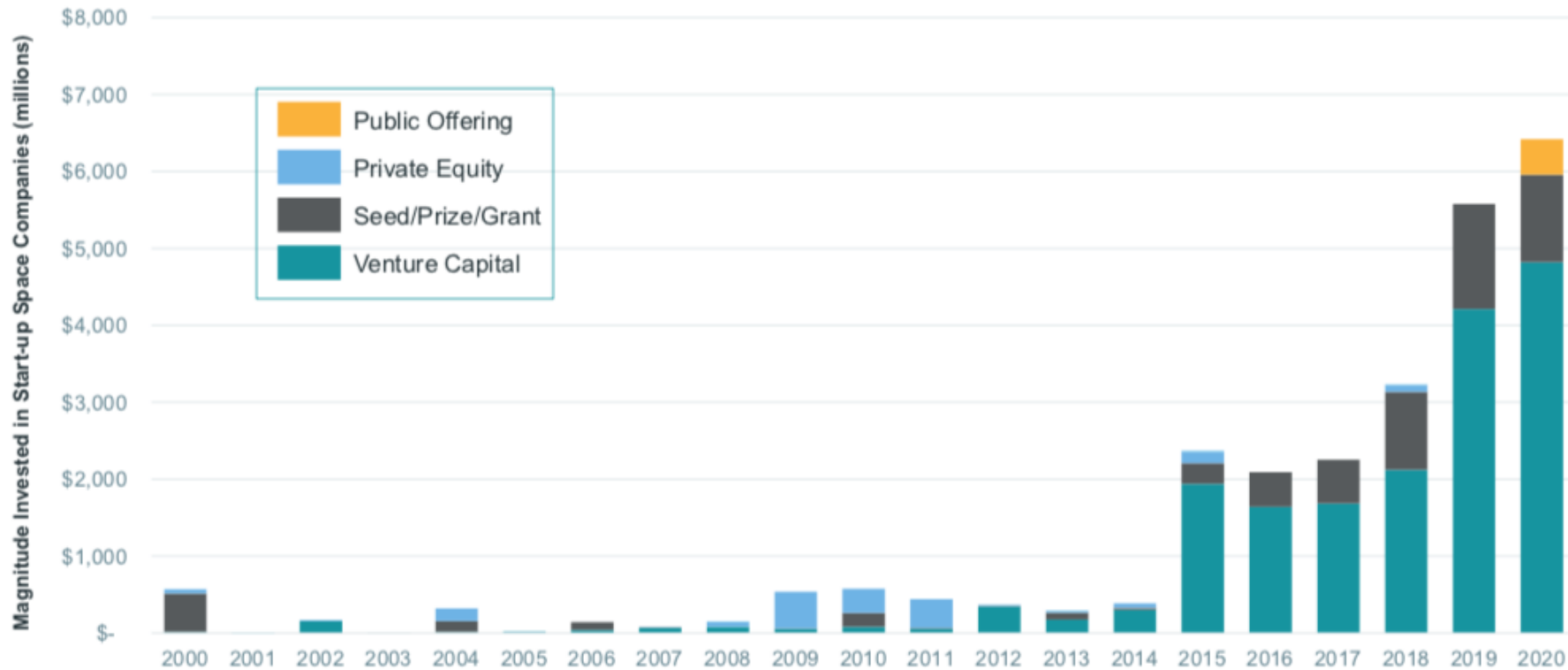
- General increase in deal size and volume
- Creation of unicorn companies\*
- Growing late stage VC/PE landscape
- Dynamic exit market

\*Companies displaying a USD 1+ billion valuation

# New Space Economy

## Venture Capital cycle in Space Tech

Excluding all the debt financing and acquisition transactions, since 2000, **\$26 billion** have been invested in space startups, **84%** of which have been invested **in the last 5 years**.



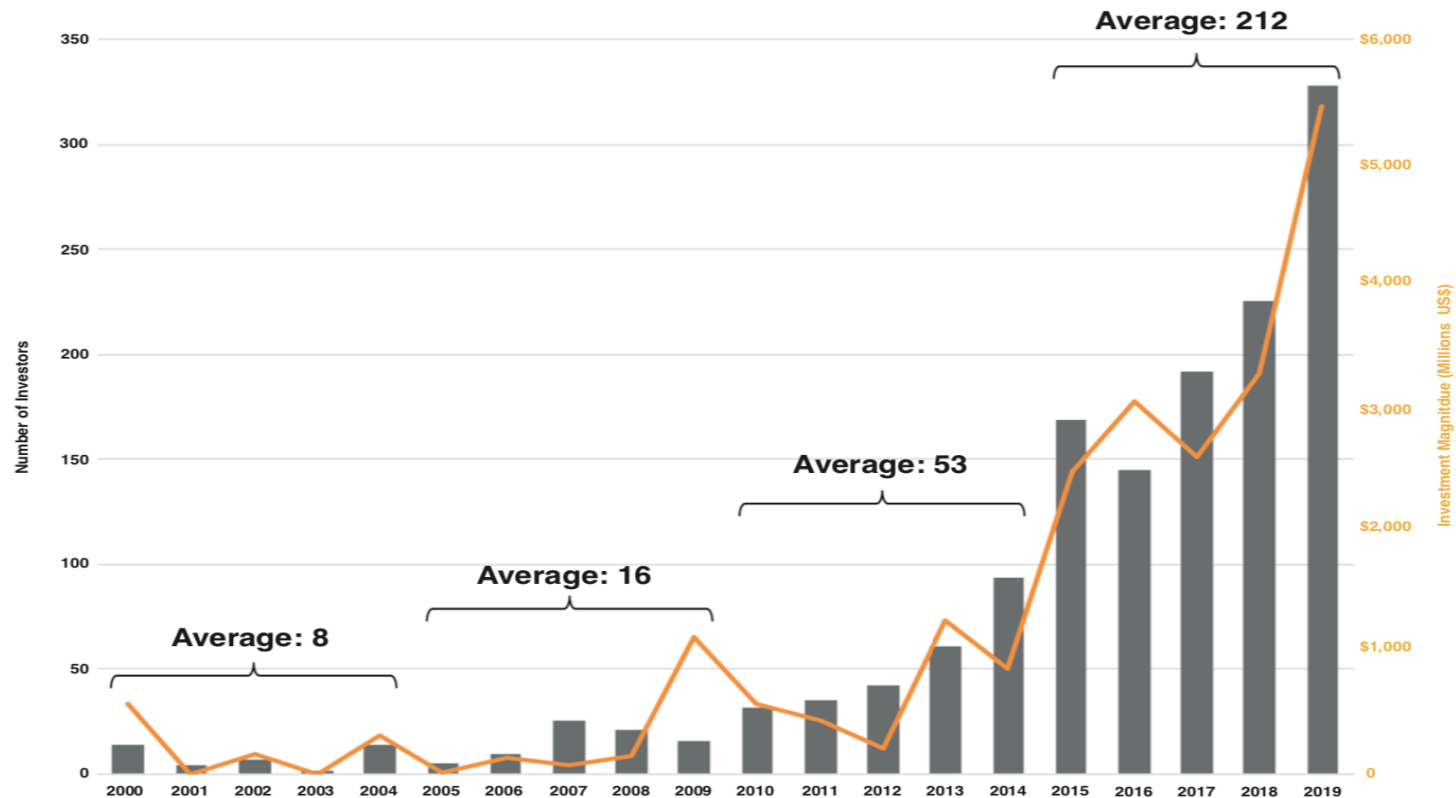
Sources: Bryce Space and Technology – Startup Space 2021

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# New Space Economy

## Venture Capital cycle in Space Tech

Looking at the five year periods, the average number of space start-ups investments per year has grown from 8 to 212, and VCs are the largest investor group.



Sources: Bryce Space and Technology – Startup Space 2020

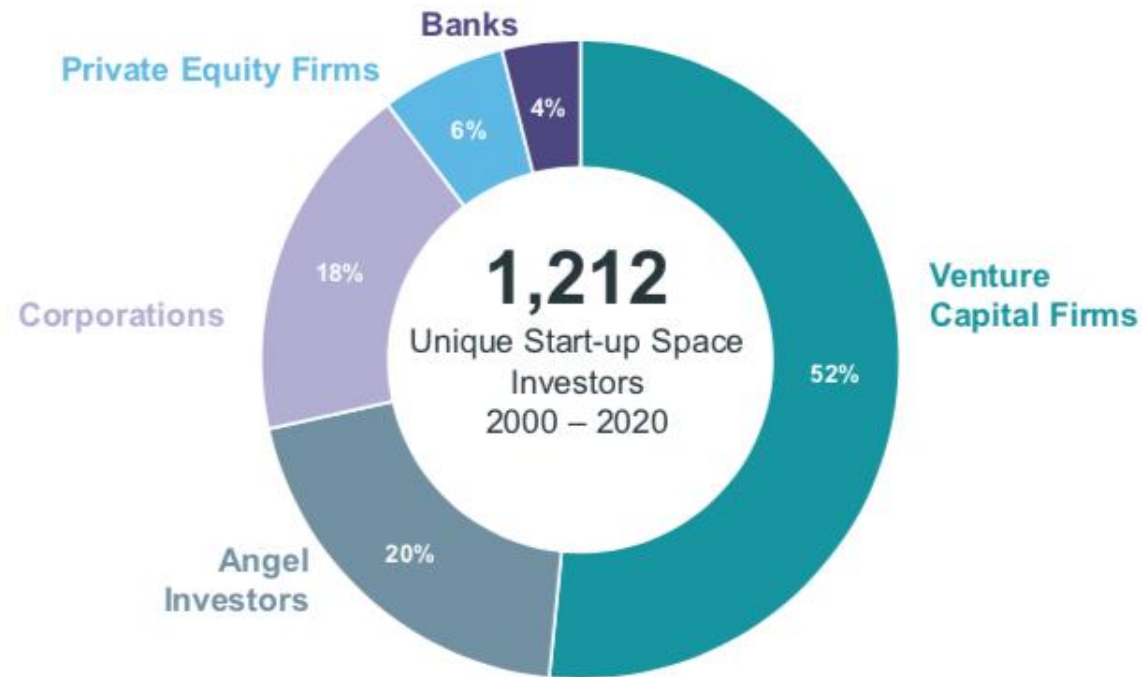
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# New Space Economy

Players investing in the sector

**1.212 investors** have invested in space companies between 2000 and 2020, **630** of which were **Venture Capital firms**.

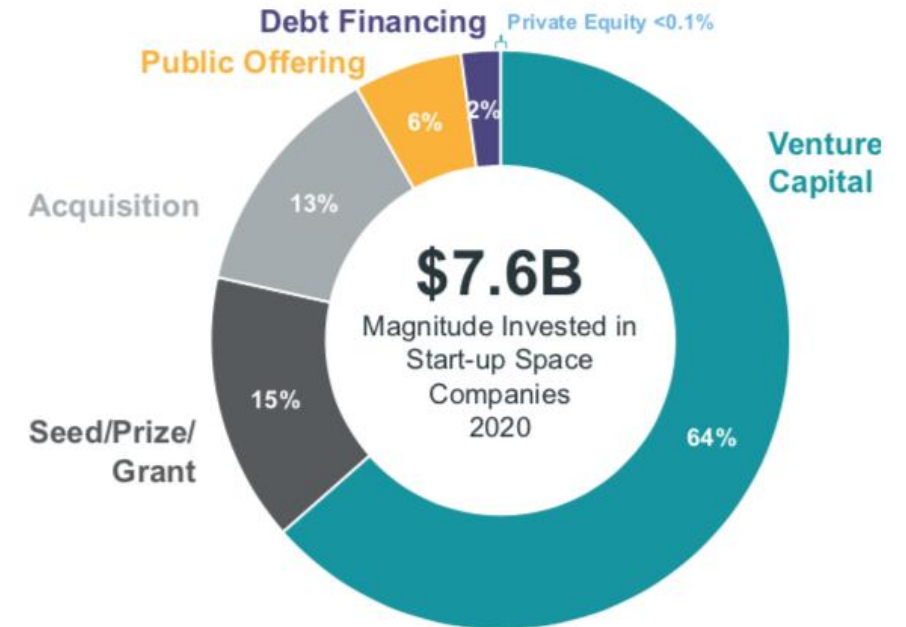
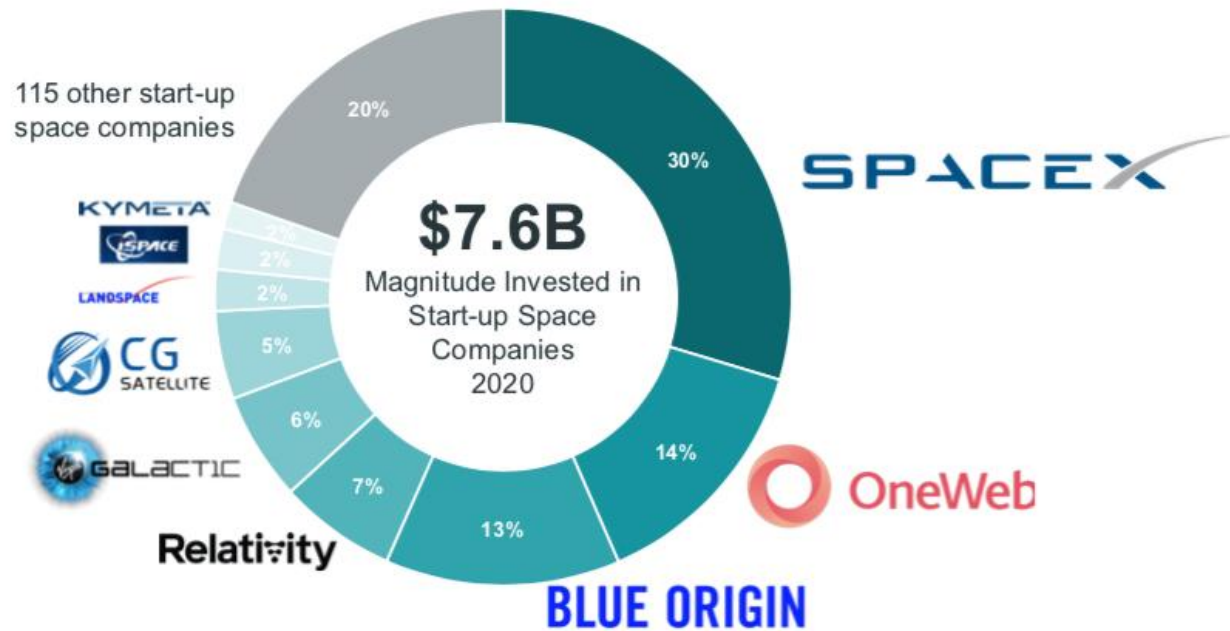
Almost 20% of these investors invested in start-up space ventures for the first time in 2020.



# New Space Economy

## Venture Capital cycle in Space Tech

9 companies accounted for 80% of start-up space investment in 2020 and, among these, 3 companies accounted for nearly 60%.



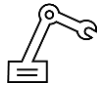


# Industries

## Upstream

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### Build



- Space Hardware
- Materials & Energy
- Electronics & Robotics
- Software & Engineering

### Launch



- Rockets & Sub Orbital technology
- Launch Services
- Flight & Delivery

### Data



- Satellites
- Drones & UAV
- Scientific sensors and instruments

## Downstream

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### Downlink



- Relay Systems
- Communications
- Ground Terminals
- Cryptography

### Store



- Data Storage
- Data Processing

### Analyse



- Geolocation Data
- Earth Observation

### Product



- Insight & Monitoring
- Location & Tracking
- Mapping & 3D
- Data Platforms

# Investment themes

## Digital economy enablers

- Nanosatellite constellations: Telecommunication and IoT networks
- Data storage, analysis and insight generation
- Communication (HW-SW): terminals, relays, software and cryptography

## Space accessibility

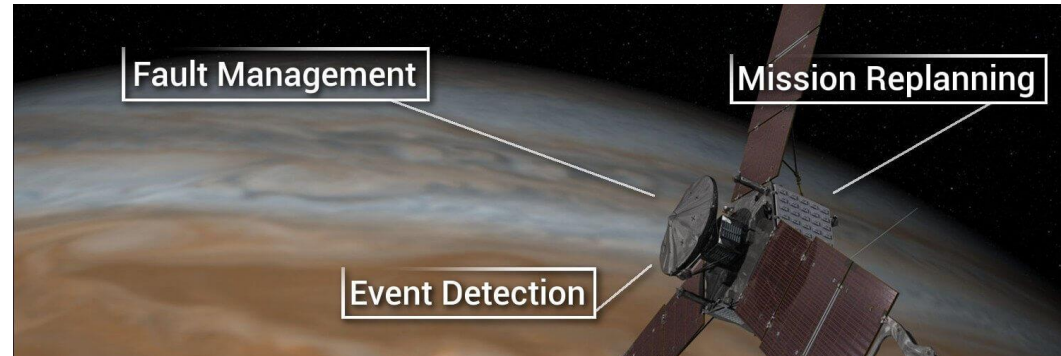
- Rockets
- Propellants
- Launch and flight technology
- Deployment and commissioning / decommissioning systems

## Real economy enablers

- Earth observation satellites
- Mapping systems and earth data analytics
- Geolocation, positioning and tracking systems
- Space-enabled terrestrial applications: medical technology, biopharmaceutical research

## Upstream empowerment

- Space hardware: electronics, energy and new materials
- Software for space applications
- Robotics, drones and autonomous systems
- Space habitats and pressurized modules
- Scientific instruments and life sciences

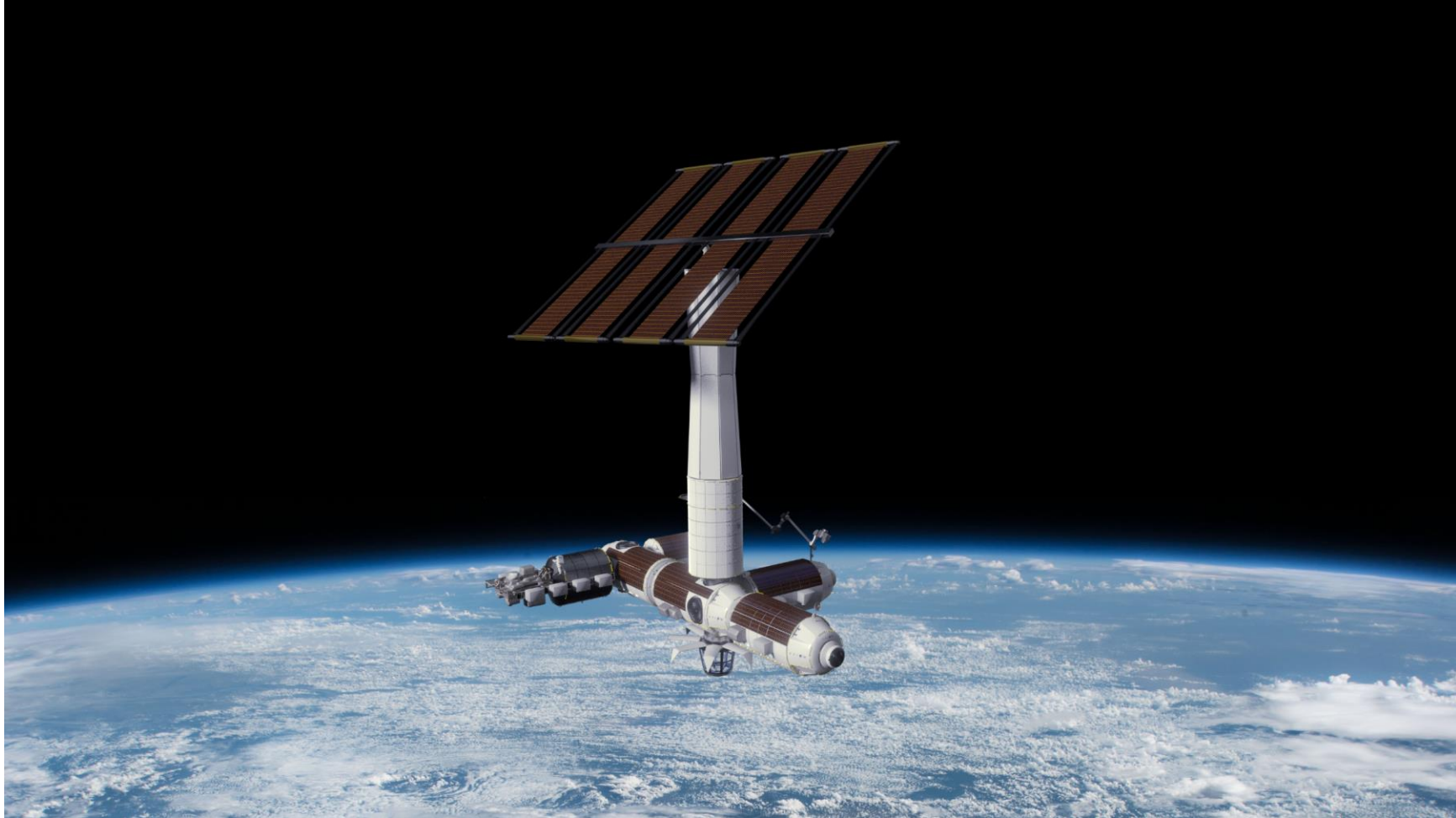








# Axiom Space / Thales Alenia

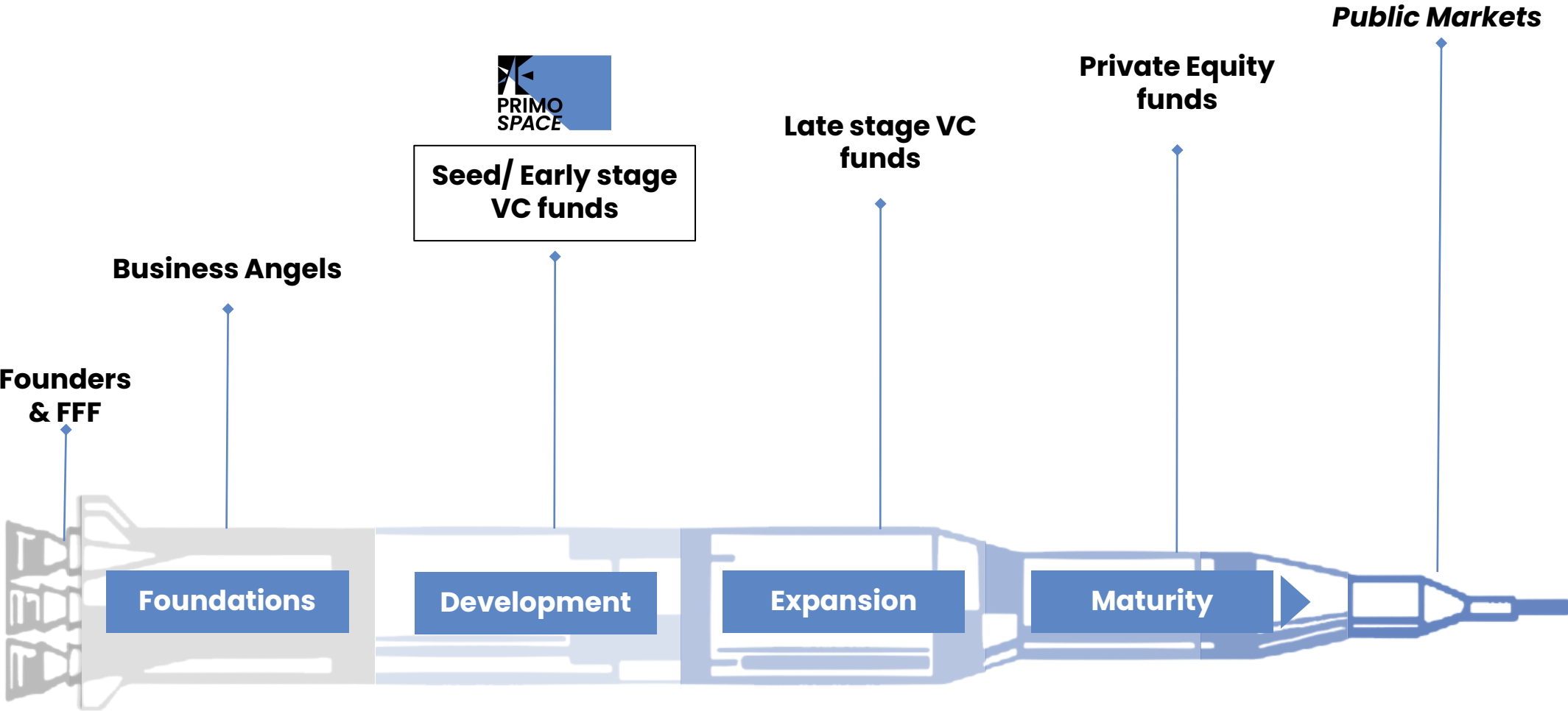


An aerial photograph of a river delta system, likely the Colorado River, showing a complex network of winding channels and distributaries. The river flows from the top left towards the bottom right, where it meets a dense urban grid. The entire image is overlaid with a semi-transparent blue filter. The text 'Venture Capital: How It Works' is centered in the lower right quadrant in a bold, white, sans-serif font.

# **Venture Capital: How It Works**



# Business Phases & Funding Sources

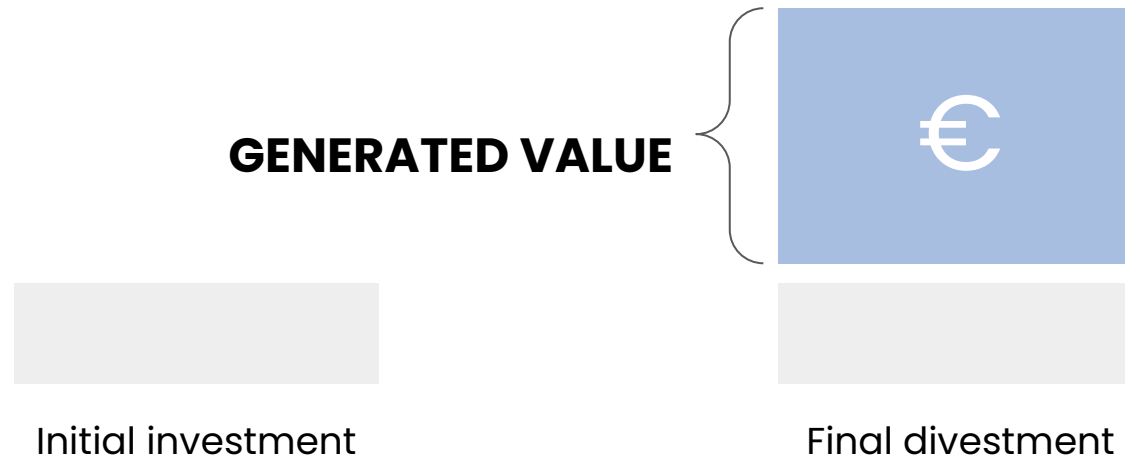


# The Aim of Venture Capital Funds

## VCs in a nutshell

Pooled investment funds managing the money of investors who seek private equity stakes in startups and SMEs with exceptional growth potential. These investments are generally characterized as **very high-risk/high-return opportunities**.

The aim of a venture capital fund is to **generate value**.



# Investment Process

## The investment steps

- Opportunities and deal flow analysis
- Deal evaluation
- Due diligence
- Investments execution
- Follow-up

# Business Plan Evaluation

## Elements that will be evaluated

- Executive summary
- Team
- Solution
- Market analysis
- Competition analysis
- Products/ services offered
- Business traction
- Economic & financial projections
  - Profit & loss
  - Balance sheet
  - Cash flow

# Due Diligence

## Business DD

- Management team
- Does the IDEA work? What is the Technology and Intellectual Property behind it?
- Is there an unmet market need/pent-up demand?
- Competitive advantage

## Financial DD

- Financial analysis: P&L, BS and CF (actual, if any, and projections)
- Investment returns analysis
- Tax position

## Legal DD

- Company books
- Contracts, customers, suppliers
- Insurance, trade marks, patents, licences, etc.

# Negotiations and Investment

## Term Sheet

“Milestones” of the agreement (the handshake between gentlemen):

- Valuation
- Anti-dilution clause
- Business plan
- Governance (board seats)
- Exit.

Subject to positive due diligence and investment committee approval:

**non-binding and no-shopping condition.**

## Negotiation

- Pre-money valuation and anti dilution rights;
- Corporate governance;
- Exit strategy/rights.

## Investment\* Agreement

- Present and future capital increases;
  - \*warrants; tranches; earn-out;
- Rights/majority/veto rights for
  - the shareholders meeting;
  - the board;
- Stock Option plan;
- Lock up and permitted transfer;
- Exit: IPO, trade sale, first refusal/offer, tag and drag along.

*\*Also called “Shareholder Agreement”*

# Investor Shares Determination

## The basics

- The ratio between the **pre-money** and the **investment** determines the shares quota owned by the investor.
- **We don't want the majority of the shares!** We usually invest for a 15% to 30% ownership but it can vary.

**Pre-money:** the value of the company before the investment – it considers both the *tangible* (capital that has been already invested, IPs, ...) and the *intangible* (idea potential, management team, ...) aspects of the business.

**Investment:** it depends on the funding needed by the team, it can sometimes be divided into tranches.

# Follow up: From Startup to Company

## VC fund contribution

### Direct relationship with the entrepreneur

- Board and day by day management
- Budget control and forecast (cash management!!!), reporting
- Sounding board for strategy, marketing and operations
- Mediation
- Next rounds
- Exit

### Supporting activities

- Communication and public relations
- Networking (revenues) and portfolio synergies
- Head hunting



# What We Are Looking For

## Extraordinary teams

- Passionate, enthusiastic people who love ideas but execution too: time and emotional commitment are key
- Visionary but realistic
- Not a one-man band
- Complementary skills

## High growth potential

- Projects targeting growing markets
- Great scalability
- Innovations with transformative applications



**Our goal is to buy shares of promising transformative startups, help these grow, and sell them in a timeframe of 5-7 years: team/product/technology must be appealing to be easily sold to interested parties in the market.**

# As a VC, This is What We...

## DO

- Provide capital (\$\$)
- Give access to relevant networks
- Enhance business opportunities
- Advise

## DON'T

- Manage the company
- Take the majority of the cap table
- Fund research
- Slow down the business

# As Primo Space, This is What We...

## WANT

- Space-related projects
- A team with a clear idea of its funding needs
- Young businesses with a high growth potential
- Strong execution skills

## AVOID

- Projects mainly related to the military & defence field
- Deals outside of Italy looking for a lead investor (we prefer to be followers in those cases)
- Lifestyle businesses
- Part-time founders



# Thank you!

Raffaele Mauro

[raffaele.mauro@primo.vc](mailto:raffaele.mauro@primo.vc)

**Raffaele Mauro is passionate about technology, policy and global finance.**

He is General Partner at Primo Space, a venture capital fund focused on the new space economy. Previously he was Managing Director at Endeavor Italy, a global organization that provides access to smart capital, talent and markets to scale-up companies, Head of Finance for Innovation & Entrepreneurship at Intesa Sanpaolo and worked at venture capital funds such as United Ventures (formerly Annapurna Ventures), P101 and OltreVenture.

Raffaele holds an MPA from Harvard University, a Ph.D. from Bocconi and attended the Singularity University Graduate Studies Program at NASA Ames. Raffaele is a member of the Kauffman Society of Fellows, the “Young European Leaders – 40 under 40” network, the Aspen Junior Fellows group and the Young Leaders group of the US-Italy Council. He is also mentor at TechStars and Mentors4U, member of the executive committee at the Global Shapers Hub – Milano, a World Economic Forum community, and invested in high growth companies such as Multiply Labs (YC 2016) and Strive School (YC 2020) and Serenis Health.

Raffaele is a published author at Harvard Business Review Italy and wrote the books “Hacking Finance” and “Quantum Computing”. Twitter: @rafr