

# International Union of Aerospace Insurers (IUAI) Space Risks Study Group

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# NEW SPACE - NEW INSURANCE Insurance implications of Financing and Technology evolutions

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#### Contents

#### 1. Space financing revolution

- A. A surge in investments
- B. Financing options
- C. Insurance role

#### 2. Technology evolution

- A. Small(er) satellites
- B. Constellations
- C. Software defined flexible satellites

#### 3. Conclusions





## **Historical Space Financing**















# **New Space**











# Space: the new gold rush to a 1 trillion economy

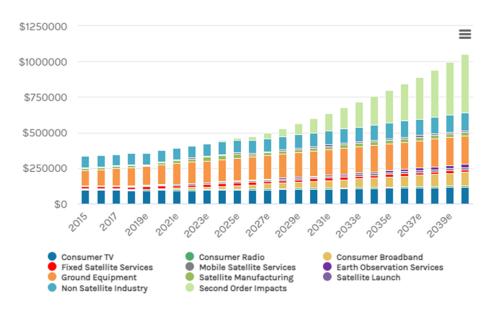
Figure 1: \$15.4 billion invested in 2021 across 241 deals

#### Investment in Start-Up Space Companies 2012 to 2021, by Investment Type



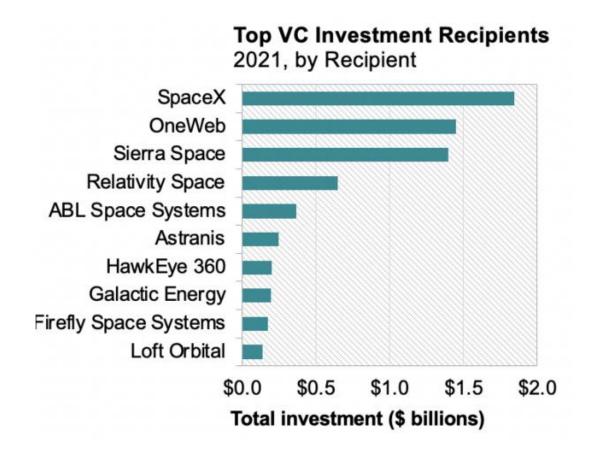


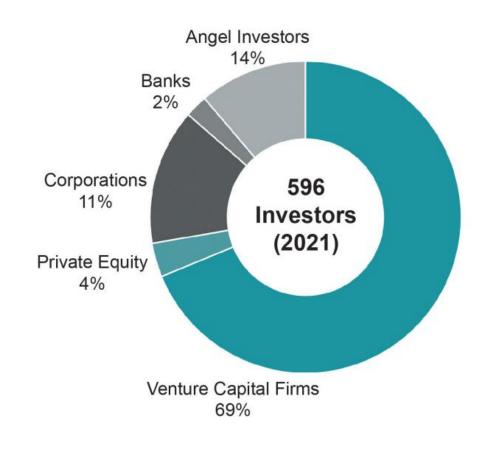
#### The Global Space Economy (\$t)





### Venture Capital / Angel Investors



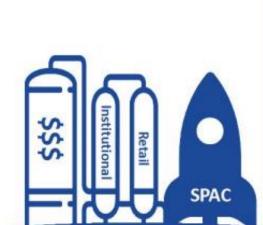




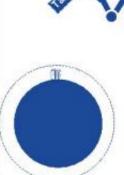
Risk management mostly through diversification

## SPACs / Public offering (1)







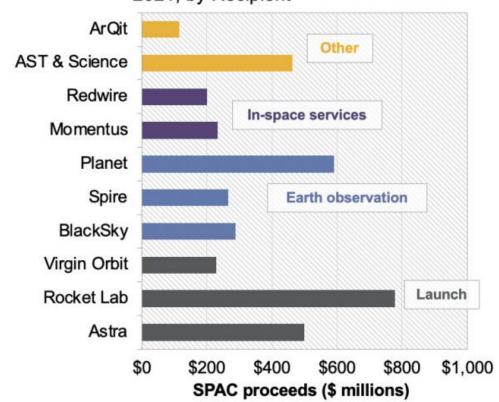


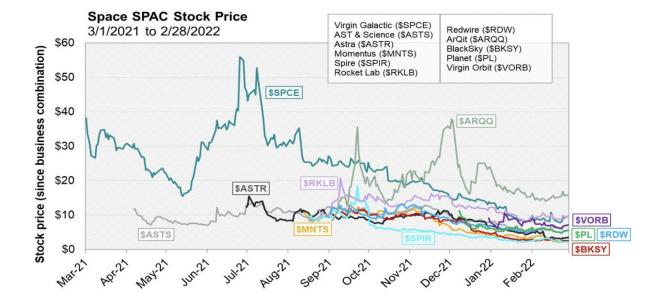




### SPACs / Public offering (2)

#### SPAC Proceeds (net of redemptions) 2021, by Recipient



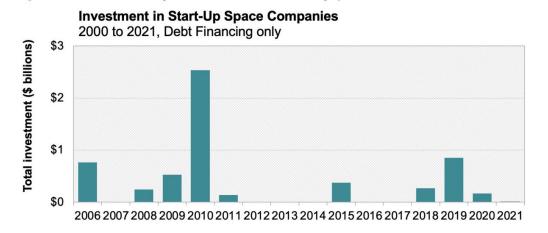






#### Private Equity / Corporations / Banks

- Historical / traditional Space Finance scheme
- Growing appetite of historical players Boeing (Millenium), Airbus (SSTL / Oneweb), Lockheed Martin (Rocket Lab)
- Debt financing low for startup
- 2019 : Kacific
- 2020 : Astranis and OneWeb

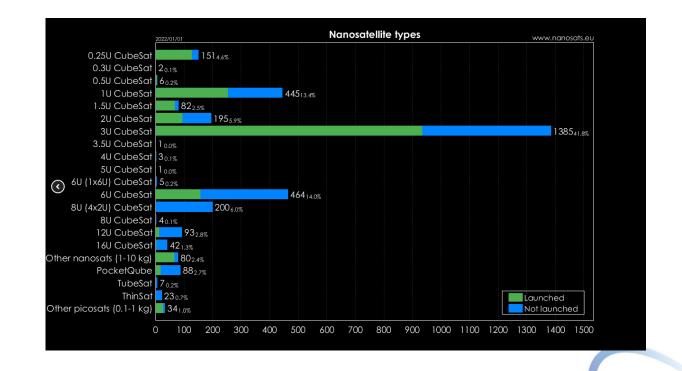






#### Technology Evolution – Product evolution

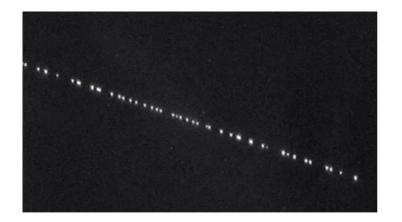
- Smaller satellites + reduced launch costs : much lower sums insured (3U 6U)
- One single insurer
- No distinction launch and pre launch
- Distribution challenge

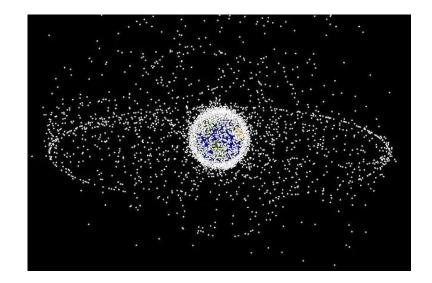




#### Constellations

- One size does not fit all
  - Starlink  $\rightarrow$  0
  - OneWeb → launch
  - Kuiper  $\rightarrow$  ?
- Opportunity or threat ?
- Amazon 3236 satellites in 5 years
  - 34 Atlas V
  - 18 Ariane 6
  - 12 New Glenn + 15 options







#### The Future of GEO

- Software defined satellites
- More flexible –5yrs vs 15 yrs?
- Move to a leasing company model?
  - Frequency rights maybe n issue
- 2<sup>nd</sup> hand market a possibility salvage







#### Conclusions

- Space industry bright future
- Space insurance will need to adapt
  - GEO will continue
  - Small Sats call for specific answers
  - Finance will ultimately move from VC to debt financing
- Maybe evolving towards different and/or complementary portfolios





# Space: the new gold rush to a 1 trillion economy

#### 2021-2030 TRENDS FOR THE SATELLITE INDUSTRY

