

# Financing the Space Economy

Scaling up private investment to transform industries  
and help solve global challenges





# Overview

The global space economy continues to boom, with a current estimated value of US \$596 billion.<sup>1</sup> This is projected to grow to US \$1.8 trillion by 2035 – an annual growth rate of 9 per cent, almost double the rate of expected annual global growth in GDP over the next decade.<sup>2</sup> As the World Economic Forum so aptly puts it, the space economy has well and truly gone “from niche to ubiquitous”.<sup>3</sup>

The continued growth of the space economy will be driven by the expansion of both public and private sector funding. Government spending as part of national space programs – focused particularly on bolstering defence and national security capability – will remain the largest component of global space funding for the foreseeable future. However, the *commercialisation* of outer space – with the potential to transform entire industries, enhance business efficiency and innovation, deliver greater accessibility and connectivity for consumers, and solve some of the greatest humanitarian and environmental challenges of our time – will depend on leveraging greater *private funding* opportunities.

In this article, we explore two of the most viable pathways to deliver the required “scaling up” of private sector investment to support the expanding space economy: venture capital and public-private partnerships. With reference to the unique features of space investments, we consider the risks and opportunities relevant to both space companies and funders, and look ahead to what trends we can expect to see as the space economy becomes more integrated in our everyday lives.

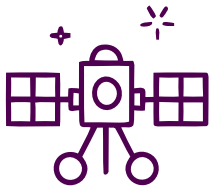
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<sup>1</sup> Novaspace, Space Economy Report, 11th Edition, 2024 (Novaspace Economy Report) (last available estimate as at 2024).

<sup>2</sup> World Economic Forum, *Space: The \$1.8 Trillion Opportunity for Global Economic Growth*, Insight Report, April 2024 (WEF Report).

<sup>3</sup> WEF Report.





## In the eye of the beholder: Recent advances in the space economy

Low-orbit satellite and rocket-enabled technologies deliver critical services for businesses and consumers, including navigation, telecommunications, Earth observation, imagery and surveillance. These services are now relied on across diverse sectors – including agriculture, logistics, freight, transport, retail, food and beverage, tourism and urban planning. Businesses in these sectors have become highly dependent users in an interconnected, increasingly digitised economy.

Space technologies have, in a very real sense, transformed space investment from a mere scientific endeavour to become a key enabler for companies to generate revenue and growth. Space technologies also feature in just about every aspect of our daily lives – from that handy call you take on your smart watch, to looking up directions to get to an appointment, ordering an Uber, and using a delivery service for dinner to save you needing to cook.

The growth in the space economy has been driven primarily by lower launch costs and enhanced technology. This has made access to space easier, and has opened the door to commercial opportunities for private actors in an industry that was previously the sole province of state-based space exploration programs. It is now possible for private commercial entities to enter the market with relative ease. Launch activity has intensified, dominated by the deployment of satellite broadband constellations in the low-Earth orbit.

This enhanced satellite network is also leveraging advances in software, AI and cloud computing to do more with less. In that sense, the growth in the space economy has leveraged and converged with the

simultaneous rapid expansion of the digital economy.

We are now seeing new applications of space-enabled technology to offer solutions to some of the most significant global challenges confronting us.

Notably, satellite imaging is being used to provide estimates of greenhouse gas emissions from individual sites, and to map environmental degradation, biodiversity loss and changes in climate patterns. This data is critical in guiding decision-making and the design of regulatory policies on climate change and biodiversity. It can also be used to monitor compliance by private entities with both mandatory and voluntary emissions reductions and biodiversity conservation commitments, and to deter greenwashing practices.

Space technology – such as the synthetic aperture radar technology developed by Capella Space – is also being used to build advanced natural disaster forecasting and mitigation tools, to map vegetation and to optimise land use in the agricultural sector to tackle food insecurity, and to gather intelligence and monitor border controls in efforts to combat money laundering, financial crime and human trafficking.<sup>4</sup>

Future years are also expected to see a growth in space tourism (with a potential market share of US \$4 to 6 billion by 2035).<sup>5</sup> Eventually, we may also see opportunities in space mining and resource extraction, creating new markets for raw materials and pharmaceuticals that simply cannot be produced on our own planet.

<sup>4</sup> WEF Report.  
<sup>5</sup> WEF Report.



## Space financing trends

The future growth trajectory of the space economy will be highly dependent on scaling up investment and financing sources.

At present, government funding for outer space activities continues to significantly outweigh private investment. In 2024, global government spending on space programs reached US \$135 billion.<sup>6</sup> Of this amount, US \$73 billion (54%) was allocated to defence-related activities, highlighting the growing strategic importance of space as a means to support national security, alongside maritime, aerial and cyber capabilities.<sup>7</sup> The remainder of government space investment was allocated to civil spending – of which the leading component globally was human spaceflight to support exploration activities, followed by investments across space manufacturing, space launch and R&D activity.<sup>8</sup>

The growth in government space investment is expected to continue in future years, fuelled by competition between the United States and China, as well as increased expenditure by India and China, and several nations (such as Saudi Arabia, the United Arab Emirates, Thailand and Peru) investing in space activities as part of their official economic plans.<sup>9</sup>

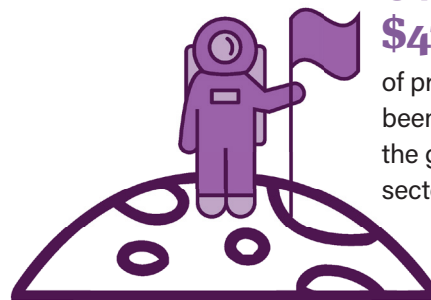
However, in light of the dominant focus of government space programs on defence capabilities, the true commercialisation of outer space – and the cultivation of the innovation required to spark new applications of space technology and infrastructure relevant for businesses and consumers – will be driven by private funding.

Over US \$47 billion of private capital – consisting of equity, debt and acquisition finance – has been invested across the global space sector since 2015.<sup>10</sup>

The bulk of this has been equity finance, particularly venture capital, which accounts for around 80 per cent of private space capital inflows.<sup>11</sup> Significant dedicated space VC funds include Seraphim Capital, Starbridge, Noosphere Ventures, TypeOne VC and Space Capital, with aerospace venture arms such as Airbus Ventures and Boeing Horizon also among active global VC space investors.

Private funding has played a crucial part in enabling the entry of “new space” entities from other sectors, sparking innovations that have expanded commercial opportunities from space activity, such as reusable launchers and microsatellites.

Reaching a peak of US \$15.4 billion in 2021,<sup>12</sup> private funding has seen a downturn in the space economy in subsequent years, corresponding with the broader economic instability experienced with COVID-19 related supply chain disruptions, rising inflation and interest rates, and declining business and consumer confidence.<sup>13</sup>



**Over US \$47 billion**

of private capital has been invested across the global space sector since 2015<sup>10</sup>

<sup>6</sup> Novaspace, *Government Space Programs*, 24th Edition, January 2025 (Novaspace Government Report). The United States led government space expenditure with US \$79.7 billion, followed by China with US \$19 billion.

<sup>7</sup> Novaspace Government Report.

<sup>8</sup> OECD, *Space Economy Investment Trends: OECD Insights for Attracting High-Quality Funding*, OECD Science, Technology and Industry Policy Papers No 166, April 2024 (OECD Space Funding Report).

<sup>9</sup> WEF Report.

<sup>10</sup> PwC (in association with the United Kingdom Space Agency), *Expanding Frontiers: The Down to Earth Guide to Investing in Space*, May 2023 (Expanding Frontiers Report).

<sup>11</sup> Expanding Frontiers Report (based on 2022 figures).

<sup>12</sup> OECD, *The Space Economy in Figures: Responding to Global Challenges*, September 2024 (OECD Space Economy Report).

<sup>13</sup> Novaspace Economy Report.





## Growth prospects for space venture capital

Despite future economic headwinds, and downside risks posed by geopolitical tensions and US tariff policies, venture capital in particular remains a strong growth prospect in the space economy, due to systemic factors such as:

- The proportion of digital start-ups involved in the space economy, and the resulting “high risk, high return” equation sought by venture capitalists in any industry.
- lower launch costs, and ever-reducing barriers to entry for private space actors, which enhances the diversity of investment options and intensifies the cycle of competition and innovation ripe for venture capital funding.
- The growing application of space technologies in the economy, and the reliance placed on those technologies by a broadening range of businesses and consumers across multiple industries, which enhances the prospect of genuine financial returns for venture capitalists.

Further, venture capitalists are likely to be drawn to future growth areas in the space economy which extend beyond the current dominant activities in the low-Earth orbit – such as space mining and engineering, and the development of advanced propulsion methods and other technologies. The more speculative nature of these projects presents greater investment risk, but at the same time also gives rise to a great potential return – music to the ears of venture capitalists.

At the same time, there are a number of distinct features of the space economy that can present challenges in attracting private funding, including:

- Lengthy periods to either design, manufacture and test satellites and supporting infrastructure prior to launch, or to otherwise develop, deploy and achieve measurable results for new space technology – often involving several years, and multiple contractors. These project lead-in times, and the potential for disputes among diverse contracting parties, can impact on funders’ expected returns and the achievement of desired investment exit timeframes.
- Capital requirements – entities with smaller-scale projects can find it more difficult to attract funding, because funders’ transaction costs to scrutinise and manage investments remains relatively stable regardless of the size of the investment. Projects with higher capital requirements may therefore present a greater overall return for funders, leaving small and new technology entities struggling to get off the ground.
- A complex regulatory environment, which typically spans multiple jurisdictions and also brings into play, a raft of international instruments and obligations. This can undermine investment confidence and the certainty of achieving viable returns.

To increase their appeal to private funders, space entities should therefore focus on:



Proactive regulatory engagement, and establishing diligent legal, risk and compliance processes – including obtaining required licences in advance and meeting reporting and registry requirements.

Ensuring all aspects of the project are carefully and thoroughly documented to provide certainty and lower financial risk – extending across matters such as launch services agreements, asset procurement agreements, in-orbit operational agreements, R&D aspects such as intellectual property and commercialisation arrangements, and insurance policies across all phases of the project (pre-launch manufacturing, launch, and in-orbit).

Showcasing tangible business models to funders – demonstrating how the specific application of the satellite or technological capability sought to be funded will appeal to a broad range of industries, fuelling innovation, growth and financial returns.



## Scaling up through Public-Private Partnerships

In addition to the growth in space venture capital funding, public-private partnerships also present a significant opportunity to scale up private investment to support commercial space activity by private entities.

The European Space Agency (ESA) has been a leader in developing co-funding arrangements, designed to foster collaborative R&D and innovation and support market expansion for both new and established entities. The ESA's Advanced Research in Telecommunications Systems (ARTES) Program provides co-funding support for space entities (which must raise the balance of funds from private sources) seeking to:

- Develop new satcom technologies and other innovative telecommunications products, systems and services for deployment in outer space (part of the ESA's "Core Competitiveness" funding).
- Use existing space technology to develop innovative commercial applications that can be used by everyday businesses (part of the ESA's "Space Solutions" funding).

Additionally, ARTES has delivered Partnership Projects that have resulted in groundbreaking new space infrastructure responsible for significant advances in the satellite telecommunications industry in both Europe and Canada, under a risk-sharing design where the operational risks of completed infrastructure are assumed by private entities. Key infrastructure delivered to date includes Eagle-1 (a space-based quantum key distribution system), and Space Inspire Novacom II and OneSat Novacom I (geostationary telecommunications satellites that have revolutionised broadband connectivity and access in remote areas for commercial customers).

The ESA also operates an Investor Network, fostering connections between space startups and a growing network of more than 50 private investors (including venture capital funds and institutional and corporate investors). This program is designed to make it easier for investors to enter the space sector (through

technical, advisory and due diligence support), and to identify entities with significant growth potential and viable business plans suitable for "matchmaking" with particular investors.

In the United States, public-private partnership opportunities are dominated by defence-related funding to support national security space launches and space infrastructure. Incorporated commercial partnerships and emerging technological innovations to combat threats to national security in the "space warfare" domain is a key feature of the United States Space Force's Commercial Space Strategy released in April 2024. Additionally, NASA has embraced public-private partnerships designed to stimulate commercial space innovation and the development of new space exploration technologies to support deep space exploration capabilities – including as part of its NextSTEP (Next Space Technologies for Exploration Partnerships) initiative.

However, this funding – focused on defence and human spaceflight – is distinct to seed funding and other support specifically for commercial space projects that have direct business and consumer applications.

In the United Kingdom, the Government released its new Space Industrial Plan in March 2024, building on its previous 2021 National Space Strategy. Under the Plan, the United Kingdom Space Agency delivers an "Unlocking Space for Investment" initiative focused on addressing access to finance barriers for growth-stage space businesses. The initiative supports space companies to become "investor ready", including via Growth Pathway Program professional advice and training. The costs are co-funded by the Government and space companies themselves.

Additionally, the Space Agency operates an Innovation and Science Seed Fund – a publicly funded, privately managed venture capital fund which invests public R&D funding as equity capital to support early-stage space businesses.

## Takeaways

Outer space is now a global marketplace. “Space” is becoming ever-present in our everyday lives, and this trend will only continue to intensify in coming years.

Private investment in outer space can fuel a new wave of innovation and competition among space companies that can further enhance the global space ecosystem and commercial outputs for use by everyday businesses and consumers.

Venture capital finance is expected to provide particularly strong funding opportunities, with funders chasing the high-risk, high-reward space startup cycle and the prospect of genuine commercial returns due to the rising dependence on space-related services by businesses and consumers.

There are also strong funding opportunities to be gained by commercial space actors through public-private partnerships, with governments now keenly aware of the commercial applications and potential for the space economy to underpin broader economy stability and growth.

With the growing integration of space technology in our lives – across sectors as diverse as agriculture, construction, transport, retail, food, beverage and more – and the potential for continued space innovation to help tackle climate, environment and humanitarian crises, it is critical for these funding opportunities to be actively pursued and expanded over the course of the next decade. Successfully leveraging these private funding opportunities will be the primary driver of an ever-expanding global space economy.



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