REPORT ON THE SPACE ECONOMY 2025

→ THE EUROPEAN SPACE AGENCY

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Contact information:

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1. Introduction

As published by the Organisation for Economic Co-operation and Development (OECD) in 2012[1], the space economy is the full range of activities and the use of resources that create value and benefits to human beings in the course of exploring, researching, understanding, managing, and utilising space. The definition, applied by the European Space Agency (ESA), and developed through the work of the OECD Space Forum[2], includes the value of the space sector itself, comprising of space upstream and downstream companies, as well as the value of impacts that space activities have on the economy, society and sustainability.

The scope of the present "Report on the Space Economy" is on the space sector's economic value. It provides an annual update on the status and trends of the space industry, globally and for Europe specifically. The document is structured in two main chapters.

Chapter 2 highlights selected trends at the macroeconomic level in 2024, providing context to the economic environment in which the space industry is evolving.

Chapter 3 presents key trends and figures of the space sector in 2024, covering public and private investment in space, space activity, space industry's revenues both upstream and downstream and the space sector's workforce.

The document is based on a selected and carefully reviewed set of data to describe the status and main trends affecting the global and European space industries. This work is centred on the continuous assessment of the data presented in the report, notably by:

- Ensuring an in-depth understanding of the methodology used by the data producing entities;
- Identifying any changes of scope or approach to dissociate statistical growth from actual organic growth;
- Outlining clear definitions to avoid misleading comparison across different datasets; and;
- Conducting sanity checks with additional sources to validate orders of magnitude.

Since 2022, the entire set of quantitative data is originating from European entities. The work builds on strategic partnerships with the OECD, but also Eurostat and has allowed significant improvement in key datasets and better alignment of various sources on core indicators.

The highlights provided in the present report come in addition to the ones presented in chapter 3 *The Space Economy in 2024: First Insights* of the 2024 edition[3].

[1] OECD, Handbook on Measuring the Space Economy, 1st Edition, 2012

[2] For more information, please see ESA Space Economy – Partnering with the OECD to develop international best practices, July 2024

[3] ESA Report on the Space Economy 2024

2. Macroeconomic Context

The following chapter outlines selected macroeconomic trends in 2024 at both global and European level. It provides insights into the general economic landscape in which the space industry evolves and presents trends which impact both opportunities and challenges faced by the space sector.

2.1. Key Figures at Global Level

The macro-economic context in 2024 was marked by a slight deceleration in global Gross domestic product (GDP) growth, with regional variations. While inflation has moderated, challenges remain, particularly with resilient service price inflation affecting advanced economies.

Worldwide GDP growth reached 3.1% in 2024, posting a further slight deceleration compared to last year's 3.3%. Growth at country level varied from 4.8% for China (5.2% in 2023), 3.8% for Russia (3.6% in 2023), 2.8% for the United States (US, 2.5% in 2023) and 0.8% for the euro area (0.7% in 2023). A steady increase in global GDP is expected, with growth projected to return to 3.3% in 2025, a level still below the 3.7% average recorded from 2000 to 2019[4].

The 2023 surge in inflation has moderated during 2024. This resulted in a decrease in core goods prices globally. Service price inflation has proven to be more resilient, keeping core inflation above initial predictions[5]. In advanced economies, inflation is expected to continue decreasing, with the objective to reach a 2% target by the end of 2025.

Following shocks such as the COVID-19 pandemic and Russia's invasion of Ukraine, countries reassess trading relationships with a focus on economic resilience and national sovereignty. The European Central Bank (ECB) observed a slowdown in global trade towards the end of 2024, predicting an average growth rate of 0.7% for Q4-2024 and Q1-2025, down from the 1.5% average in the prior two quarters of 2024. The ECB highlights growing trade tensions and regulatory barriers as key risks for both the Eurozone and global trade in 2025, amid uncertainties in US trade policy and weakening global demand[6].

Foreign direct investment is redirected along geopolitical lines, making the global economy increasingly fragmented into geo-economic blocs. Examples include China's export controls on critical materials (2024) and the US export restrictions on advanced technology to China (2024)[7]. This fragmentation could hinder global economic integration, reducing capital, goods, and labour flows between nations, potentially diminishing global cooperation, and further increasing costs of goods and services.

Global employment posted growth of 0.7% in 2024, a slowdown from the 1.7% increase in 2023. While global unemployment rate is maintained at 5%, consistent with 2023 levels[8],

[4] International Monetary Fund (IMF), World Economic Outlook, 2025 (January update)

[5] OECD defines core inflation as price inflation that excludes food and energy prices.

[6] European Central Bank (ECB), Economic Bulletin Issue 1, 2025, February 2025

[7] International Monetary Fund (IMF), Geopolitics and its Impact on Global Trade, May 2024

[8] International Labour Organization (ILO), World Employment and Social Outlook Trends, 2025 (January update)

the moderate growth remains insufficient to address the persistent decent work deficits around the world[9].

2.2. Key Figures in Europe

Europe's economic recovery is lagging behind the global average, with GDP growth rates predictions of 0.8% for the euro area, and uneven progress among European countries[10].

Although posting a slight decline from a 2.7% growth rate seen in 2023, Spain is experiencing one of the highest growth rates, with a 3.1% increase in GDP for 2024. Germany, which experienced a 0.3% decline in GDP in 2023, experienced a slight improvement with a 0.2% decline in 2024. Other major economies continue to face economic stagnation in 2024, with growth rates at 0.9% for the United Kingdom (UK), 0.6% for Italy, and 1.1% for France[4]. Nonetheless, real GDP growth projections for euro area are positive, with forecasts predicting 1.3% growth in 2025 and 1.5% in 2026[11].

Inflation in the euro area showed an average rate of 2.4% for 2024, which is expected to decrease to 2.1 % in 2025 and 1.9% by 2026. It is then projected to increase again to 2.1% in 2027 as a result of the new Emissions Trading System (ETS2) for heating of buildings and for transport fuels. The ETS2 is expected to lead to higher prices in the carbon market, with an impact towards higher inflation[12].

To counter inflationary pressures, the ECB implemented significant rate hikes from July 2022, reaching the highest level by September 2023, with the main refinancing rate at 4.5%. In June 2024, the ECB began easing rates, lowering them by December 2024 to 3.15% for refinancing and 3% for deposits.

The tightening of monetary policy significantly affected the economy, particularly private investments in the euro area. While investment levels remained weak in 2024, they are expected to rise gradually in 2025 and 2026, with continued support from EU Recovery and Resilience Facility (RRF) and EU funds, particularly for green and digital transitions[11].

While the ECB has begun lowering interest rates in June 2024, businesses remained hesitant due to inflation concerns and past tight monetary conditions[13]. This is due to persistently high energy prices, increasing regulatory costs, and the delayed effects of previous monetary policy tightening.

In response to both the pandemic and energy shocks, public debt ratios in Europe increased significantly and remain higher than before the COVID-19 outbreak in most countries in the course of 2024. While debt stabilisation will depend on achieving ambitious fiscal consolidation and sustained growth, important medium- to long-term spending pressures are expected[14].

[9] OECD, Employment Outlook 2024, July 2024

[10] European Central Bank (ECB), Macroeconomic projections for the euro area, December 2024

[11] European Commission, 2025 Euro area report, December 2024

[12] European Central Bank (ECB), Economic Bulletin Issue 8, December 2024

[13] European Investment Bank (EIB), Investment Report 2023/2024

[14] International Monetary Fund (IMF) Working Paper, Taming Public Debt in Europe, August 2024

The employment rate in the euro area has demonstrated resilience amidst recent economic challenges. Unemployment rate has remained stable at 6.4%, its lowest level since the euro's inception[15]. It is expected to reach 6% in 2025 and decline further by 0.1% in 2026[8].

Looking ahead, growth is expected to continue, albeit at a slower pace than initially forecasted, with rising wages and decreasing inflation boosting real wages and spending. More affordable credit should encourage consumption and investment. However, risks remain, including potential global trade disruptions that could slowdown growth in the euro area, uncertainty over US trade policies, and rising political instability in large euro area countries, all of which could undermine confidence and hinder recovery in consumption and investment[16].

Highlight: Record-breaking investment in European Deep Tech startups in Defence, Security, and Resilience[17]

Venture Capital (VC) investment in European Deep Tech startups working on Defence, Security and Resilience (DSR) reached €4.8 billion ($5.2 billion) in 2024, an all-time high. Defence has driven most of the growth.

The investment level in DSR posted the strongest growth among all VC Deep Tech segments, with 30% in the past two years. It also significantly outperformed the overall VC market, which suffered from a 45% decline in the same period of time.

The figures were released by NATO Innovation Fund and research group Dealroom.co[18] in February 2025, ahead of the Munich Security Conference. The NATO Innovation Fund was launched in 2022 to support companies working on military and commercial capabilities, with the objective to help fill the gap between European startups and their US peers.

The Fund's definition of DSR startups encompasses companies involved in tech and energy, including robotics, biotech, quantum computing, Earth Observation systems and nuclear power, as well as "dual use" artificial intelligence systems. According to the report, European Deep Tech startups active in these fields are addressing key challenges, from protecting infrastructure to enabling the climate transition and ensuring resilient supply chains. They now attract 10% of the total VC investment in Europe.

Key hubs[19] for DSR funding include Oxford, Paris, and Munich, with the UK having the most notable hubs. Munich has emerged as a major hub for defence companies, attracting nearly €1 billion in VC funding in 2024 only. For the first time in five years, Germany surpassed the UK in attracting the most VC funding, after the UK had led since 2019.

Investment in Early and Breakout rounds has surged, highlighting a strong focus on innovation. Over the past five years, the number of unique investors has tripled, with more than half being domestic.

[15] Eurostat, Unemployment statistics, October 2024

[16] European Central Bank (ECB), The economic outlook and monetary policy in the euro area, January 2025

[17] Financial Times, VC funding in European defence and security tech surges to record $5.2bn, February 2025

[18] NATO Innovation Fund and Dealroom, Defence, Security and Resilience in Europe, The state of startups and venture capital, February 2025

[19] A hub for next-generation defence companies offers industrial and testing facilities, top talent, a regional industrial supply chain, and connections to customers and traditional primes.

3. The Space Economy in 2024

3.1. Overview

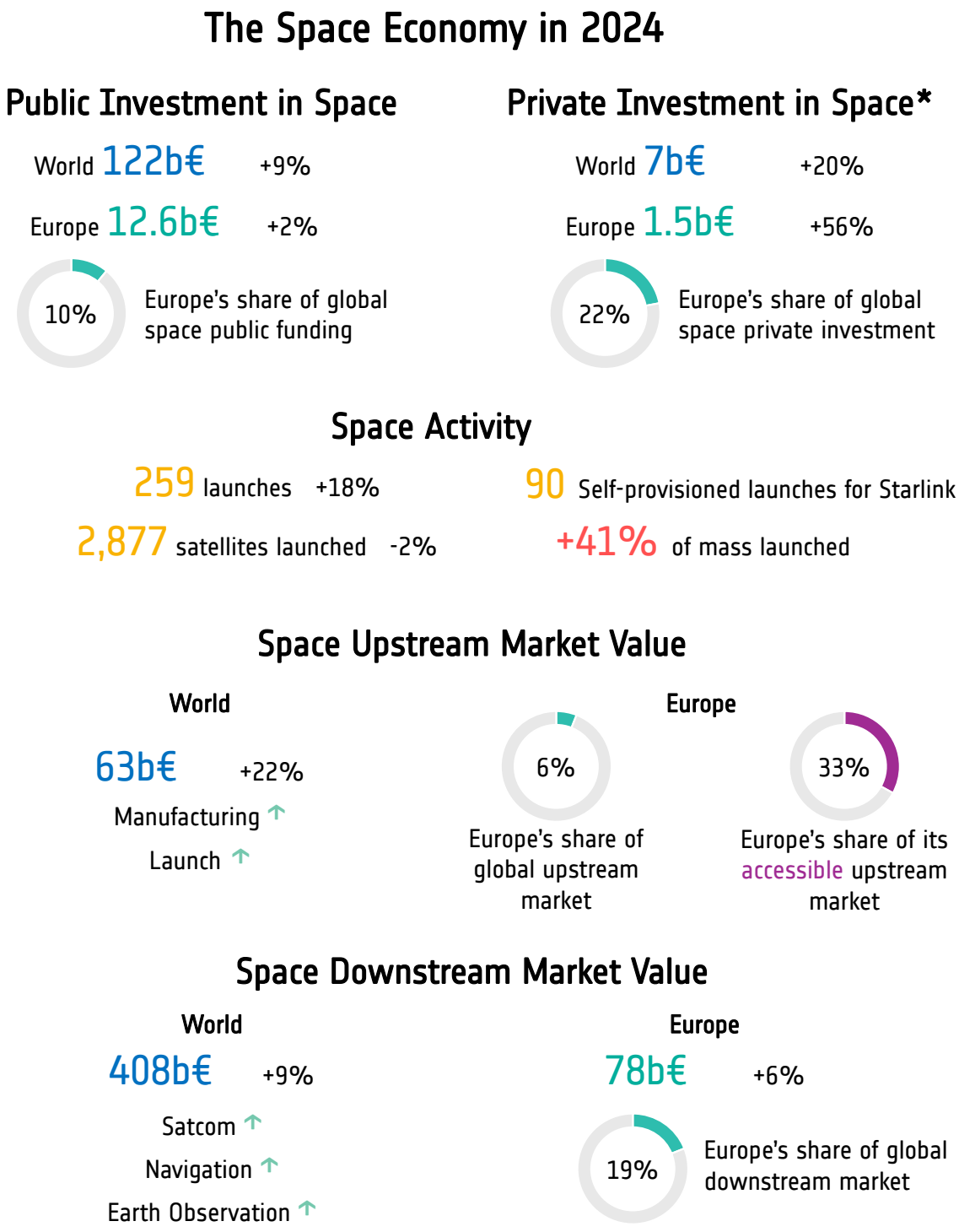

Figure 1: Space Economy in 2024 (all growth rates compared to 2023)[20]

**ESPI data, updated in April 2025*

[20] Self-provisioned launches are launches carried out for satellites operated in-house.

3.2. Public Investment in Space

As shown in Figure 2, institutional space budgets (civil and defence) reached a new historic high of €122 billion in 2024[21], posting a 9% increase compared to 2023 and continuing their growth path with a 9% CAGR[22] over the past five years.

As previous years, defence remained the main driver behind the growth of overall public space budget, increasing by 12% from 2023 to 2024. Space budget for civil programmes experienced a 7% growth.

While civil space remained the largest contributor to public space budgets worldwide since the early 1990s, the share of defence has been continuously growing and exceeded civil space spending for the third time in 2024 (representing around 54%).

Worldwide public budgets for civil space programmes keep being driven by long-term investment from established space nations in space exploration and in particular human spaceflight.

In Europe, the consolidated public space budget was €12.6 billion in 2024[23], representing a 2% increase compared to 2023. The share of civil space budget in Europe was nearly 88% in 2024, continuing to display a completely different behaviour compared with other major space players.

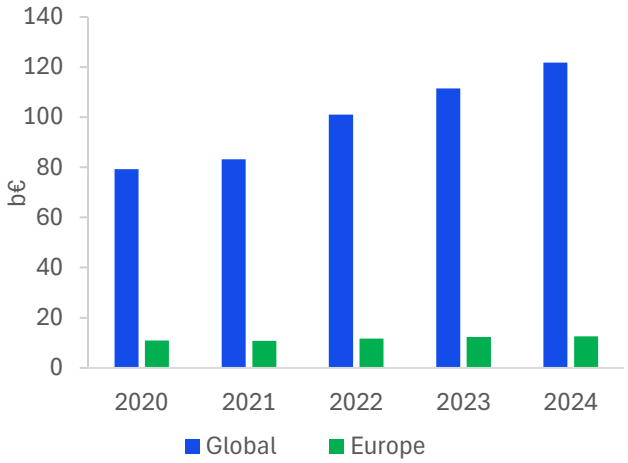

Figure 2: Institutional space budgets 2020-2024 (civil and defence)[21,23]

[21] Novaspace, Government Space Programs, 24th Edition, December 2024

[22] Compound annual growth rate

[23] Consolidation based on Eurospace data for the national programmes (civil and defence), EU budget, Eumetsat budget and ESA budget, including 3rd party activities.

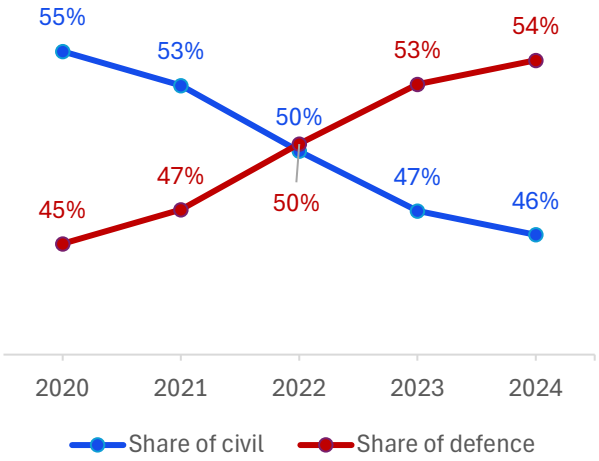

Figure 3: Evolution of civil and defence share of global space budgets, 2020-2024[21]

Figure 4 presents the distribution of institutional space budgets among the main space-faring nations and Europe. In 2024, the US remained the largest single space budget by far, yet its share of the global space budget has been gradually decreasing, from over 75% in 2000 to just above 60% in 2024. On the other hand, China keeps reinforcing its second place, going from an estimated 2% to 15% from 2000 to 2024 through ambitious long-term programmes in both civil and defence, and surpassing the overall budget allocated to space in Europe. The European share has been following a slow decreasing trend, accounting for 10% of the global space budget in 2024, compared to 15% five years ago.

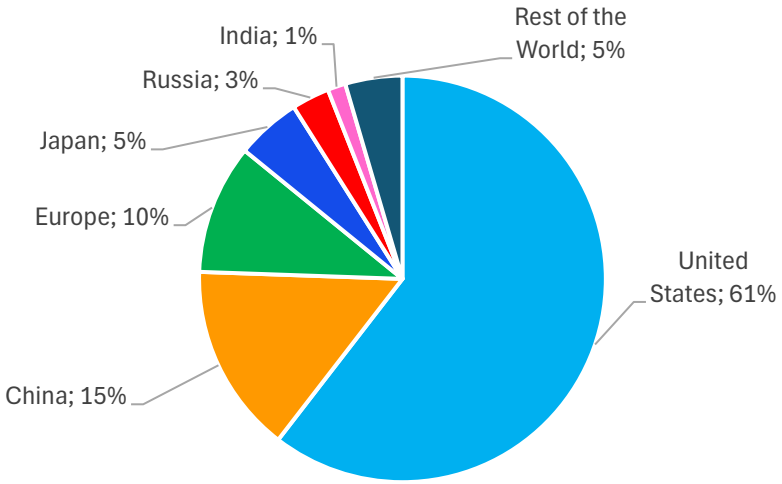

Figure 4: Distribution of institutional space budgets in 2024 (civil and defence) [21,23]

Given the width of their space programmes and notably their respective launch capabilities, it is acknowledged that the Russian and Chinese space budgets are most likely underestimated (due to the unavailability of public information), which makes the budget comparison a challenging exercise.

The mass launched by major space players provides a complementary view of the budget comparison and has the advantage of being based on publicly available data.

Figure 5 below shows the mass launched by production region, for government programmes, over the period 2015-2024. The figure outlines a very different distribution of space activity between the major space players, with the US, China and Russia accounting respectively for 34% and 30% and 21% of the total mass launched for government programmes, while Europe accounts for 7%.

Beyond the funding gap, a significant difference between Europe and its competitors is related to human spaceflight.

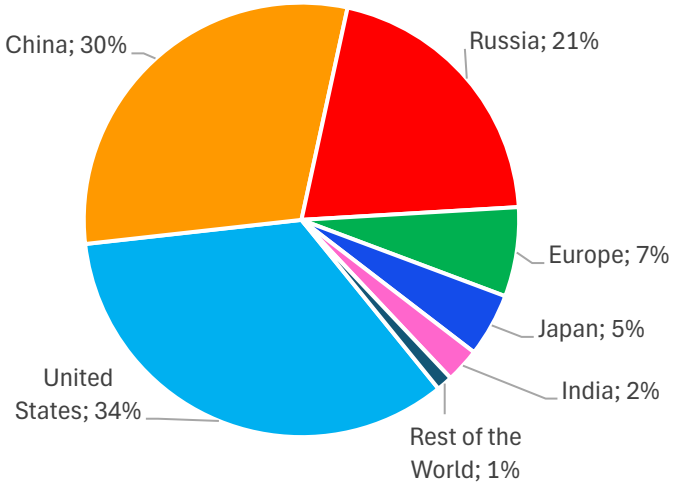

Figure 5: Spacecraft mass, by production region, 2015-2024 (tons, civil and defence, government programmes only)[24]

[24] Eurospace Launch Events Analysis Tool (LEAT)

3.2.1. Public Space Budgets as Share of GDP

The ratio of public space budget to the Gross Domestic Product (GDP) provides a view on public space funding intensity. As presented in Figure 6, the share for Europe (EU27, Norway, Switzerland and the UK) was 0.06% in 2023, stable compared to 2022. Reaching 0.135% in 2023, Luxembourg remains the highest share of public space budget per GDP in Europe. At the global level, Luxembourg ranks third, behind the US (0.262%) and Russia (0.169%).

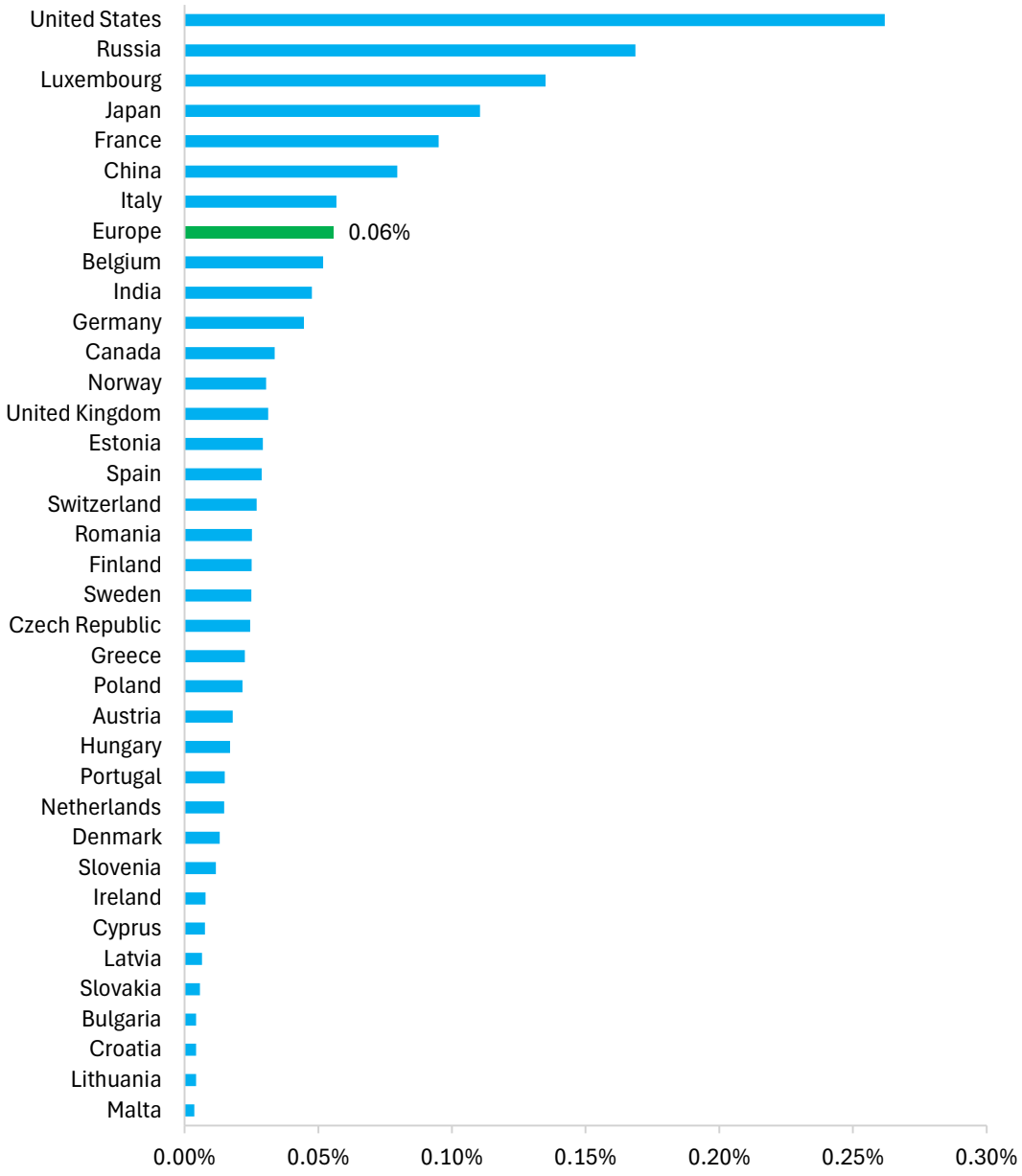

Figure 6: Selected institutional space budgets as share of GDP in 2023[21,23,25]

[25] Eurostat, UK Office of National Statistics, US Bureau of Economic Analysis and World Bank, national accounts databases, GDP at current prices, extracted in August 2024.

3.2.2. Public Space Budgets as Share of Government Expenditures

As shown in Figure 7, the share for Europe (EU27, Norway, Switzerland and the UK) of space budget to total government expenditures was 0.12% in 2023, stable compared to 2022. Similarly to the share of space to GDP, Luxembourg ranks first with a value of 0.281%, followed by France (0.167%), Italy (0.103%) and Belgium (0.095%).

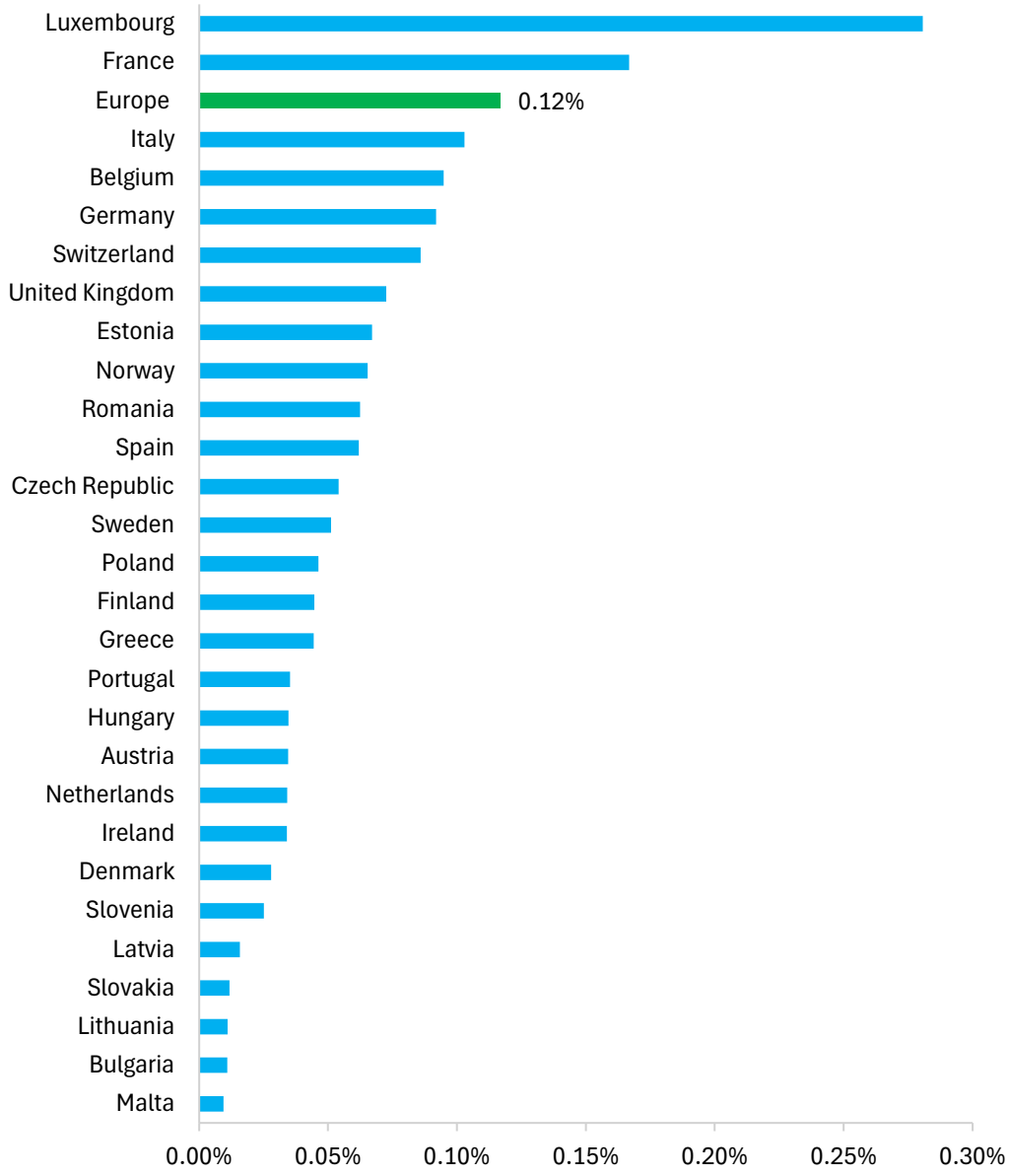

Figure 7: Selected institutional space budgets as share of government expenditures in 2023[21,23,26]

[26] Eurostat and UK Office of National Statistics, national accounts databases, extracted in August 2024.

3.3. Private Investment in Space

Private investment in space demonstrated stabilisation in terms of volume of investment in 2024, reaching €7 billion[27]. This represents a 20% increase from 2023. Worldwide space companies received investments through 266 deals in 2024, a modest 2% increase from 2023.

In Europe, private space investment reached a new record high in 2024, with European space ventures raising more than €1.5 billion (growing 56% from 2023) through 99 deals (compared with 82 deals in 2023).

Over the past five years, the share of Europe in capturing global private investment has grown from 3% in 2019 to 22% in 2024.

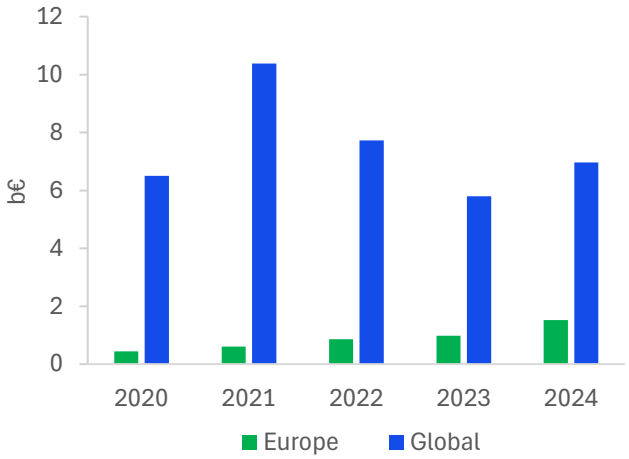

Figure 8: Private space investment, 2020-2024[27]

In addition to the data from ESPI Space Venture Europe, two additional sources are referenced, so to provide a more complete view :

- Space Capital[28] is a seed stage venture capital firm investing in the space sector. It publishes quarterly reports on private investment raised by space companies, considering three segments: *Infrastructure*, which includes hardware and software to build, launch, and operate space-based assets, such as rockets, satellites, propulsion systems, robotic systems, lunar landers; *Distribution*, which includes hardware and software to connect, process, and manage data from space-based assets, such as GNSS-based navigation services, Earth Observation data management platforms, edge computing for satellite-based ISPs; and *Applications*, which includes specialised hardware and software that utilises data from space-based assets, such as rideshare services, agricultural data analytics, IoT sensor monitoring, parametric weather insurance.

[27] Section updated in April 2025 with ESPI (ESPI, Space Venture Europe, 2025, upcoming)

[28] Space Capital, Space Investment Quarterly, Q4 2024

- Dealroom[29] is a European data platform on companies and tech ecosystems. Since 2022, and in cooperation with ESA, EUSPA and E. Amaldi foundation, Dealroom has developed a set of data on the Space Tech ecosystem in Europe. In particular, it provides figures of private investment, with a focus on Venture Capital (VC), in the *upstream* and *downstream*, as well as isolated figures for OneWeb, which has been significantly impacting the overall trend in Europe.

It is important to note that the trends presented in this section cannot be compared to the trends presented in previous editions of the report, as the ESPI perimeter is not comparable to the ones of Space Capital and Dealroom. It differs in terms of segments' definition and the general scope of activities considered as 'space'. In addition, it considers investment in startups only. In particular, Space Capital considers non-traditional investments like self-capitalisation from Jeff Bezos, Elon Musk, and Richard Branson who are individual investors providing large investments (hundreds of millions) in their own companies through unclassified rounds. It also considers a much broader scope of 'space' activities (e.g. Uber is a company in the scope of the Applications segment).

3.3.1. Trends at global level

With the objective to provide a snapshot of the 2024 trend[30], the figures below concentrate on the infrastructure segment of Space Capital, also defined as "core" space, and which gathers companies involved in *hardware and software to build, launch, and operate space-based assets*.

Global investment in the infrastructure segment reached €8 billion in 2024, experiencing a 34% decrease compared to 2023, going back to pre-2020 levels. Venture Capital accounted for 53% of the total.

North America has been capturing nearly 50% of the global investment in the segment in the past three years, with Blue Origin, Maxar and SpaceX together making 55% of the US value. Asia ranks second, capturing 13%, of which China contributes more than 83%. Europe ranks third.

When considering the evolution from 2023, the US overall declined by 55%, reaching €4.5 billion in 2024, its lowest level since 2020. China's private space investments instead experienced a 175% increase in 2024, reaching €2 billion in total in the infrastructure segment. Space Capital estimates private investments in European space companies (Infrastructure only) at €1.4 billion in 2024, posting a significant 67% increase compared to 2023.

When considering the three segments, the trend in Europe is similar to China but differs broadly from the US. In 2024, Infrastructure in Europe accounted for 80% of the total (77%

[29] Dealroom, Space Tech: Europe, in partnership with ESA, EUSPA and E. Amaldi foundation, data as of January 2025, accessible at https://dealroom.co/guides/space-tech-europe

[30] The reason to focus on Infrastructure is due to the fact that the Distribution segment accounts for less than 5% of the total in 2024, with similar shares in the past decade. In addition, the Applications segment accounts for 61% of the total, but mostly linked to activity in the US in companies that include Uber or Waymo (robotaxi service) and which can blur the picture of the core space industry.

for China), Distribution 2% (7% for China) and Applications 18% (16% for China). Instead in the US, Infrastructure accounted for 25% in 2024, Distribution 3% and Applications 72%.

The upstream segment in Dealroom database displays several trends at the global level with the US declining since 2021, China increasing its share and Europe stabilising since 2022, following a massive drop from 2021 mainly due to OneWeb deals (see further details below).

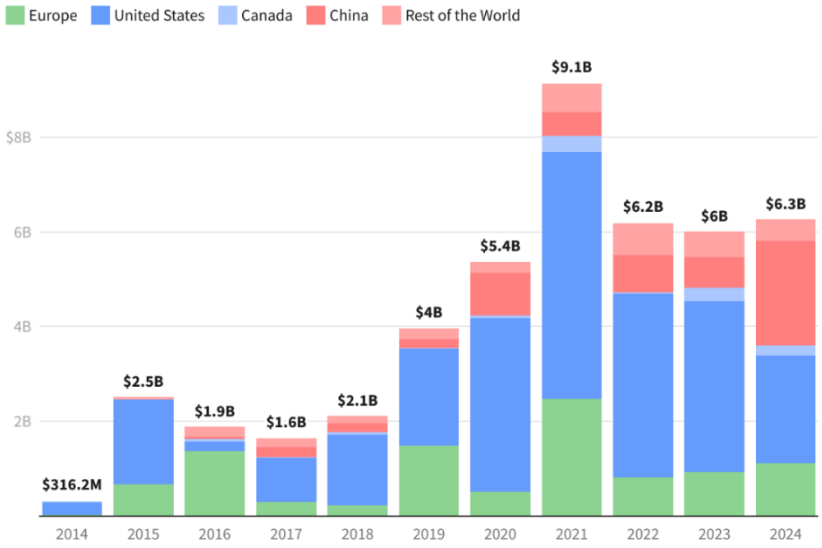

Figure 9: VC funding into Global Upstream Space Tech startups, by region, 2014-2024[29]

Significant deals at a global level in 2024 included:

- Shanghai Spacecom Satellite Technology (SSST) raising $994 million in February in Series A funding for the construction of the 12,000 satellite G60 mega-constellation for communication[31];
- SES securing a $3.2 billion financing package in debt in June to fund the acquisition of satellite operator Intelsat, marking a deal between two of the major GEO satellite operators[32,33];
- Telesat finalising its funding agreements with the Canadian and the Quebec governments to fund the LEO Lightspeed satellite network, reaching a Canadian $2.54 billion loan in September[34];
- Firefly Aerospace Inc. raising $175 million in November to scale up launches and valuing the rocket and spacecraft builder at more than $2 billion[35].
- UAE-based satellite operator Space42 signing a new $5.1 billion contract with the UAE government in December 2024, to provide satellite services until 2043, which will also help fund construction of two new satellites[36].

3.3.2. Trends in Europe

Space Capital estimates private investments in European space companies (Infrastructure only) at €1.4 billion in 2024, posting a significant 67% increase compared to 2023, with Germany leading, followed by France, the UK and Spain.

The growth in Europe in 2024 is mainly driven by deals involving six unique German companies, raising about €650 million in 2024, and representing nearly 50% of the total in Europe, compared to nearly €280 million in 2023.

When considering Dealroom's upstream segment in Europe specifically, the single effect of OneWeb shows clearly in the years 2015, 2016, 2019 and 2021. Mega-rounds in the magnitude of $100 to 250 million have made their appearance in 2020, with important volumes in the past three years.

[31] Shanghai firm behind G60 megaconstellation raises $943 million - SpaceNews. 2 February 2024

[32] SES to acquire Intelsat for $3.1 billion - SpaceNews, 30 April 2024

[33] SES Secures Financing for Intelsat Acquisition - Via Satellite (satellitetoday.com) 20 June 2024

[34] Telesat secures $1.9 billion government funding for Lightspeed - SpaceNews. 13 September 2024

[35] Firefly Aerospace Raises $175 Million in New Funding Round, BNN Bloomberg 13 November 2024

[36] Space42 scores US$5.1b UAE govt contract that will also fund new satellites - Developing Telecoms, 18 December 2024

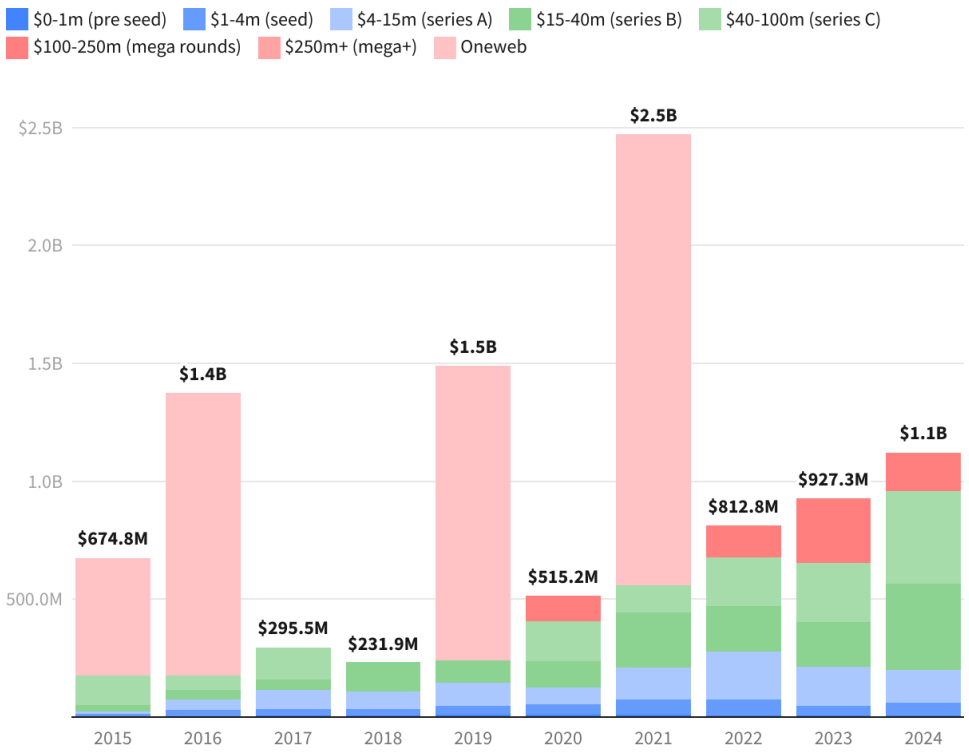

Figure 10: VC funding into European Upstream Space Tech startups, by stage, 2015-2024[29]

At a European level, significant deals in 2024 included:

- Isar Aerospace raising more than €65 million ($70 million) in June, in an extension of an earlier round that includes participation from NATO Innovation Fund. The new extension of Series C round brings the total value of the funding to more than €220 million ($238 million)[37].
- In September 2024, the Italian space logistics firm D-Orbit raised €150 million ($168 million) in a two-part Series C funding round to develop space-based cloud computing and in-orbit servicing systems[38].
- The Exploration Company raised €148 million ($160 million) to build the first European space capsule in a Series B funding round. The funding will be used to develop and test Nyx, expand the 200-strong team, and scale capacity[39].
- In December 2024, ICEYE, announced that it closed a €60 million ($65 million) extension of the company's earlier growth funding round of €86 million ($93 million) in April, bringing the total amount raised to €146 million ($158 million)[40].

[37] Isar Aerospace raises $70 million - SpaceNews, 20 June 2024

[38] D-Orbit raises 150 million euros in two-part Series C round - SpaceNews, 27 September 2024

[39] The Exploration Company raises $160 million to build the first European space capsule - Balderton Capital, 18 November 2024

[40] ICEYE closes $65M extension to existing growth funding round for a total of $158M raised in 2024, ICEYE Press Release

3.4. Space Activity

As shown in Figure 11, there were 259 orbital launches in 2024, an 18% increase over 2023, marking a third consecutive double-digit growth rate overtime (18% in 2023; 28% in 2022)[41]. 2024 also experienced a large increase of the mass launched (41%), reaching nearly 2,100 tons[24]. Starlink satellites accounted for 70% of the total mass launched in 2024 in line with the share in 2023.

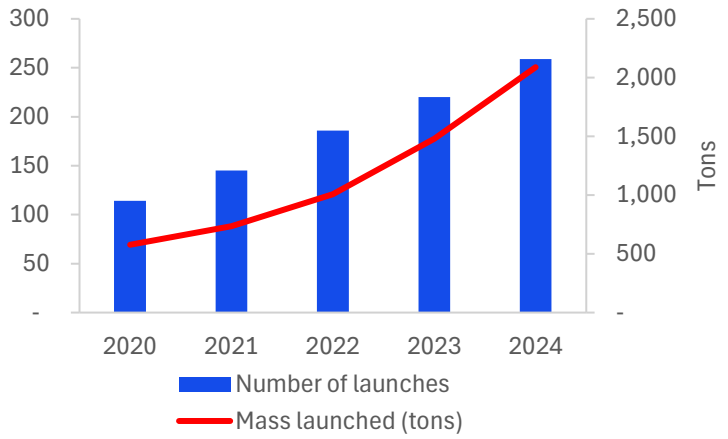

Figure 11: Number of launches and mass launched, 2020-2024[24,41]

The US conducted more than half of the launches (154, of which 90 by SpaceX to launch Starlink), posting a growth of 35% compared to 2023. China accounted for 26% with 68 launches, a 1% increase from 2023. 2024 saw the successful launch of Ariane 6 on 9 July from Europe's Spaceport in French Guiana. On 5 December, Vega-C successfully returned to flight with Sentinel-1C mission.

While the number of launches in GEO was stable from 2023 to 2024 (24 launches), the number of launches conducted in LEO continued to grow, posting a 20% from 2023 to 2024, reaching 219 launches.

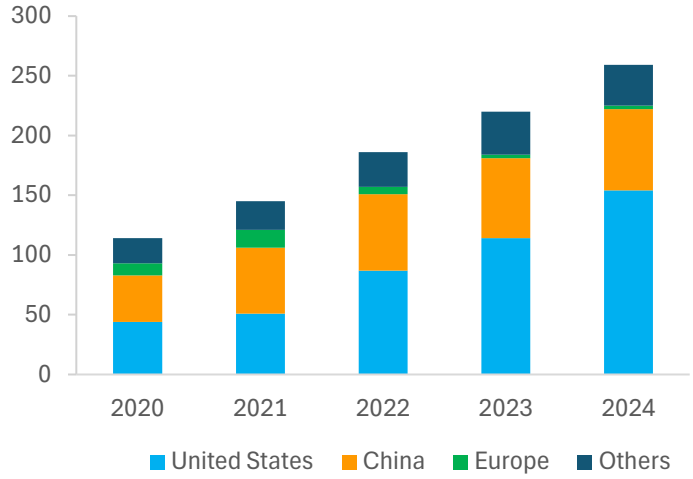

Figure 12: Number of launches, by origin of Launch Service Provider, 2020-2024[41]

[41] Novaspace, Space Market Monitoring, 2024

As outlined in the previous edition of the report, SpaceX launched the first set of upgraded Starlink satellites in February 2023, for the second generation of the constellation. This “V2 Mini” version of the satellites is significantly larger and more powerful than the first generation (from about 300kg to 800kg)[42].

According to FCC filing, a next version of the second-generation satellites, that would weight around 2 tons, is expected to be launched by SpaceX Starship[43].

In total, 2,877 spacecraft were put into orbit in 2024, with a decrease of 2% compared to 2023, a first since the deployment of Starlink started in 2019[41]. The US accounted for 79%, largely due to the 1,982 Starlink satellites launched in 2024.

In line with the trend in the public space investment (section 3.2), the number of satellites launched for defence customers has more than tripled in the past five years.

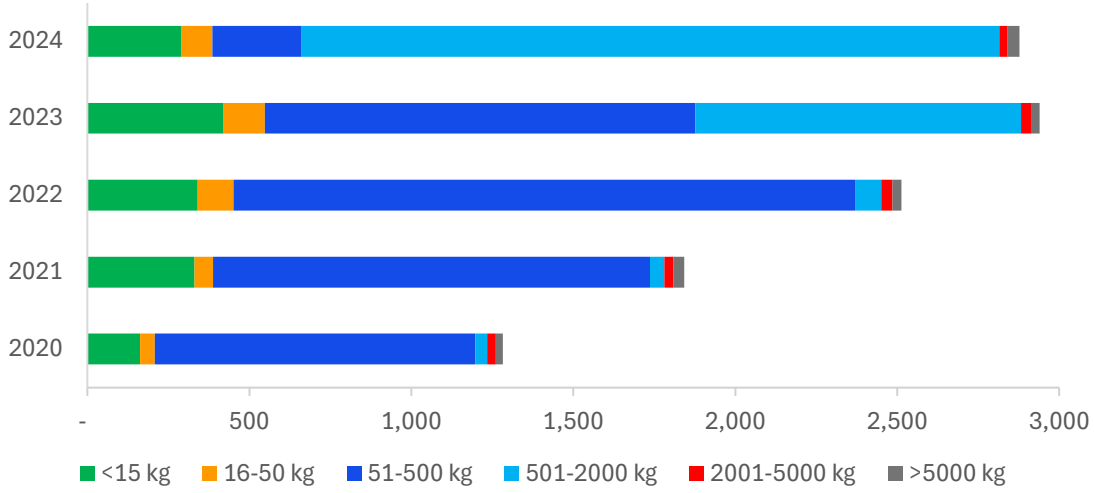

Figure 13: Satellites launched worldwide, by mass category, 2020-2024[44]

23% of the 2,877 satellites launched in 2024 weighed less than 500kg compared to 63% in 2023.

Fully driven by the significant change in the mass of Starlink satellites, the number of spacecraft launched between 500kg and 2 tons increased by 114% from 2023 to 2024, while the number of satellites launched between 51 and 500kg decreased by 79%.

[42] SpaceX launches first upgraded Starlink satellites - SpaceNews, 28 February 2023

[43] FCC approves Starlink first generation upgrade plan - SpaceNews, 20 August 2024

[44] Novaspace, Satellites to be built and launched, 27th Edition, September 2024

3.5. Upstream Market Value

The global launch and manufacturing market was estimated at a value of €63 billion in 2024, posting an increase of 22% compared with 2023[45]. Spacecraft manufacturing accounts for nearly 80% of the total and the launch segment 20%.

While the deployment of Starlink drives the number of launches, satellites launched and mass launched, due to its vertically integrated structure it represents a much lower share of the upstream market in value, accounting for an estimated 19% of the launch value and 7% of the manufacturing value in 2024.

Despite the fact that, since 2022, the share of mass launched procured by commercial operators has surpassed the one procured for government programmes, the upstream remains a market largely driven by institutional demand, primarily from US and China.

In 2024, institutional customers accounted for nearly 80% of the launch and manufacturing demand value. When excluding Starlink deployment, the combination of Chinese captive demand for defence and human spaceflight programmes (including the development of their own space station) represents almost all of the upstream growth in the past five years.

This trend strongly affects Europe's market share of the global market, which was 6% in 2024, down from 16% in 2018 and 21% in 2008. While data of a given year needs to be taken with caution as the value associated to a given spacecraft is allocated to the year of its launch (while revenues typically accrue across a number of years), the 20-year trend still outlines a decline in Europe's position.

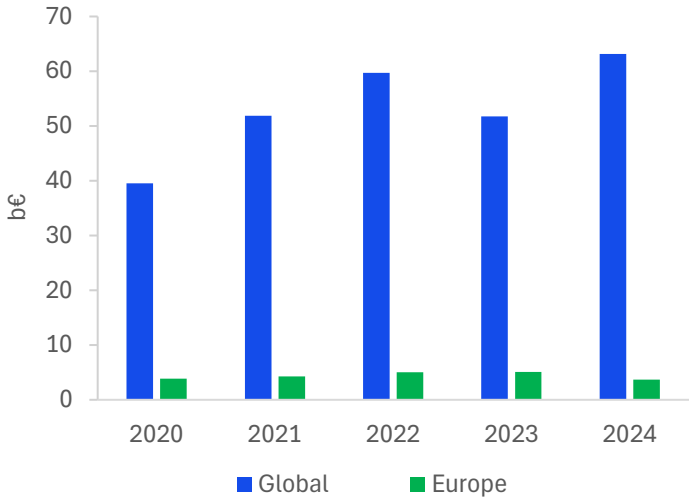

Figure 14: Manufacturing and launch value, 2020-2024[24]

[45] Eurospace LEAT database builds primarily on open-source data, tracking orbital launch activity on a quarterly basis. A parametric model based on hard data and estimates (particularly for military activity for which data availability is scarce) then provides quantitative figures for the value of the launch and manufacturing segments. Contrary to industry surveys which measure industry final sales in a given year (such as the annual Eurospace Facts and Figures), the model allocates the value of the complete spacecraft as well as the value of its launch in the launch year. The advantage of the model is to provide a tool that allows comparison of upstream activity, and competitiveness analysis of individual space players, at the global level.

About two-thirds of the global launch and manufacturing market are not accessible to European primes (European launch service provider and spacecraft manufacturers) because of captive demand from institutional programmes, in particular human spaceflight (e.g. US, China, Russia) and from vertically integrated constellations (e.g. Starlink).

In 2024, Europe captured about 33% of its accessible market, a share which has been degrading over time, from an average 60% in the decade 2005-2014 to 52% on average in the past decade (2015-2024). An acceleration of the decline is seen in the past five years.

The European space industry is impacted by several trends, and in particular the decline in the GEO satcom market demand.

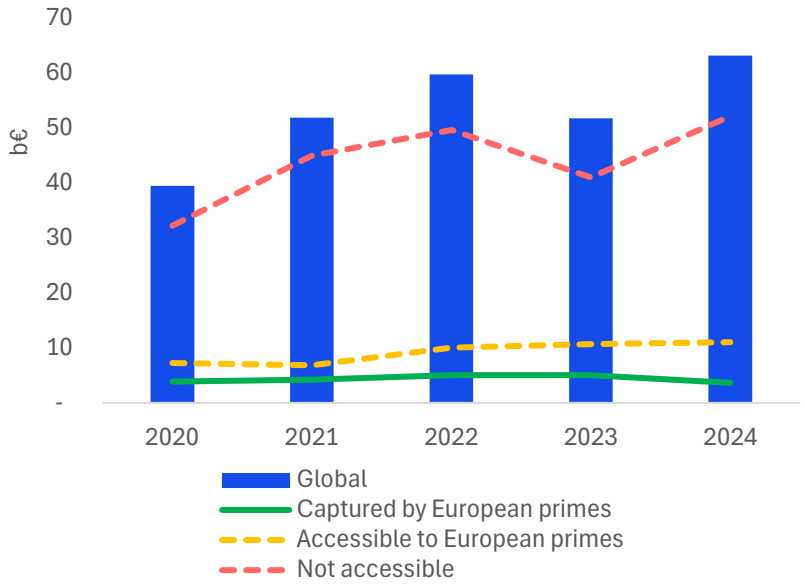

Figure 15: Manufacturing and launch market accessibility, 2020-2024[24]

One important factor and particularity of the European space industry is that a significant share of its accessible market is also accessible to all space industries in the world.

In addition, it does not benefit from the sizeable demand base provided by other large space powers (notably US, China, Russia or Japan) to their domestic launch providers and spacecraft manufacturers, resulting in fewer opportunities for cost efficiency.

These factors result in the European space industry being the most exposed to the global market demand variations, with the urge to constantly remain competitive to maintain its level of industrial activity.

Highlight: The significant drive of demand for space activity from defence customers

As the level of global space budget for defence continue to grow, clearly outpacing civil space budgets, the number of satellites launched for defence customers has increased nearly 280% (x3.7) in the past five years. In 2024, 173 satellites were launched for defence purposes, compared to 46 in 2020[44].

The mass launched for defence space programmes has been steadily growing for the past two decades, from about 320 tons in the period 2005-2009 to more than 600 tons in the period 2020-2024, posting an 86% increase[24].

While China accounted for about 13% of the total mass launched for defence in the period 2005-2009, its share rose to nearly 40% in the past five years, multiplying by nearly 6 in absolute terms across two decades, from 40 tons in total in 2005-2009 to 230 tons in the past five years.

In contrast, the share of the US has gone from 38% of the total in the period 2005-2009 to 41% in the past five years, multiplying by 2 in absolute terms across two decades, from about 120 tons to 250.

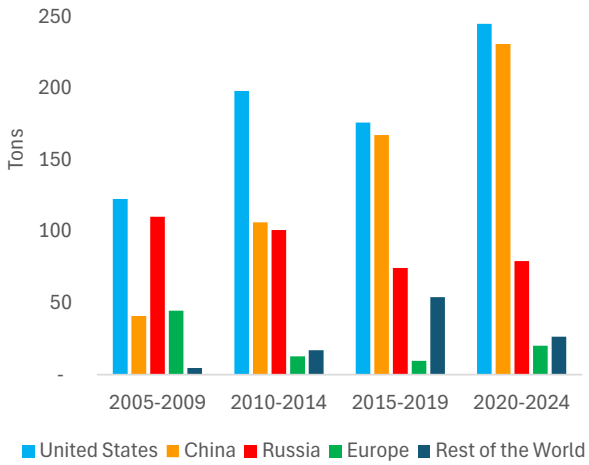

Figure 16: Mass launched for defence space programmes, by customer region, 2005-2024[24]

When considering satellite manufacturing orders, the global value reached €11.8 billion in 2024, a 24% increase from 2023. The share of orders in value originating from defence customers was 67% in 2024, compared to 13% in 2021. In absolute terms, satellite manufacturing orders for defence customers totalled €8 billion in 2024, posting growth of 72% compared with 2023[44].

3.6. Downstream Market Value

In 2024, the global downstream market for space was estimated at €408 billion, posting a 9% increase compared to 2023[46,47,48]. With an estimated €78 billion in 2024, Europe accounts for 19% of the total downstream market. Contrary to the upstream space market, the majority (>90%) of the downstream market is commercial.

At least 80% of the currently available market estimate for the downstream space segments is generated by businesses that use space as a key input to deliver services. The scope of the downstream, and in particular the boundary between the part that should be considered within the space industry and the part that relates to the impacts of space, is a topic currently subject to discussion.

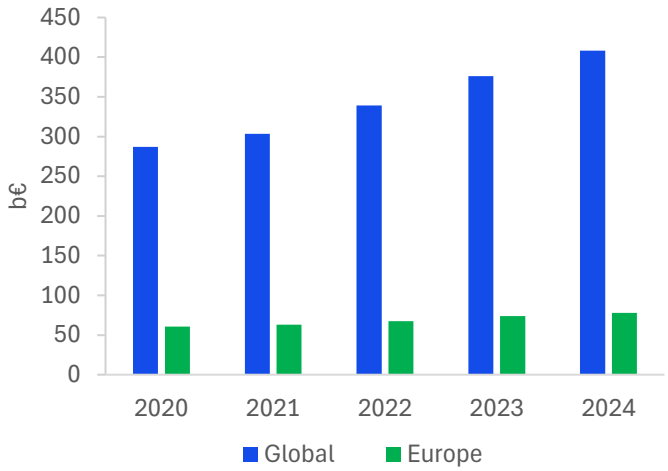

Figure 17: Downstream space market value, 2020-2024

The downstream space market value covers revenues across three application segments: Earth observation (EO), satellite communications (satcom) and satellite navigation (GNSS).

3.6.1. Downstream EO market

Considering Earth Observation, the downstream value consists of revenues from commercial data sales (including data acquisition and basic preprocessing) which accounts for 38% of the EO downstream value, as well as revenues from value-added services (from advanced calibration to analytics), representing 62% of the total EO downstream value in 2024[46].

Europe is the second largest market for EO data and services, with a market share of 22%, behind North America (US and Canada) that accounts for 44% of total EO downstream revenues in 2024.

[46] Novaspace, Earth Observation Data & Services Market, 17th Edition, November 2024

[47] Novaspace, Space Economy Report, 10th Edition, January 2024

[48] EUSPA, EO and GNSS Market Report, Issue 2, 2024

The EO data market is structurally highly concentrated, with the two primary suppliers (Airbus and Maxar) accounting for 41% of the revenues in 2024.

Governments, and particularly defence, are the primary customers of EO downstream products and services.

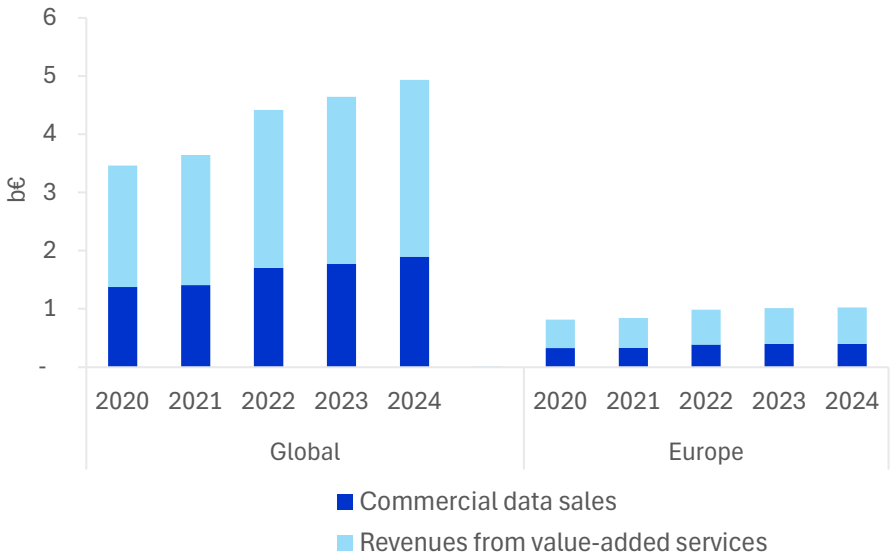

Figure 18: Downstream EO market value, global and Europe, 2020-2024[46]

3.6.2. Downstream satcom market

The satcom downstream value consists of operators' revenues (from both Fixed Satellite Service (FSS) and Mobile-Satellite Service (MSS) capacity), which accounts for 12% of the total satcom downstream value, as well as revenues from services (video, telecom and mobility), which represent 88% of the total satcom downstream value in 2024[47]. In the present report, the revenues from satcom user terminals are included in the service market.

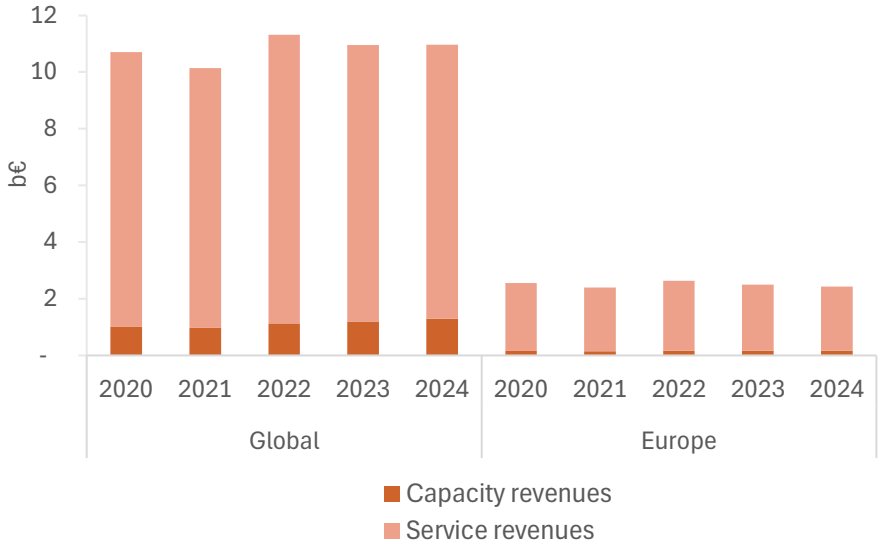

Figure 18: Downstream satcom market value, global and Europe, 2020-2024[47]

The sector continues to go through significant evolutions, led by large NGEO constellations (non-geostationary orbits, also called NGSO) such as Starlink and OneWeb which address the demand for universal connectivity (and particularly consumer broadband). The provision of broadband internet access is the fastest growing satellite service market segment of the past three years, a growth led by SpaceX's Starlink. Since 2020, the number of broadband subscribers for Starlink has grown from 5,000 to more than 4 million in 2024.

The jump in capacity supply and consequent decrease of capacity prices drive significant strategy shifts of the operators. The segment experiences a strong trend of both vertical and horizontal integration, through partnerships or collaborations (e.g. SES with Starlink, but also Hispasat, Intelsat, Eutelsat, and OneWeb).

3.6.3. Downstream GNSS market

The GNSS downstream market has been measured by the EU Agency for the Space Programme (EUSPA) since 2010[48]. The estimated market value consists of revenues from the sales of GNSS devices, which accounts for 28% in 2024, and services revenues (including both augmentation services and other services attributable to GNSS) representing 72% in 2024. The services attributable to GNSS are based on the fact that they rely on GNSS for their functionalities.

The markets of consumer solutions (previously called location-based services, LBS) and road transportation largely dominate the GNSS downstream market, making up for 59% and 35% respectively of the total estimated value (together accounting for almost 95% of the total). In particular, revenues from smartphone apps (including for example personal banking, ride-hailing apps, in-app purchases for games and social media applications) are estimated to represent over 60% of the service revenues, and over 40% of the total revenues.

3.7. Space Workforce

There are currently no surveys or published analysis on the total employment in the global upstream and downstream space markets. Estimates of space workforce are instead published within industry surveys with specific perimeters that allow time-series and understanding of evolution over time, but do not enable global overview or comparison.

The annual survey of the European space upstream industry[49] has been providing the employment level within the launch and manufacturing industry segments in Europe for more than 20 years. In 2023, it is estimated to have reached 62,659 Full Time Equivalent (FTE) in 2023. This represented a 9% increase compared to 2022, a growth trend which has been sustained since 2005.

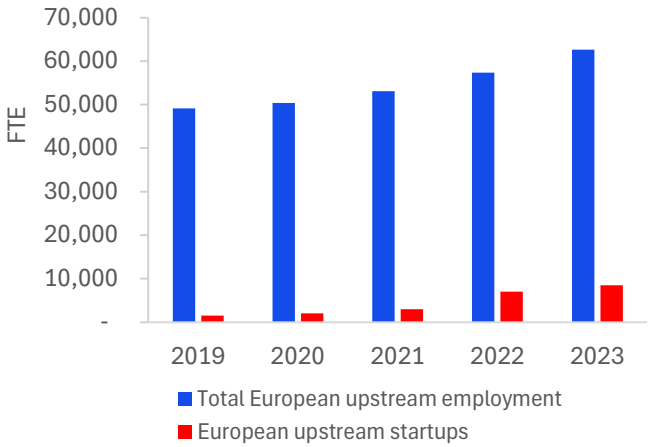

Figure 19: Employment in the European space upstream industry, 2019-2023

The survey notably highlights the rapid growth of the employment in European space startups[50], estimated to account for more than 8,500 FTEs in 2023, representing 14% of total European space employment. While the segment has had the most impressive growth in terms of employment, the majority of these new players remain unable to cover their costs with sufficient revenues, resulting in additional funding needs until businesses become mature.

[49] Eurospace, Facts and Figures, 28th Edition, The European space industry in 2023, July 2024

[50] Eurospace defines startups as new space players, or companies that are pure space players that were created after 2010 with the financing of private equity. While most of these newcomers still qualify as SMEs, their business dynamics is different than the legacy or established SMEs since they lack a mature product or market.

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