

EU space policy: Boosting EU competitiveness and accelerating the twin ecological and digital transition

SUMMARY

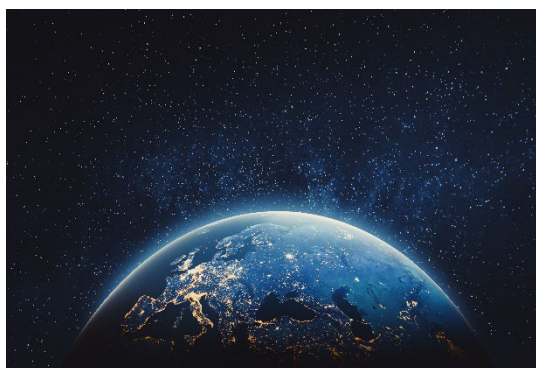
Over the past decade, space has gained increasing importance as an economic sector offering opportunities for established and emerging markets.

Space policies and their applications have also gained in political relevance due to their capacity to tackle global challenges, such as the climate and biodiversity crises, but also due to the growing reliance of the EU economy and society on space infrastructure, services and data.

Pursuant to Article 189 of the Treaty on the Functioning of the European Union (TFEU), space is a shared competence of the EU and its Member States.

EU space policy has two overarching goals: on the one hand, promoting scientific and industrial competitiveness with a view to nurturing EU spatial ecosystems and ensuring EU autonomy in space; on the other, increasingly harnessing space investments and services to address key EU political priorities such as the European Green Deal and the Digital Decade.

This briefing focuses on the state of play in regard to the EU's space economy, while also examining the EU's reliance on space services. Specifically, it highlights the relevance of the EU in the global space market and looks at the ways the EU could boost its use of space data and services to deliver on its main political priorities.



IN THIS BRIEFING

- Introduction
- A 'new space': More countries and businesses active in space
- The EU's space policy for the 2021-2027 period
- Challenges and opportunities

Introduction

The [OECD](#) defines the space sector as 'the full range of activities and the use of resources that create and provide value and benefits to human beings in the course of exploring, understanding, managing and utilising space'. The space sector has two main dimensions: an upstream one and a downstream one.

Over the past decade, space has become a growing economic sector conveying opportunities for established and emerging markets along the continuum of space industries (upstream and downstream). Space has also gained in political relevance due to its capacity to tackle global challenges, such as the climate and biodiversity crises, but also due to the growing reliance of the EU economy and society on space infrastructures, services and data.

A 'new space': More countries and businesses active in space

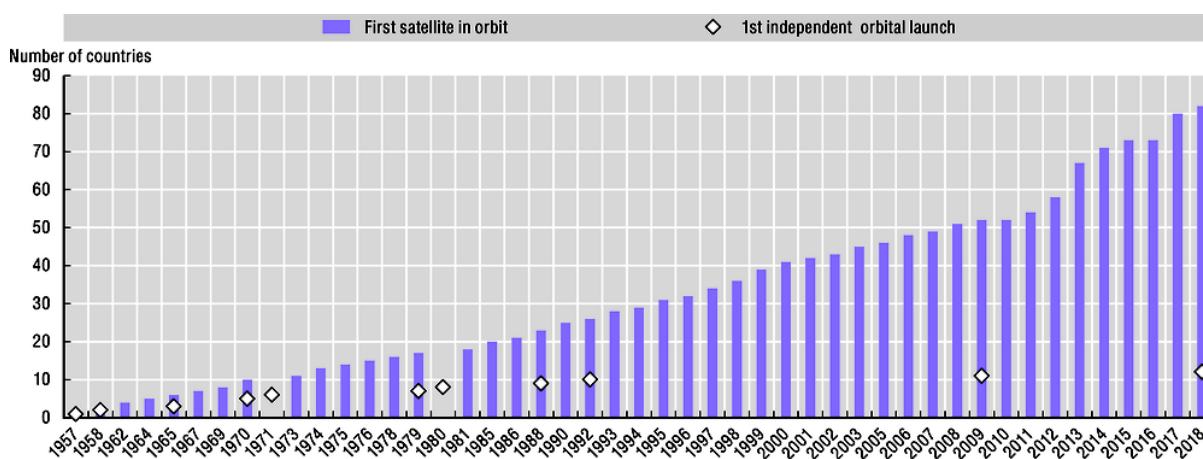
According to the [European Investment Bank](#), the global space economy reached €309 billion in 2017, having grown on average by 6.7 % each year between 2005 and 2017. As yet, there is no international fully fledged methodology to measure the contribution of space to economic growth and innovation.

The space economy is primarily driven by government investment in space and by revenue-generating activities that enjoy a growing involvement of private actors. Over the past two decades, accessing and using space has become a lot less costly thanks to key technological innovations such as digitalisation, miniaturisation, artificial intelligence and reusable launchers; as a result, new business models have appeared along the entire value chain of the space sector. This global trend, together with the increased importance of private investment, has led to the development of a private space industry – the 'new space' – that is also being driven by commercial goals.

Public investment: Key source of funding for space activities

In 2017, global institutional space funding stood at €62.45 billion and rose to an [estimated](#) €75.02-77.4 billion in 2019.¹ Among and beyond the G20 members, the number of countries active in space has increased steadily: whilst only 50 countries had a registered satellite by 2008, this number had risen to 82 by 2018.

Figure 1 – Number of countries in the world with at least one satellite in orbit, 1957-2018

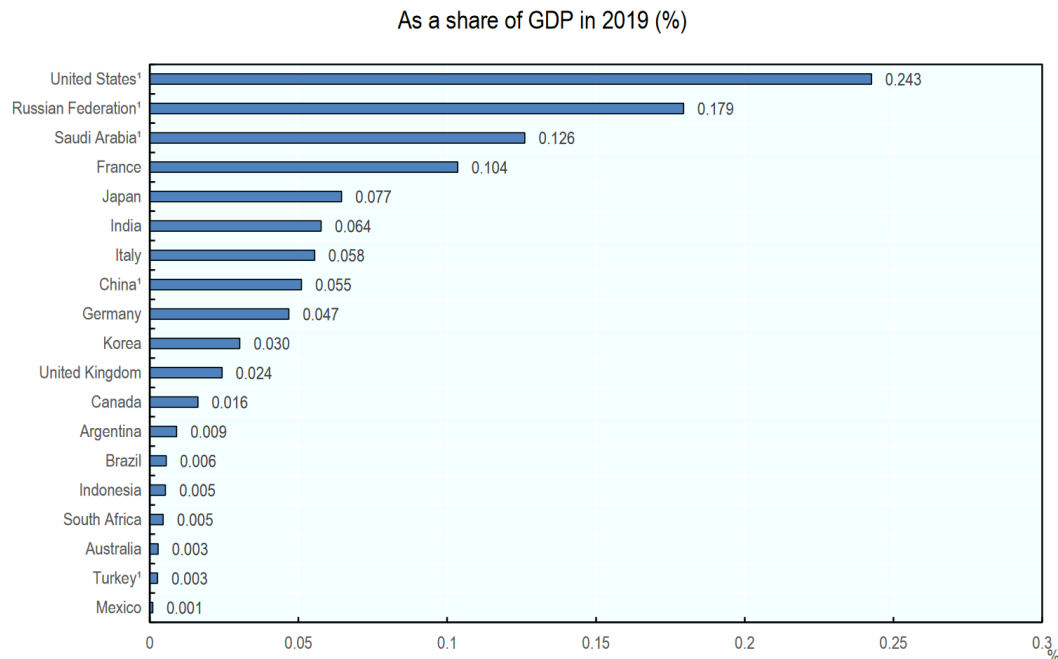


Source: [The space economy in figures](#), OECD.

In 2019, G20 countries accounted for more than 80 % ([€65.78 billion](#)) of the global institutional space funding. The emergence of new players has not modified the existing space funding intensity among countries. For instance, in 2019 only three EU Member States (France, Germany, and Italy)

had a spending intensity above the OECD average of 0.03 % GDP (see Figure 2). The share of space science investment in public research and innovation spending exhibits the same trend.

Figure 2 – Government space budget estimates for G20 countries



1. Conservative estimates. Budgets include data for civil and defence programmes, when available. For European countries, national estimates include contributions to the European Union, European Space Agency, Eumetsat and other international programmes, where applicable. The figure does not include the aggregate budget for the European Union.

Source: Government budget sources and OECD databases.

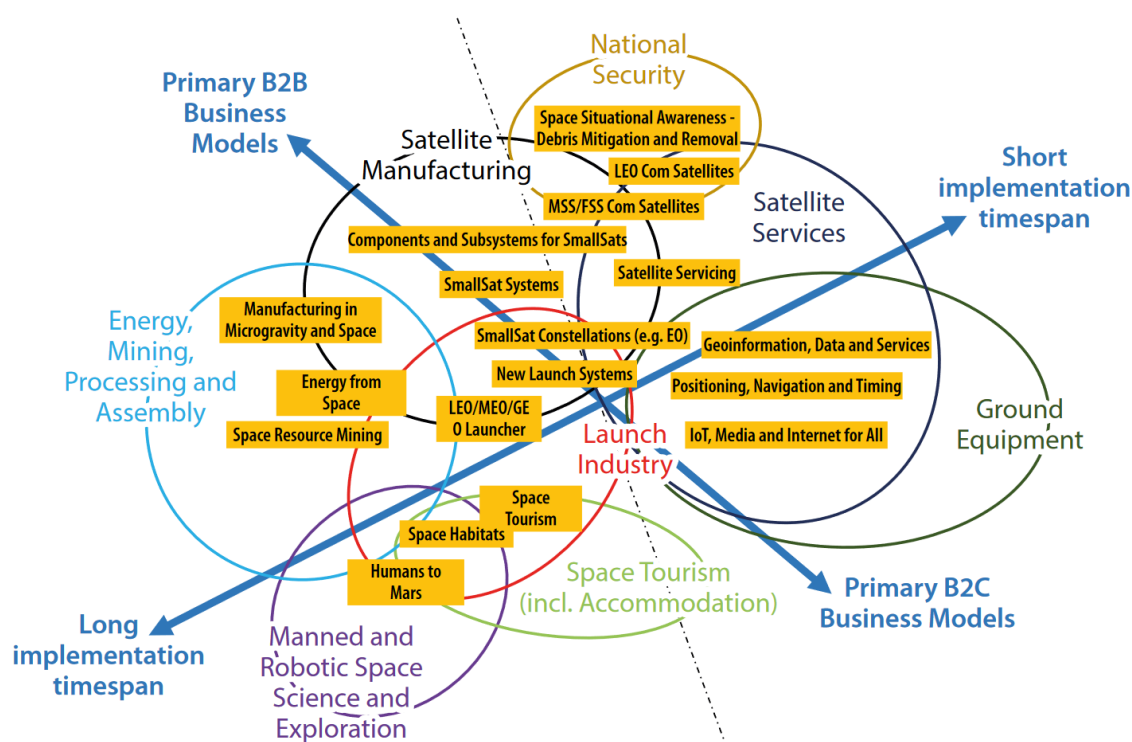
Source: [The space economy in figures](#), OECD.

Public investment in space supports a wide range of activities such as research, development and applications across the civilian and military domains. Public actors have a key role as investors, developers, operators and customers. They are focusing on leveraging partnerships with the private sector through research and innovation grants, as well as procurement. For instance, in the EU, the collaborative research projects funded by Horizon 2020 and Horizon Europe encourage the participation of businesses, including SMEs. As for the growing relevance of harnessing public funders as customers, it is to be noted that the European Space Agency relies, among others, on [procurement](#) to tackle the pressing issues of space debris. In the United States, almost [80 % of NASA's annual financial obligations](#) were implemented through procurement in 2020.

The space economy: Upstream and downstream sectors

The space economy is composed of two main complementary segments: the upstream sector, which refers to the research, development and manufacturing of space systems and infrastructures, and the downstream sector, which refers to the acquisition, curation and exploitation of space data and applications (see Figure 3).

Figure 3 – Landscape of space business services, business models and segments



Source: [The future of the European space sector](#), EIB.

There is evidence of a growing importance of private investment in space, including to support the creation and scale-up of start-ups and SMEs. Globally, space ventures have attracted over [€14.8 billion of investment](#), including €3.3 billion in debt financing between 2000 and 2017. Over the same period, venture capital firms (46 %) represented the largest number of investors in space companies, followed by angel investors (25 %).

According to the [European Commission](#), in 2015 the overall EU space economy (upstream and downstream) was estimated to employ over 230 000 professionals, generating a value of €46-54 billion or 21 % of global business in the sector. The satellite industry accounted for 79 % of the value of the global space economy in 2017 (€238.2 billion).

In [2020](#), the upstream segment of the EU space economy generated €7.7 billion of sales and employed more than 50 000 staff (a trend made partially possible thanks to the [steady employment growth](#) in the European space manufacturing sector since 2008). Four large industrial groups (Airbus, Thales, Safran and Leonardo) are directly responsible for more than half of total space industry employment in the EU; that said, employment creation is more dynamic among SMEs. From 2011 to 2020, the upstream segment represented €20.15 billion of exports,² establishing space manufacturing as a net contributor to the EU trade balance. However, in 2020, the EU represented only 3 % of the global spacecraft production (in mass), and 5 % of the global launch activity. Whereas China is now the second upstream economy, the US, with the launch of its satellite internet constellation [Starlink](#) has more than doubled its spacecraft production and launch activity, thus consolidating its global leadership in this domain.

The downstream segment is experiencing a steady growth, driven by the key importance of space data and services for harnessing the twin digital and ecological transition. As for [global navigation satellite systems](#) (GNSS), in [2021](#) they generated a total global revenue of €173.5 billion. With its €34.45 billion in revenues, the EU economy represents 25 % of the global devices revenues. This share is expected to remain stable by 2031, despite the growth expected by 2031, with total global revenues of €429.35 billion, out of which 42.21 billion for devices. In the EU, the GNSS market accounts for roughly [50 000](#) jobs. As for the Earth observation (EO) market, global revenues

generated by data and services are expected to double by 2031 (from €1 981.87 billion to €4 779.33 billion), with a stable share for the EU in those revenues (14-15 %). This sector has been particularly dynamic in business- and jobs creation: in [2021](#), an EO industry-led assessment estimated an annual increase of 24 % in operating businesses from 2020 to 2021, as well as a surge in job creation with a 17 % increase over the same period (in 2021, the European Earth observation sector accounted for 11 600 jobs).

Reliance of the EU economy and society on space infrastructure and services

The EU economy and society are increasingly reliant on space services (such as radio communication, timing and/or positioning signals or Earth observation data): approximately [10 % of the EU's GDP](#) – more than €1 100 billion – is enabled by satellite navigation signals. This gives an idea of the financial impact a potential [disruption](#) of the space services could have (for instance, should a satellite collide with space junk).

More broadly, the EU's access to space is also to be assessed against the risk of disruption of the underlying global value chains (such as semiconductors). The EU imports a sizeable part of its satellites and satellite components for its EU-based manufacturing activities (the European Commission [estimates](#) that more than half of the electrical, electronic and electromechanical (EEE) components of a typical ESA satellite are procured outside of Europe).

The EU's space policy for the 2021-2027 period

Objectives

The Lisbon Treaty provided for a new [Article 189 of the Treaty on the Functioning of the EU \(TFEU\)](#) requiring the EU to draw up a European space policy with the aim of promoting scientific and technical progress, industrial competitiveness and the implementation of EU policies. To this end, the EU may support research and technological activities, coordinate the efforts needed for the exploration and exploitation of space, and promote joint initiatives.

EU space policy can thus be examined as having two main dimensions: **policy for space**, focused on the promotion of scientific and industrial competitiveness, and **space for policy**, addressing the impacts of the EU's space investment on the EU's political priorities such as the European Green Deal, the Digital Decade and strategic autonomy.

The latest [space strategy for Europe](#), adopted by the Commission in 2016, directly mirrors this approach. Two of the four strategic objectives it identifies – i) fostering a globally competitive and innovative European space sector, and ii) strengthening Europe's role as global actor – refer to the policy for space. The two other objectives – i) maximising the benefits of space for society, and ii) reinforcing Europe's autonomy in accessing and using space – refer to the space for policy dimension. Since then, the political relevance of space policies has been given due recognition in the political proceedings at the European Council. In 2021 alone, space was expressly mentioned in half of the written [conclusions](#) following the four regular European Council meetings.

In 2022, the Commission is expected to adopt a [space package](#) composed of one legislative initiative on [space management traffic](#) and one legislative proposal on a [space-based global secure connectivity system](#).

The EU space programme

Regulation EU (2021/695) of 28 April 2021 (the [Space Regulation](#)) established the EU space programme 2021-2027 and the European Union Agency for the Space Programme.

The Space Regulation simplifies the existing EU legal framework and governance system, bringing together existing EU programmes such as Copernicus, Galileo and EGNOS under one umbrella. It

aims to ensure the continuous provision of high-quality secure space-related data, information and services, to maximise the socio-economic impacts of the investments, and to enhance the security of the EU while also promoting its role in the international arena.

It also introduces new security components, such as the Space and Situational Awareness (SSA) programme and the new Governmental Satellite Communication (GOVSATCOM) initiative to monitor space hazards and provide national authorities with access to secure satellite communication.

The programme is based on the following components:

- [Galileo](#), an autonomous civil global navigation satellite system (GNSS) under civil control. Today, with 22 operational satellites, it is in its final phase of deployment and already offers three services ([Open Service](#), [Public Regulated Service](#), [Search and Rescue service](#));
- the European Geostationary Navigation Overlay Service (EGNOS), a civil regional satellite navigation system under civil control. It is composed of transponders on three geostationary satellites;
- [Copernicus](#), an operational, autonomous, user-driven civil Earth observation system under civil control. Today, with [eight operational sentinel satellites](#) associated to other satellites operated by ESA and EUMETSAT, it delivers its data based on a [free open data policy](#);
- [space situational awareness](#) (SSA), which includes a space surveillance and tracking system (SST sub-component); observational parameters related to space weather events (SWE sub-component); and risk monitoring of near-Earth objects approaching the Earth (NEO sub-component);
- [GOVSATCOM](#), a satellite communication service under civil and governmental control.

The budget breakdown of the programme (€14.88 billion in total in current prices for 2021-2027) is distributed among the main components as follows:

- €9.0 billion for Galileo and EGNOS, the EU's global and regional satellite navigation systems. This should ensure continuity in operations and investment in space systems (ground and in-orbit infrastructure, in particular to reach 24 operational satellites and six spare satellites);
- €5.4 billion for the Copernicus programme: This would maintain EU autonomy and leadership in high-quality environmental monitoring, but also in emergency support for border and maritime security. New Copernicus missions, such as CO₂ monitoring, would support EU global leadership in the ecological transition;
- €440 million for the SSA and GOVSATCOM. The new space programme aims to enhance the performance and autonomy of the SSA by further developing space surveillance and tracking of space objects.

International cooperation

Article 7 of the Space Regulation allows the association of third countries to different components of the programme, through specific agreements to be concluded in accordance with Article 218 TFEU. Pursuant to the Space Regulation, each association agreement ensures a fair balance as regards the contributions and benefits of the third country or international organisation participating in the space programme. [Iceland and Norway](#) have been associated to the space programme since 2021 (until 2027). Article 3 of the [Joint Declaration on Participation in Union Programmes](#) envisages a similar association of the United Kingdom: '[The] United Kingdom shall participate in the Copernicus component of the Space programme'. Beyond association to the programme, [cooperation arrangements](#) have been concluded so far with nine countries and international organisations (the African Union).

Governance

EU space policy is managed by political and administrative actors in charge of complementary space policy streams: national policies, the European Space Agency policy and the EU space programme.

The Commission has the overall responsibility for the implementation of the EU space programme. It determines the priorities and long-term evolution of the programme and manages all of the space programme components or sub-components not entrusted to another entity, in particular the GOVSATCOM, NEO and SWE sub-components. On 1 January 2020, the Commission established a new Directorate General for Defence Industry and Space ([DG DEFIS](#)).

On 22 June 2021, the Commission and the European Space Agency signed the [financial framework partnership agreement](#) that lays down the cooperation framework and modalities both between them and with the European Union Agency for the Space Programme ([EUSPA](#)). EUSPA, based in Prague, is entrusted with the exploitation of EGNOS and Galileo, and with the overarching coordination of user-related aspects of GOVSATCOM. It is also expected to implement activities in support of the development of downstream applications stemming from the programme, activities that would ensure the security accreditation of all the programme's components, and other communication-related and market development activities.

The European Space Agency (ESA, based in Paris) is entrusted with designing and developing the construction of ground and space infrastructure for Copernicus, Galileo and EGNOS. It also coordinates the Copernicus space component and other upstream research and development activities. ESA is an international intergovernmental organisation bringing together [22 member states](#), three of which (Norway, the United Kingdom and Switzerland) are not EU countries. The [ESA budget](#) is sourced from the ESA members, the EU and third-party contributions. As regards Copernicus, the ESA coordinates the space component and the design, development and construction of the Copernicus space infrastructure, including its operations and related procurement, as appropriate. As regards Galileo and EGNOS, the Agency contributes to systems evolution, design and development of parts of the ground segment, as well as satellites.

In addition to EUSPA and ESA, the Space Regulation authorises the Commission to entrust tasks to the European Organisation for the Exploitation of Meteorological Satellites ([EUMETSAT](#)), an international organisation that has [30 member states](#) and is based in Darmstadt, Germany. EUMETSAT is responsible for the exploitation of the Sentinel missions of the Copernicus space component dedicated to the monitoring of the atmosphere, the ocean and the climate.

Challenges and opportunities

The highest-ever number of orbital launches (134) was registered in 2021. It is expected that there will be up to [200 orbital launches](#) in 2022, reflecting the global upward trend enjoyed by the space sector. In this context, the competitiveness of the EU space sector is a key element to EU strategic autonomy. EU policy for space is expected to support this approach across space ecosystems and activities. In parallel, the outcomes of the EU investments in space will feed into major EU political priorities such as the digital and green transitions, and contribute to the global role of the EU.

Policy for space: EU competitiveness and safe access to space

Competitiveness

In the [conclusions](#) of its meeting of 1 and 2 October 2020, the European Council called for 'developing EU autonomy in the space sector'. In the framework of its [new industrial strategy](#), the EU is promoting the competitiveness of its space industries in general, as a prerequisite for a safe and autonomous access to space, and as a way to incentivise the uptake of space applications and data. Public investment is mainly implemented through a policy mix with support to research, technology and procurement.

EU space industries have a significant market share in the two main subsectors of the space upstream sector (launchers and satellite manufacturing). During the previous decade, EU launchers represented [15 % of the global launch capacity](#),³ whereas in 2018, overall EU exports in space amounted to almost €2 billion, more than half the value of G7 exports and twice the value of BRICS exports for the same year.⁴ To reinforce the competitiveness of its space industries and ecosystems, the EU is providing support along the continuum of research and development. Under Horizon Europe, a [partnership](#) between the EU and the European space industries is expected to allow EU actors to take advantage of the technological advances in the domain. This is expected to contribute further to the research and investment dedicated to bolstering the European new space, one aspect of which is the emerging market of [low cost launchers](#). However, the final budget has yet to be agreed with the EU Member States and the industrial partners, creating uncertainty about the actual launch of the initiative. Beyond research and innovation, the Commission has announced the launch in February 2022 of an [industrial alliance of European launchers](#), which is expected to diversify the EU launch system value chain. The EU space programme also has 'a critical mass' in terms of procurement: in 2021, the EU [procured €1.47 billion](#) to launch the second generation of Galileo satellites. Maintaining a competitive edge in the downstream sector is also a priority of the EU space programme.

Beyond providing support to the downstream and upstream sectors, the EU supports its space economy's competitiveness through initiatives focused on ensuring easier access to finance for EU space industries, SMEs and start-ups, and on training new space professionals. This is done through the EU space programme but also through initiatives such as [CASSINI](#) or the [European Innovation Council](#), which provide blended financial support, including equity, together with the [EIB](#). Synergies between the civil and the defence industries are also expected to strengthen competitiveness, as mentioned in the Commission's [synergies action plan](#). For example, due to the [relevance of semiconductors](#) in space industries and infrastructures, European space industries can contribute to the success of the EU semiconductor strategy, not least through the upcoming [European chips act](#). Such synergies are also [positively assessed](#) by the academia in the context of the growing importance of new missions-oriented policy initiatives.

In the longer term, to remain competitive in the space sector, the EU needs to have the capacity to train and attract skills. Ensuring training for young people in space sciences, technology and businesses is one important dimension of competitiveness, and efforts in this regard are already taking place. For instance, the network [UNIVERSEH](#), created by five universities established in five Member States (Germany, France, Luxembourg, Sweden and Poland), has set itself the aim to create training, research and innovation opportunities around a sustainable space for the more than 130 000 students studying in these universities. Beyond training, in order to unlock the full potential of competitiveness, the space sector must progress towards gender equality. The United Nations reports that globally, the [gender balance](#) in space industries has not improved substantially in the past three decades. According to the [OECD](#), the share of women employed in the space industries is still significantly disproportionate to that of men, especially when it comes to scientific and management positions.

Resilience

The growing reliance of EU GDP on space (as mentioned above) comes with the need to avoid and mitigate the risks of space disruption. Risks are of a different nature (man-made risks such as [military](#) and [space weather](#) events), and can impact either ground or in-orbit infrastructures, or both. To manage the risks, space has been included in the proposal for a [directive on the resilience of critical entities](#), which updates the European Critical Infrastructures Directive of 2008 that does not mention space in its scope. This represents an example of space-proofing legislation.

The extent to which critical economic sectors (such as energy, finance, and telecommunications) rely on space depends on their specific global GNSS requirements. EUSPA made a comprehensive sectorial assessment of [these requirements](#) in 2019. Possible mitigation measures include providing alternatives to EU GNSS data, either by supporting technologies compatible with other GNSS providers or by harnessing technologies that can provide accurate GNSS services such as timing on their own. This is the case of the atomic clocks systems (which are also used to manufacture satellites), whose development is supported by [EU research and innovation](#). Other mitigation measures are expected to be designed and activated in orbit as well. For instance, to reduce the risks associated with space debris, ESA is expected to launch the [first mission to capture space junk](#) by 2025. ESA and NASA are cooperating on [asteroid deflection](#) (another source of in-orbit risk), with a first mission launched in 2021.

Space for policy: Twin transitions and international cooperation

Space for the green transition: Protecting climate and restoring biodiversity

According to the World Meteorological Organization, space data allow to observe and monitor no less than [50 %](#) of the [56 essential climate variables](#) needed to understand and measure climate change. Similarly, space observation can assist in understanding and measuring some [essential biodiversity variables](#). Consequently, space proves a crucial factor for reining in the climate and biodiversity crisis, and for providing the knowledge and solutions needed to advance towards carbon neutrality and restored ecosystems. Space observation is expected to fuel scientific excellence, not least by making available more precise data to model the dynamics of climate change. This new source of knowledge is expected to feed into policy making.

Space services are also expected to boost the socio-economic and industrial dimensions of the European Green Deal. Space data can indeed provide key support to socio-economic systems in their transition towards carbon neutrality. This is the case of precision farming or smart cities, which can contribute to reducing a [sizable share](#) of greenhouse gas emissions. Space data from Earth observation and GNSS are also facilitating the monitoring and responses to extreme weather events, which have been on the increase.

The downstream space sector is enjoying favourable growth conditions, as illustrated by the second edition of the [Copernicus market report](#). The revenues of European businesses active in Earth observation are expected to have generated €226 million revenues in 2020, representing growth of 34 % in comparison with 2018. Furthermore, the share of European Earth observation companies using Copernicus data is expected to have reached 72 % in 2020. However, it appears that the optimisation of space data uptake is hampered by the absence of a comprehensive strategy, as noted by the European Court of Auditors in a [special report on EU space programmes](#). In particular, the general nature of the objectives, coupled with the absence of a set of monitoring indicators, hinders the possibility to map the dynamics of the different downstream market opportunities.

Space for the digital transition

Space services are also expected to contribute to delivering on the [EU digital decade initiative](#). In her 2021 State of the Union address, Commission President Ursula von der Leyen announced the building of an EU space-based global secure communications system, from 2022. This initiative aims

to extend internet connectivity across European territories, including the outermost regions, in particular to allow access to high-speed broadband to all Europeans. It aims as well to provide secure connectivity as a way to contribute to the resilience of EU societies and economies. In 2021, the Commission published [an inception impact assessment](#) of the initiative. According to Internal Market Commissioner Thierry Breton, the space-based connectivity system would become the '[third infrastructure besides Galileo and Copernicus](#)'. It is expected to be designed as a multi-orbit initiative, combining different satellite constellations.

Space for international cooperation

European space policy shows a significant track record of successful international cooperation initiatives ranging from space science and exploration to the dissemination of space data. It is thus expected that space would boost the [EU's contribution to rules-based multilateralism](#). In 2022, EU space exploration actors will be involved in key science exploration missions. In March 2022, the [Mission Artemis 1](#) will fly a spacecraft beyond the Moon, including [Orion](#), an ESA service module in development also for future manned flights. In 2022, ESA will also contribute to [JUICE](#), an observation mission to Jupiter.

As the number of space-faring nations grows, so do the opportunities for international cooperation in space sciences. According to the [OECD](#), countries having long-standing space programmes are still leading in terms of scientific publications in space literature, but new countries have made their emergence in the domain. From 2000 to 2016, the number of scientific publications on space has grown double fold among OECD countries more than fivefold among the grouping of Brazil, Russia, India and China (BRIC).⁵ In particular, China now accounts for more than 5 % of space-related publications. Within the EU, Member States like Germany and Spain have also increased their share; this was especially over the period from 2008 to 2016. Their collective share exceeds that of China.

Beyond space science and exploration, the EU is also expected to ensure the effectiveness of the international rules and standard-enabling access to and use of outer space, as well as a governance system aimed at guaranteeing the long-term, sustainable and peaceful use of space. Space has been indeed recognised by the [United Nations](#) as a global common good of mankind, which should be governed by the principle of cooperation, equal access to space and use thereof, with no right of sovereignty on any celestial body or outer space. In particular, the EU and its Member States are expected to continue to promote the long-term sustainability of outer space activities, in the UN [Committee on the Peaceful Uses of Outer Space](#). Luxembourg and the UN Office for Outer Space Affairs have launched the initiative [Space Law for New Space Actors](#), to provide UN member states with tailored capacity building; to design national space legislation and space policies in line with international space law; and to ensure the long-term sustainability of outer space activities. Last, through the [Global Gateway initiative](#), the EU will work with partner countries to deploy its space-based connectivity system, thus creating further opportunities for cooperation and data flows. Space data needed to monitor the climate and other environmental essential variables will continue to be accessible to all.

Parliament positions

With its resolution of 12 September 2017 on a [Space Strategy for Europe](#), the European Parliament reaffirmed that space programmes and their services are key assets across policy areas and economic sectors, and called to maximising the benefit of space for EU societies and economies. It also stressed the need to 'space proof' legislation, and asked the Commission to systematically 'space check' any new legislative and non-legislative proposals.

Following this resolution, the Parliament further specified the expected contributions of space to the main political priorities of the EU (space for policy), as well as the conditions needed for the space programme to deliver (policy for space):

In its resolution of 15 January 2020 on the [European Green Deal](#), the Parliament considered that the EU must maintain and further develop its flagship civilian space programmes Copernicus and Galileo, which provide valuable contributions to environmental monitoring and data collection. It also stressed that Copernicus's climate change services should become fully operational as soon as possible, to provide the continuous flow of data necessary for action.

In its resolution of 10 June 2021 on the [EU's Cybersecurity Strategy for the Digital Decade](#), the Parliament welcomed the initiative for an EU space-based global secure communications system that would integrate quantum encryption technologies. It also recalled that the continuous efforts needed to secure European space activities should be made in cooperation with EUSPA and ESA.

In its resolution of 6 October 2021 on [The future of EU-US relations](#), the Parliament reiterated the importance of EU-US space cooperation and considered that EU-US cooperation on space could help promote space safety standards and best practices across the international community.

In its resolution of 25 November 2020 on a [New Industrial Strategy for Europe](#), the Parliament highlighted the importance of EU space policy for improving European industrial space capacities and unlocking the potential of synergies with other key sectors and policies, so as to develop cutting-edge technologies and accompany the industrial transformation.

Stakeholder positions

Institutional stakeholders

In 2021, ESA adopted its [2025 Agenda](#), in which it identified its five main priorities by 2025 aimed at ensuring that Europe will be one of the global space leaders in 2035. The first priority is aimed at strengthening the cooperation between the ESA and the EU. In particular, the ESA will commit to supporting the political dialogue among the EU institutions, as per its framework partnership agreement with the EU (mentioned under 'Governance' above). The second priority aims to promote the exploitation of space data, innovation and skills to support the twin digital and ecological transition. The ESA will facilitate the uptake of space data, for instance, in order to design digital twins⁶ of complex systems. Beyond data, the ESA will also support the skills needed in space, not least regarding training in the field of sciences, technologies, engineering and medicine. Moreover, ESA will support innovation and access to capital for space-based businesses. The third priority involves harnessing space for safety and security on Earth and in orbit. This includes the initiatives to rein in space debris. The fourth priority relates to critical programmes. The ESA will support the EU launchers sectors, as well as the excellence of space application. Moreover, the ESA will deploy its space exploration initiative, [Terra Nova](#). The fifth priority involves the ESA's administrative modernisation. An [ESA Ministerial Council](#) meeting is scheduled for November 2022.

Industry

According to ASD Eurospace – the main European space industry association – the European space industry registered a [€1 billion drop in sales in 2020](#) (a 13 % decrease year on year), an unprecedented figure in the past 30 years. During the 14th European Space Conference organised in Brussels in January 2022, ASD Eurospace highlighted [two lines of action](#) that could be pursued to ensure the recovery of the space sector without delaying the EU political objectives. The first one would be to increase the public use of space. This would facilitate the uptake of space data to create socio-economic opportunities across Europe. The second would be to give the European industrial supply chain the means to remain competitive, through additional research and innovation funding and public procurement. This echoes views by space sciences networks, such as the [European Space Sciences Committee](#), which [stresses](#) that investing in space sciences is producing co-benefits for the resilience of space infrastructures and industries, but also for the overhauling of science policy towards more interdisciplinarity.

MAIN REFERENCES

Mazzucato M., Robinson D. K. R., ['The evolution of mission-oriented policies: Exploring changing market creating policies in the US and European space sector'](#), *Research Policy*, Volume 48, Issue 4, May 2019.

[The future of the European space sector: How to leverage Europe's technological leadership and boost investments for space ventures](#), EIB report, 2019.

Whittle M., Sikorski A., Eager J., Nacer E., [Space Market How to facilitate access and create an open and competitive market?](#), study, Directorate-General for Internal Policies, European Parliament, 2021.

[Space Infrastructures: from Risk to Resilience Governance](#), book, Information and Communication Security, NATO Science for Peace and Security series, Springer Publishers, 2021.

[Space Economy for People, Planet and Prosperity](#), paper for the G20 Space Economy Leaders' Meeting, Directorate for Science, Technology and Innovation, OECD, 2021.

ENDNOTES

- ¹ The sources consulted, which mentioned estimates in US dollars, do not include sufficient information to ensure accurate conversion into euros. The figures have therefore been kept in the original currency.
- ² The figures given in US dollars were converted based on the US\$/EUR rate of [4 February 2022](#), as published by the European Central Bank.
- ³ However, it is to be noted that the European launch services sector is more exposed to global competition than any other space sector in other regions, where the share of institutional order is much larger (e.g. in 2019, 100 % of the 34 launches in China, 63 % of the 27 launches in the US, and only 22 % of the 9 launches in the EU were for institutional missions).
- ⁴ See Figure 1.10 on p. 31 in the [Space Economy in Figures](#), OECD, 2019.
- ⁵ See Figure 1.12 on p. 33 in the [Space Economy in Figures](#), OECD, 2019.
- ⁶ A digital twin is a virtual model designed to accurately reflect a physical object. For instance, under Horizon Europe, the Mission Ocean is providing [support](#) to the establishment of digital twins of the oceans, based on data gathered by Copernicus.

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