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# REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

## on the implementation of the EU Space Programme and on the performance of the European Union Agency for the Space Programme

{SEC(2024) 202 final} - {SWD(2024) 173 final}

## 1. INTRODUCTION

The EU Space Programme (the Programme) is critical for the strategic autonomy of the EU and its Member States and to support the EU's political priorities, in particular the European Green Deal, the Digital Transition, the EU's resilience, and the EU role in the global dimension. The Programme enables solutions to tackle global challenges such as sustainability and climate change, safety and security, natural disasters and mobility and strengthens the EU's role on the international scene as a global space power. In addition, it effectively provides cutting-edge data and services for areas like Artificial intelligence, autonomous vehicles and smart solutions, enhance security through critical infrastructure monitoring and provide key data to prevent, prepare for and respond to disasters. The Programme plays a crucial role in addressing cross-cutting policy topics by fostering innovation, resilience and competitiveness of EU companies. The EU has been developing its own space initiatives and programmes since the 1990s and is one of the world leaders in space. However, in an increasingly uncertain geopolitical environment, investing in space remains a priority, in order to develop EU capabilities, to keep providing state of the art data and services, and to preserve Europe's leadership, competitiveness, sustainability and strategic autonomy.

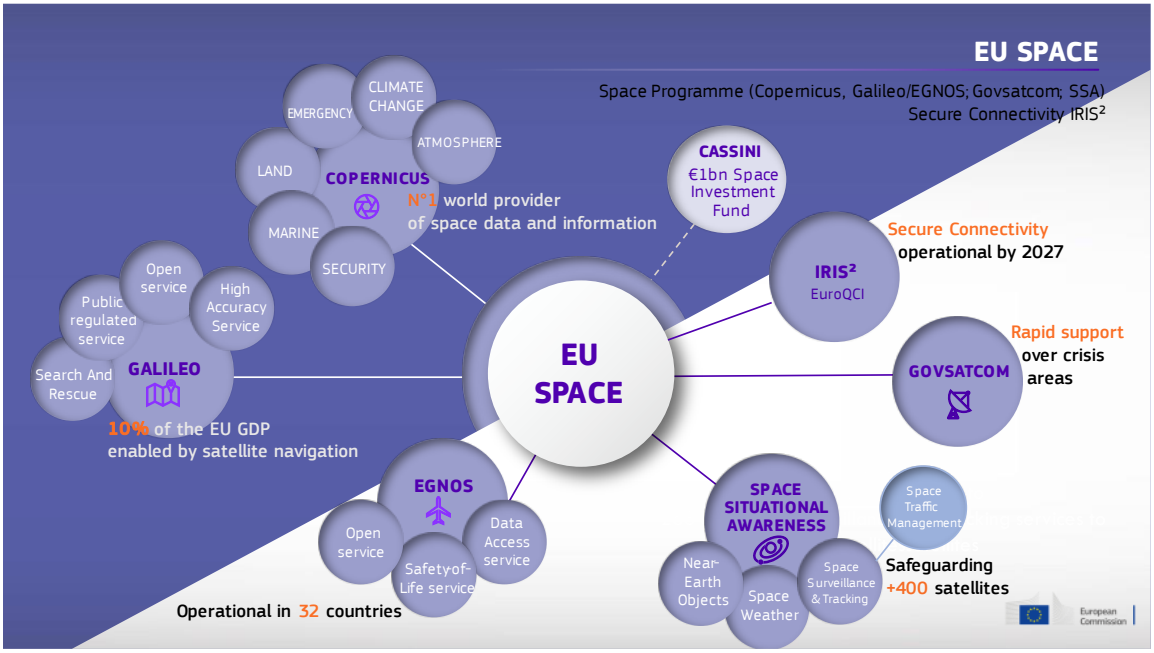
The Regulation (EU) 2021/696[1] (the Regulation) establishes the Programme for the period 2021-2027, sets its objectives, budget, and governance. The Regulation also sets up the European Union Agency for the Space Programme (EUSPA) as an evolution of the European Global Navigation Satellite Systems Agency (GSA), with a substantially extended mandate on all components of the Programme.

By streamlining the governance and capitalising on synergies and horizontal activities, the Programme for the first time encompasses EU space activities in one single Regulation. It is composed by the EU space flagship initiatives, for navigation, positioning and timing (Galileo, EGNOS[2]), Earth observation (Copernicus) and new initiatives on space situational awareness (SSA) and governmental satellite communications (GOVSATCOM). It also comprises horizontal activities in support of the space sector. The Regulation defines the governance of the various Programme's components and the rules for the implementation. Tasks are distributed between various actors, namely the European Commission, as the

[1] Regulation (EU) 2021/696 Of the European Parliament and of the Council of 28 April 2021 establishing the Union Space Programme and the European Union Agency for the Space Programme and repealing Regulations (EU) No 912/2010, (EU) No 1285/2013 and (EU) No 377/2014 and Decision No 541/2014/EU

[2] The European Geostationary Navigation Overlay Service.

overall programme manager, Member States, EUSPA, the European Space Agency (ESA) and other entities[3] entrusted with tasks related to the implementation of the Programme.




Article 102 of the Regulation mandates the Commission to evaluate the implementation of the Programme and to communicate the conclusions of the evaluation with its observations, to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. At the same time the Commission is mandated to assess the performance of EUSPA and to submit a report on its evaluation to the European Parliament, the Council, the Administrative Board of EUSPA and its Security Accreditation Board (SAB).

As the core objective of the Programme is to provide EU space-based data and services addressing the needs of the users and supporting EU strategic priorities, the evaluation assesses the performance of the services and of the satisfaction of the users. Whilst the implementation of the Programme is constantly monitored during the year, the interim evaluation allows to analyse in a more holistic way the Programmes' effectiveness, efficiency, coherence and EU added value.

The evaluation is based on the Key Performance Indicators (KPIs) included in the Regulation, that structure the annual Programme Performance Statement. Given the differences among the Programme components, specific targets have been identified for each component as well as for the entrusted entities involved in its implementation, based on objectives of the

[3] The European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), the European Centre for Medium-Range Weather Forecast (ECMWF), Mercator Ocean International, the European Maritime Safety Agency (EMSA), the European Border and Coast Guard Agency (FRONTEX), the European Environment Agency (EEA), the European Union Satellite Centre (SATCEN).

Programme and the contribution agreements concluded with ESA and other entrusted entities. The Report covers the period from 2021 to 2023 and is accompanied by a Staff Working Documents (SWD) that details the evidence-based assessment on the effectiveness, efficiency, coherence, relevance, and EU added value of the Programme and by the study "Evaluation of the Performance of the Implementation of the EU Space Programme and of EUSPA"[4].

## 2. THE EU SPACE PROGRAMME IN SUPPORT OF EU STRATEGIC PRIORITIES AND USER NEEDS

EU space data and services have become critical tools in support of the EU's political goals by promoting fair digital and green transitions and strengthening the EU's resilience.

Climate change, the loss of biodiversity and the increasing pollution are amongst the largest challenges humanity is facing today. They can be overcome through Europe's green transition, underpinned by the **European Green Deal**. Space-based information delivered by Copernicus, Galileo and EGNOS provide essential tools and data to address today's environmental challenges and directly support the ambitious EU goals, notably to monitor, mitigate and adapt to environmental impacts. For example, the EU Climate Law[5] recognised the role of Copernicus data in assessing the EU's path to climate neutrality and progress on adaptation. Or the EU Deforestation Regulation[6] indicates that Copernicus, Galileo and EGNOS data and services should be used by companies to provide geolocation coordinates and demonstrate to competent authorities that the products placed on the EU market do not come from deforested land. In addition, the Programme fosters the creation and development of innovative solutions that promote environmental monitoring, sustainable growth and resource efficiency.

The Programme also plays a vital role in the development of Europe's Digital Single Market and acts as an accelerator of the EU's fair **digital transition** across different economic sectors by providing advanced technological infrastructure and critical data. Galileo standard time serves as the reference for telecom networks, power grids and financial transactions, and its positioning and timing services are essential for numerous digital applications such as telecommunications and autonomous vehicles. While the Destination Earth initiative, providing a high precision digital model of Earth (a "Digital Twin of the Earth"), plays a significant role as well in the digital transition by leveraging advanced Earth observation data and digital technologies to address global challenges.

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[4] Mid-Term Evaluation of the Performance of the Implementation of the EU Space Programme and of EUSPA

[5] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law')

[6] Regulation (EU) 2023/1115 of the European Parliament and of the Council of 31 May 2023 on the making available on the Union market and the export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010 (Text with EEA relevance)

In the current geopolitical context, when space is more and more a contested domain, there is a need to **build a stronger and more resilient EU.** The Programme plays a key role in support of this goal. It enhances EU's strategic autonomy by curbing dependencies on non-European space systems, ensuring self-reliance and positioning the EU as a trustworthy partner in the international arena. At the same time, EU space components provide services either used in the security domain or to protect critical infrastructures of the EU and its Member States as recalled in the Council Recommendation on the resilience of critical infrastructures[7]. The establishment of a dedicated **EU GOVSATCOM** component constituted an important step towards resilience by providing secure and cost-efficient communication capabilities to critical missions and operations managed by the EU and its Member States. In addition, through the provision of **EU Space Surveillance and Tracking** (SST) services that are part of SSA component, space assets are protected from collisions, enabling the continuity of services for communication, navigation, or disaster management. At the same time, citizens, air traffic, and ground infrastructures are also protected by SST services from atmospheric re-entries of space objects.

The Programme has played a crucial role in **enhancing the EU competitiveness** and in the development of a robust **EU space ecosystem**. By reducing reliance on non-European space programmes and improving the EU's ability to operate autonomously in space-related activities, the Programme has granted the EU strategic independence in space. Additionally, also with the support of **Horizon 2020 and Horizon Europe,** the Programme has been instrumental in driving innovation and technological progress within the EU, resulting in the creation of novel products, processes, and business models, as well as the delivery of value-added services. This has not only strengthened the EU's technological capabilities but shas also positioned European companies as leaders in the global space industry.

The Programme has created new markets and opportunities for a wide range of enterprises, in particular small and medium enterprises (SMEs), supporting their development through the entire value chain of space industry, enabling them to engage in satellite manufacturing, space technology development, and data analysis for various applications[8]. The EU space ecosystem is also a key part of the **European industrial strategy**[9] by fostering innovation, promoting competitiveness, and creating opportunities for European companies to participate in the global space market.

The **Cassini** initiative[10] supports entrepreneurship in space-related businesses across the EU via different types of actions. The initiative is open to all areas of the Programme and is

[7] Council Recommendation of 8 December 2022 on a Union-wide coordinated approach to strengthen the resilience of critical infrastructure (2023/C 20/01)
[8] EUSPA`s EO and GNSS Market report (issue 2)
[9] European industrial strategy - European Commission (europa.eu)

[10] Space Entrepreneurship Initiative - CASSINI - European Commission (europa.eu)

tailored to meet the needs of companies covering both upstream (i.e., nanosats, launchers, etc.) and downstream (i.e., products/services enabled by space data, etc.). CASSINI includes a €1 billion EU seeds and growth fund, hackathons and mentoring, prizes, business accelerator, partnering and matchmaking. By combining the synergies and coherence between different EU programmes including Invest EU, CASSINI has supported over 700 SMEs by the end of Q2 2023, with almost 40 of them securing a total of EUR 300 million in venture investments.

The **In Orbit Demonstration/In Orbit Validation (IOD/IOV)**[11] allows academia, research organisations, start-ups, SMEs and larger industrial companies to effectively test new technologies in space, reducing the time to market in full synergy with Research and Innovation funding programmes.

## 3. MAIN FINDINGS CONCERNING THE IMPLEMENTATION OF THE EU SPACE PROGRAMME

### 3.1 The performance of the Programme's components and evolution of user needs

The evaluation has confirmed that over the evaluation period, the performance of the Programme and the components are aligned with its objectives, effectively meeting users' needs.

**Galileo and EGNOS**

Galileo has successfully met its key objectives by providing worldwide long-term, state-of-the-art, and secure positioning, navigation, and timing services with minimal service disruptions, meeting the evolving and growing needs of Europe and its citizens. Most targets were achieved and partially overachieved. Galileo is today the most precise satellite navigation system in the world. The accuracy of its navigation and timing services has already surpassed initial commitments (average three times better than 2027 target), and the focus now is on maintaining this high level of performance consistently. Furthermore, the overall availability of Galileo services is close to meeting the final target value (availability of the Galileo services always above 99%), and efforts are being made to ensure this availability remains stable.

Since the declaration of Galileo services in December 2016, significant milestones have been achieved, including the introduction of the Open Service (OS) and Search and Rescue Service (SAR), as well as the development and delivery of new unique services such as the High Accuracy Service (HAS), which is already providing highly accurate global positioning. Additionally, plans are in place to declare other new services in the near future, like Galileo's Open Service Navigation Message Authentication (OSNMA) and Emergency Warning Satellite Service (EWSS). The implementation of the Public Regulated Service (PRS) is

[11] In-Orbit Demonstration and Validation (IOD/IOV) - European Commission (europa.eu)

progressing according to the established schedule, expected to be completed by 2024. Further efforts are required to ensure its successful roll-out and full functionality. A risk management task force has been set up by the Commission in collaboration with EUSPA, ESA, and industrial actors to monitor progress and oversee the workplan execution.

| **Overview of Galileo services** |
|---|
| **Galileo Open Service (OS):** Provides ranging, positioning, and timing information to 3 billion+ Galileo-enabled devices. **New and improved features of the Galileo Open Service 'Signal in Space' completed in 2023 with an update of the service commitments in November 2023.** |
| **Galileo Public Regulated Service (PRS):** Galileo navigation service offering to authorised governmental users uninterrupted worldwide positioning, velocity and Timing (PVT), solution even in the most serious crisis situations. |
| **Galileo high accuracy service (HAS):** Provides high accuracy corrections for Galileo and GPS. **Initial Services in January 2023 with excellent performance since then.** |
| **Galileo Search and Rescue (SAR) Service:** Detects and locates people in distress and communicates their position to Rescue Coordination Centres worldwide. |

Galileo experienced a few hurdles during the evaluation period related to external factors, notably the non-availability of two launch services (initially scheduled in 2022) with Soyuz launchers further to the Russian invasion of Ukraine that had an impact on the smooth implementation of certain activities within this component. Furthermore, a combination of external factors including geopolitical tensions, inflation, and chip shortages, led to delays in fulfilling order commitments by the industry, preventing the declaration of FOC[12] of the Galileo OS. Since the services can be provided without the complete constellation, the provision of services remains unaffected. However, as some satellites are reaching their end of life, potential risks to the performance are increasing. In response, the Commission has taken the necessary mitigation measures, i.e., deployment of four Galileo satellites with an alternative launch service provider, to ensure the continuity of services and performance.

The implementation of the **EGNOS** component progressed well. By improving the accuracy to around 1 metre, surpassing the 2027 target, and enhancing the reliability of the Global Navigation Satellite System (GNSS) signal over Europe, EGNOS provides safety-critical applications for users in Europe, such as aircraft's operations and landing. But even though the performance of its service in terms of coverage is gradually improving, notably in the core domain of aviation, the objective of ensuring EGNOS service over all EU Member State territories in Europe, was delayed. This was due, to space weather's effects degrading service

[12] Galileo FOC phase refers to the complete constellation of 27 operational satellites and three reserves, all stationed on three circular Medium Earth Orbits (MEOs) at an altitude of 23 222 km and with an inclination of 56º to the equator.

performances, the closure of two sites outside the EU for sovereignty reasons and the delays in the development of EGNOS third generation (EGNOS V3). The Commission put in place the necessary mitigation measures to ensure full coverage of the Union territory as soon as possible.

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|---|---|
| **Open Service** (OS) | Improving GNSS accuracy, intended mainly for high-volume satellite navigation applications for use by consumers |
| **Safety of Life Service** (SoL) | Providing a high level of integrity for users for whom safety is essential:<br>- Civil Aviation (ICAO standards)<br>- ***Maritime (IMO & IEC standards) from March 2024*** |
| **Data Access Service** (EDAS) | Offering EGNOS data with greater added value through internet, intended mainly for professional or commercial use |

The evaluation focused also on how much Galileo and EGNOS meet **the user needs** and requirements. The number of Galileo users is growing with more than 3.9 billion devices in use by 2023 and with a high user satisfaction across all services, reaching 82.35% of users satisfied with the Galileo performance. Galileo includes users in agriculture, aviation and drones, consumer solutions, emergency management, fisheries, forestry, maritime, rail, public transport, automotive sectors and others. In case of EGNOS, the aviation sector is one of the main users, with more than 900 approaches (covering more than 65% of instrument runways), and above 27% of the airplane fleet equipped with EGNOS by end of 2023. Agriculture is another mature EGNOS user's sector for guidance applications for basic-value crop cultivation (e.g., cereals), with almost all GNSS devices in agriculture EGNOS enabled.

EUSPA and the Commission created and run the **User Consultation Platform** in order to better address and review user needs for GNSS applications across all sectors of the economy. According to the evaluation, the current system addresses most of existing needs. However, some of them – such as emerging safety critical use cases in transport - cannot be met by the current generation of Galileo or EGNOS. Therefore, it is important to deliver and deploy Galileo Second Generation and EGNOS V3 as soon as possible. In the area of rail and maritime, stakeholders expressed their strong interest for a dedicated EGNOS service. The Commission together with EUSPA are addressing these demands.

**Copernicus**

The objectives of Copernicus component are to provide precise Earth observation data, information, and services by integrating various data sources on a sustainable basis and

support the development, implementation, and monitoring of policies and actions of the Union and its Member States, in accordance with user requirements. All indicators prove that the performance of Copernicus services (i.e., land, marine, atmosphere, climate change, emergency, and security) in terms of reliability, availability and continuity are on average above 94.5% target. Targets were also exceeded for volume of data generated from the Sentinels. These data have been provided on a full, free, and open basis supporting a wide range of applications, from environmental monitoring and disaster management to climate change adaptation and sustainable urban planning.




While the performance of the Copernicus component is well above expectations, delays were observed in the launch of Sentinel 1C[13] due to the unavailability of European launchers. There was also a lack of radar data due to the unavailability of the Sentinel-1B satellite, but mitigation measures were put in place, notably by adjusting the observation plan for Sentinel-1A, and through reinforcement of the contributing missions. The data loss was also compensated by the provision of data secured by other sources[14].

As to **the users and the evolution of their needs,** the number of users of data, products, or services within Copernicus is growing with their satisfaction exceeding 85% across all services. Thanks to its ability to address diverse and evolving user needs, Copernicus proved to be successful in attracting an increasing number and wide range of users. The number of

[13] Copernicus for Earth Observation data and services are provided by a set of dedicated satellites (the Sentinel families), on the contrary of Galileo, for Copernicus each Sentinel provides a different service.

[14] Copernicus International Cooperation Agreement with Canada providing for the sharing of each other's satellite Earth Observation data on the basis of reciprocity.

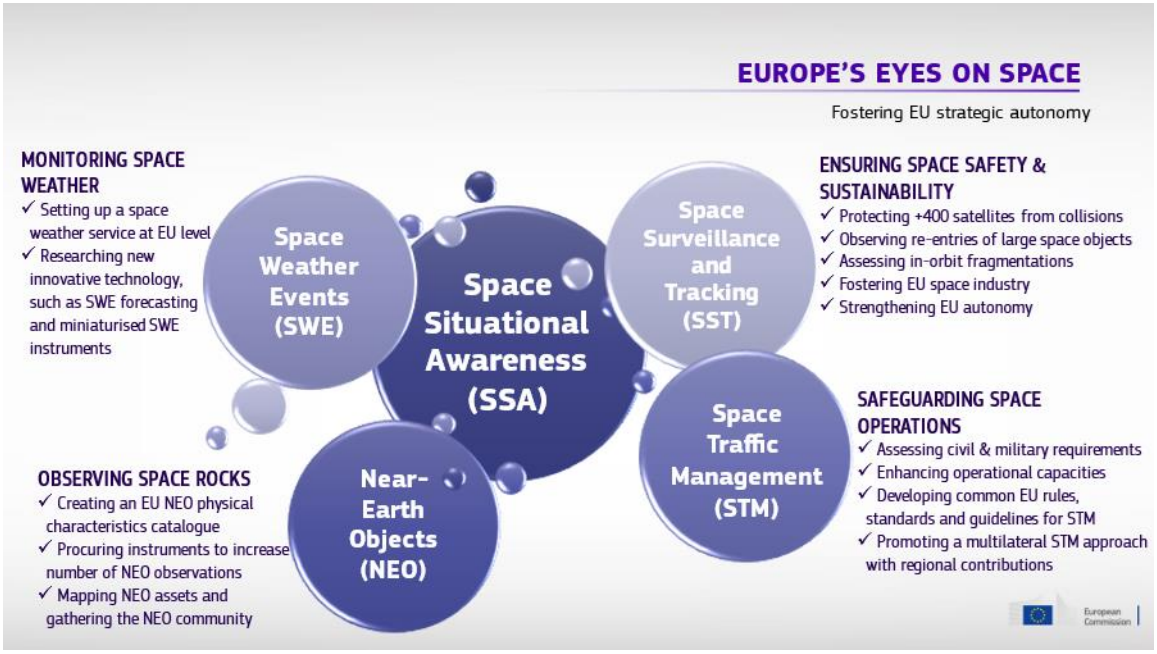
registered users doubled from 2020 to 2022 (from 385 000 to 638 000 users in 2022), with the amount of Sentinel data generated being 6 800 Terabyte in 2022. The use of a new Dynamic Purchasing System increases the agility of the contribution missions' scheme and reduces possible barriers for new European market entrants, in particular new space and emerging companies. A wide range of tools and platforms makes it easy for users to access, analyse, and visualize the information available through the Programme. The **Copernicus User Forum** provides inputs to the Commission regarding the definition and validation of user requirements, in particular for public sector (Copernicus core users), while the **User Consultation Platform** fosters synergies between Galileo/EGNOS and Copernicus, for example in agriculture, forestry and urban planning. In addition, the coherence between different Copernicus services and their uptake is ensured notably by **four Copernicus Thematic Hubs** (Coastal, Health, Energy and Arctic) and the **Knowledge Centre on Earth Observation** that combine information and products for specific thematic areas, aiming to facilitate access and promote collaboration.

**Space Situational Awareness (SSA)**

The **SSA component** is composed of three subcomponents: SST, Space Weather (SWE) and Near-Earth Objects (NEO). **SST** is the most advanced part, being an evolution of an existing service (2014 Framework for Space Surveillance and Tracking Support[15]). As of July 2022, the network comprises 40 sensors of Member States (incl. radars, telescopes and laser ranging stations) and its services are performing very well. The community of users continues to grow, namely with satellite operators from non-EU countries, as foreseen by the Regulation. At the end of 2023, approximately 200 organisations are registered to the SST services, with more than 400 satellites registered to the collision avoidance service. The **EU SST Partnership Agreement**, in force since November 2022, has expanded from 7 to current 15 EU Member States, enhancing the capabilities of the SST system to survey and track space objects orbiting the Earth**.**

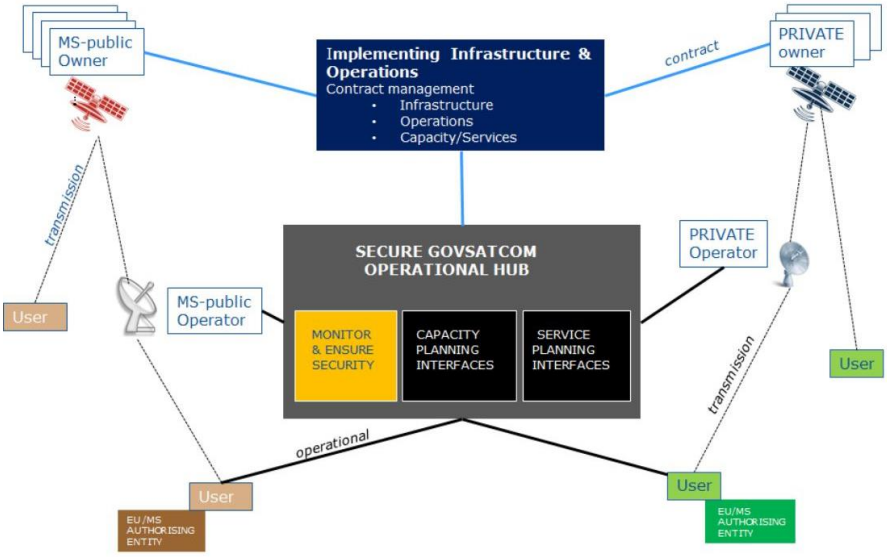
**SWE** and **NEO** were newly introduced in the Regulation and are not yet operational, since the implementation process is still ongoing. They cannot thus be evaluated. Nevertheless, the implementation of the SWE sub-component progresses as planned by defining service priorities and compiling a first version of a map of Member States' capabilities for detecting and monitoring NEOs with a full list of institutions and assets.

[15] Decision No 541/2014/EU of the European Parliament and of the Council of 16 April 2014 establishing a Framework for Space Surveillance and Tracking Support




**Governmental Satellites Communications (GOVSATCOM)**

Preparatory activities for service provision have been implemented effectively. Operational activities focused on the procurement of the GOVSATCOM hub and on the call for expression of interest relating to the sites which will host the hub. EUSPA, together with the Commission, managed to mitigate some delays and the activities are currently running smoothly. The innovation partnership contract has been awarded for the GOVSATCOM Hub in December 2023 while the evaluation of the proposals relating to the localisation of the sites is on-going. During the evaluation period, the Commission also established the legal framework for the implementation of the component.



Regarding the users' needs, a network of user representatives was created to collect and aggregate user requirements (**ENTRUSTED**[16] project). Building on GOVSATCOM, on 15 February 2022, the Commission presented a proposal for a Regulation establishing the **Union secure connectivity programme for 2023-2027 IRIS$^2$,** that was adopted on 15 March 2023[17].

### 3.2 Implementation of tasks by the entrusted entities

The vast majority of the entrusted tasks entrusted to various entities as defined by the Regulation, have been effectively implemented over the evaluation period.

For **Galileo** and **EGNOS**, EUSPA has effectively performed its tasks and achieved most of its objectives. However, certain future features and services as well as the declaration of FOC suffered delays as explained above. Nevertheless, mitigation measures have been implemented to address these challenges.

For **Copernicus** the implementation activities are fully aligned with the Contribution Agreements with ESA and other entrusted entities ensuring a timely and on budget implementation.

In the case of **SSA**, the assessment of **SST**-related tasks was not feasible as the SST Front Desk was transferred to EUSPA in July 2023 following the establishment of the new EU SST Partnership. The continuity of the SST service was ensured by SATCEN, which worked together with EUSPA to ensure a smooth transition. For the **SWE** sub-component, delays in the ESA-run procurement were effectively mitigated and no negative consequences are expected, while the tasks entrusted to ESA related to the **NEO** sub-component are running smoothly.

Regarding **GOVSATCOM**, tasks have been entrusted to EUSPA and ESA. Both entities have performed their activities in line with the contribution agreements concluded between the Commission and those entities.

### 3.3 Cost-Benefit Analysis of the Programme

Despite a challenging environment and the difficulty in the analysis, due also to the fact that each component has a different timeframe, maturity, users and output, the benefits brought at European and global level by the Programme outweigh the costs that were directly and indirectly sustained for the development of its components. Since Galileo, EGNOS and Copernicus were launched before the current Multiannual Financial Framework (MFF), it was not always possible to perform a cost benefit assessment or measure the impact for the period 2021- 2023, as it would not be an accurate comparison between costs and benefits. Whereas

[16] "ENTRUSTRED" Project
[17] Regulation (EU) 2023/588 Establishing the Union Secure Connectivity Programme for the Period 2023-2027

costs are instantaneous, the benefits from the exploitation of EU space components are the consequence of the investment to develop the infrastructures, including the investments made before the programmes became completely operational, as in the case of SSA and GOVSATCOM.

The Programme offers a wide range of benefits, encompassing environmental monitoring, technological innovation, economic growth, jobs creation and societal improvements in Europe. The availability of precise navigation and Earth observation data supports innovation and creates new economic opportunities that support the growth of a deep-tech ecosystem, which contributes significantly to the EU's economic prosperity. By driving technological innovation, fostering entrepreneurship, and supporting the growth of the space industry, the Programme creates high-tech jobs and stimulates economic development across various sectors.

**Galileo and EGNOS** offer substantial economic benefits through enhanced navigation, positioning, and timing services. As GNSS is a public good, it is difficult to attribute benefits to one of the main GNSS constellations (GPS vs Galileo vs Beidou vs Glonass). Two scenarios have been used in the evaluation to calculate the benefits of Galileo and EGNOS, with one scenario attributing 100% of the benefit to Galileo and the other attributing 25% of the benefit to Galileo and dividing the rest among the other GNSS constellations. The analysis showed that the economic benefits of Galileo and EGNOS outweigh the costs in both scenarios. Even when assuming benefits are split equally between the four GNSS constellations, they are still far exceeding the costs due to the wide-ranging use cases of GNSS and its crucial role in the global economy.

The cost-benefit analysis has concluded that societal, environmental, and economic benefits provided by **Copernicus** outweigh its costs by 3.7 times, despite the fact that data and services are open and freely available. Not only Copernicus provides data used in several industrial ecosystems, but it also stimulates the development of new products, processes, business models and added value services, such as in saved lives, better quality of life for EU citizens and reduced losses from an economic point of view by supporting European industries. Furthermore, it has contributed significantly to the non-dependence of the EU on other countries for critical geospatial data.

The cost-benefit assessment of the **SSA** component can only be estimated since the service is not yet fully operational. The evaluation shows that the expected investments will create large benefits for the economy and the society, in particular due to the reduction in collisions between spacecrafts and space debris, and in unnecessary collision avoidance manoeuvres. Accumulated costs for SSA between 2014 and 2027 are estimated at EUR 260,5 million, while accumulated benefits amount to EUR 1542,84 million.

As **GOVSATCOM** will be operational in 2024, its expected benefits could not be quantified and forecasted yet, but they had been analyzed in the impact assessment accompanying the

Regulation[18]. GOVSATCOM, allowing for a quicker and better controlled response to emergencies will be vital for European society. GOVSATCOM will provide guaranteed access, including to Member States that do not benefit from their own satcom systems, the Union's autonomy, and significant overall benefits for citizens by providing better crisis management and emergency services. It is also expected to provide more cost-effective services as a consequence of the built-in competition between different capacity providers.

## 4. MAIN FINDINGS CONCERNING EUSPA

Since its creation in 2002, the Agency has undergone significant changes from the Galileo Joint Undertaking to the GSA and subsequently with its evolution to EUSPA. The Regulation has expanded the scope of tasks of EUSPA from dealing mostly with satellite navigation to all components of the Programme.

Over the evaluation period, EUSPA has overall performed well and successfully achieved its objectives in the areas of exploitation, security and market uptake. This has been accomplished through an effective implementation of its core and entrusted tasks defined under the Financial Framework Contribution Agreement (FFPA), in the Commission-EUSPA Contribution Agreement and in the EUSPA-ESA Contribution Agreement signed in June 2021. On the management, the Agency adopted a new organizational structure in October 2021 strengthening technical horizontal functions and securing the growth in overall staffing.

The large majority of the targets and objectives of **EUSPA core tasks** – Security accreditation, Operational security for EGNSS, Operation of the Galileo Security Monitoring Centre, PRS Activities, communication, promotion and market development and Agency management - have been reached with minor exceptions, mostly due to external factors (e.g., chip shortage impacted slightly the growth of EGNOS receivers' models in Agriculture and Forestry).

While previously **the user and market uptake activities entrusted to the Galileo Supervisory Authority, the predecessor of EUSPA,** were focused to Galileo and EGNOS, the Regulation expands EUSPA's activities to Copernicus and GOVSATCOM components ensuring synergies and addressing a larger audience of users. All activities entrusted to EUSPA concerning user uptake and market development were performed on budget and to a very large extend on time. The EUSPA Market Report provides a comprehensive overview of data dynamics, global Earth Observation & GNSS downstream markets, covering 15 market segments, including agriculture & forestry, climate & environment, rail, public transport and

[18] SWD/2018/327 final of 6 June 2018 – Impact Assessment accompanying the document: Proposal for a a Regulation of the European Parliament and of the Council establishing the space programme of the Union and the European Union Agency for the Space Programme and repealing Regulation (EU) No 912/2010, (EU) No 1285/2013, (EU), No 377/2014 and Decision 541/2014/EU

Road & automotive. EUSPA also published the Secure SATCOM Market and User Technology report in 2023 in preparation of GOVSATCOM and IRIS$^2$ market uptake.

The Regulation has extended the scope of responsibilities of the **Security Accreditation Board (SAB)** to all space components. The SAB is an independent body within EUSPA that oversees security accreditation activities for all the components of the Programme. The evaluation has demonstrated that SAB performs overall well and there is a constant monitoring to ensure its independence.

## 5. CONCLUSIONS

The Programme with its budget of nearly EUR 15 billion offers a multitude of benefits, ranging from environmental monitoring and climate protection to economic growth, innovation, and security. These benefits underscore the significance of space activities in addressing global challenges and ensuring close alignment with EU priorities.

The evidence presented in the evaluation demonstrated that the implementation of the Programme delivers well on its objectives, the components are performing as planned, providing state of the art services that address evolving user needs.

As further elaborated in accompanying SWD, the Programme has successfully met all the Better Regulation criteria, demonstrating effectiveness, efficiency, coherence, relevance, and EU added value. It has effectively attracted and retained a growing number of users, catering to diverse and changing requirements across various applications and sectors. The tasks implemented by the entrusted entities have been aligned well with their contribution agreements and within allocated budgets, generating benefits that far exceeded the associated costs. The evaluation also demonstrated the unquestionable relevance and coherence of the Programme, as it has significantly contributed to the EU's green and digital transitions, resilience of the Single Market, tackling global challenges, and strengthening the EU's role as a global space power. The Programme's EU added value is evident through the pooling of limited national resources for the benefit of the EU and the 27 Member States, with freely available data and services contributing to the EU economy, industries, and citizens.

While the implementation of the Programme has been smooth and delivering on its objectives, some challenges remain. The temporary lack of **a European launcher solution**, which limits the EU’s autonomous access to space is a major factor of delay and threatening EU autonomy. Luckily, the infrastructure has been designed to be robust enough to bear delays, but not in the long term. The Regulation includes provision for an autonomous access to space that need to be further exploited.

Further improvements should be made to prevent unnecessary delays and additional costs in the deployment of the infrastructure and its modernisation. These setbacks are mainly due to unforeseen external factors such as inflation or shortages in the supply chain, which disrupt

the ability of industry to adhere to its planned schedule. Additionally, the complex and lengthy **procurement processes**, which are often overly rigid and detailed, contribute to these challenges. The Commission is already developing new instruments to make the procurement more agile, quick and open to new actors, as the Dynamic Purchasing System for Copernicus contributing missions.

The number of **users** is increasing, but more effort can be done for the market and user uptake of EU space-based data, services and application, in particular combining data and cross-fertilisation between the components of the Programme to develop cross-cutting and multi-disciplinary services for non-space sectors. The publication by EUSPA of one single market report for GNSS and Earth Observation as well as the inclusion of Earth Observation and SST users in the User Consultation Platform run by EUSPA will boost synergies and cross fertilisation across the components.

Concerning **EUSPA**, it has managed to successfully evolve from the former GSA and to embark on its new tasks. The overall performance of the Agency is good, and it is reaching all its targets, providing unique value in several key areas. It positions itself as a user-oriented operational EU Agency, focusing on maximizing the Programme's benefits for users and adding value for innovative service providers. Additionally, it serves as a center for exploitation, security, and market-uptake activities, providing high-quality and robust services. EUSPA also manages a significant volume of EU funds for space activities, including a delegated budget of approximately EUR 9 billion for the current MFF. However, additional efforts could be made to further decrease the time to grant and to enhance transparency in planning of tenders. Additionally, improvements could be made with the SAB by early integration of programmatic aspects in its decision making.

Finally, there are policy developments at EU level which will influence the EU Space Programme in the short term but also in the longer term:

- The recent intensification of threats and increasing congestion led the EU to take further actions to protect its space assets, defend its interests and deter hostile activities in space. A first milestone has been achieved in February 2022 when the **EU approach to Space Traffic Management**[19] was published and which makes it necessary to further foster the SSA component of the EU Space Programme.
- In March 2023 the first ever **EU Strategy for Security and Defence**[20] was adopted where space was recognised as a strategic domain whose potential should be further unlocked in support of security and defence. Galileo's Public Regulated Service (PRS) has already demonstrated the ability of a civilian infrastructure to propose military

[19] JOIN/2022/4 final of 15 February 2022 on An EU Approach for Space Traffic Management

[20] JOIN/2023/9 final of 10 March 2023 on European Union Space Strategy for Security and Defence

applications and for IRIS² a 'dual use by design' approach has been followed, considering its potential for defence from the outset. The Strategy also calls the Commission to assess the possibility of a future EU Earth-Observation governmental service that would strengthen the situational awareness of the EU and of Member States. The **resilience** of the EU space ecosystem is key for the implementation of the Programme. In the context of the **European Economic Security Strategy** [21], the Commission included space and propulsion technologies in the list of ten critical technology areas for the EU's economic security. In addition, the Commission has developed the **Observatory for Critical Technologies**[22] as a tool for EU industrial strategic autonomy which identifies, regularly monitors, and analyses of critical technologies related to space and defence, and their potential applications. This work will impact definition of the participation conditions for procurements made under the EU Space Programme.

To conclude, the evaluation of the Programme shows that it has successfully met its objectives, addressing both internal and external challenges and contributing significantly to the Union's strategic priorities, in particular to the fair green and digital transitions, EU's sustainable competitiveness and resilience. The Programme has also effectively attracted and retained a growing number of users and expanded access to new players. Also, the EUSPA has effectively carried out all its core and entrusted tasks and strengthened its competencies and capabilities.

[21] JOIN/2023/20 final of 20 June 2023 on European Economic Security Strategy

[22] COM/2021/70 final of 22 February 2021 on Action Plan on synergies between civil, defence and space industries