



Annual Activity Report 2022

DG DEFENCE INDUSTRY AND SPACE

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DG DEFIS IN BRIEF

DG Defence Industry and Space: Making the EU more secure, sustainable and resilient

The Directorate-General for Defence Industry and Space (DG DEFIS) develops and carries out the Commission's policies on defence industry and space. EU competences and obligations for defence industry action are conferred under the TFEU Title XVII Industry, in particular Article 173(3), and Title XIX Research and development, in particular Article 182(4), Article 183 and the second paragraph of Article 188; and for space under Articles 189 and 4(3) TFEU.

DG DEFIS is responsible for a total budget of EUR 24.74 billion for the period 2021-2027 through:

- the **European Defence Fund (EDF)** and its precursors, the **European Defence Industrial Development Programme (EDIDP)** and the **Preparatory Action on Defence Research (PADR)**, the former implemented through direct management by the Commission (mainly grants) and the latter implemented through indirect management by the European Defence Agency (EDA);
- the **EU Space Programme**, implemented through direct management by the Commission or through indirect management by the European Union Agency for the Space Programme (EUSPA), the European Space Agency (ESA) and other entrusted entities; and
- Horizon Europe for Space, managed directly by DG DEFIS and the Health and Digital Executive Agency (HaDEA) in close cooperation with DG RTD, as well as through indirect management with EUSPA and ESA.

DG DEFIS is organised around 3 directorates, 12 units and a 'security of information task force', with a total of 281 staff by the end of 2022.

Given that the majority of DG DEFIS' budget is managed indirectly via entrusted entities¹, the DG relies on external control systems. These were validated by external independent auditors that performed pillar assessments, based on the common terms of reference of the Commission. These assessments and the implementation of their critical recommendations were a pre-requisite before the signature of contribution agreements with entrusted entities. This allows DG DEFIS to rely on the external control systems of these entities, which become part of the accountability chain of the DG. In addition to the inherent risks related to the direct and indirect spending modes, DG DEFIS has to take account of other risks related to factors that are beyond its control, such as technical risks (space activity), extraordinary events (as seen with the COVID-19 pandemic or the Russian war against Ukraine) and security risks.

¹ To note that most of the budget linked to defence initiatives (i.e. EDF and its precursor programmes) is managed directly.

EXECUTIVE SUMMARY

This annual activity report is a management report of the Director-General of DG DEFIS to the College of Commissioners. Annual activity reports are the main instrument of management accountability within the Commission and constitute the basis on which the College takes political responsibility for the decisions it takes as well as for the coordinating, executive and management functions it exercises, as laid down in the Treaties².

² Article 17(1) of the Treaty on European Union.

A. Key results and progress towards achieving the Commission's general objectives and department's specific objectives

The work of DG DEFIS in 2022 followed the 2022 Management Plan and the intervention logic set out in the Strategic Plan 2020-2024³ to achieve the specific objectives of DG DEFIS and to contribute to the achievement of the general objectives of the Von der Leyen Commission. DG DEFIS' programmes contributed in particular to making the EU more secure, resilient and sustainable, and reinforcing the EU strategic autonomy.

In the context of Russia's unprovoked and unjustified military aggression against Ukraine and to follow up on the 2022 Versailles Declaration⁴, the '**Joint Communication on the Defence Investment Gap Analysis and Way Forward**'⁵, the Commission proposal for a Regulation on the '**European defence industry Reinforcement through common Procurement Act**' (EDIRPA)⁶ - tabled in record time - and the set-up of a '**Defence Joint Procurement Task Force**' (DJPTF) constitute major achievements of DG DEFIS in 2022 in the area of defence industry. Furthermore, the EDF produced its first tangible results and 60 collaborative defence research and development projects with a total EU support of EUR 1.17 billion are now taking off. The '**Action Plan on Military Mobility 2.0**'⁷ and the Joint Communication '**EU Policy on Cyber Defence**'⁸ must be underscored too.

DG DEFIS' major achievements in 2022 towards an **innovative and sustainable space policy** comprise the proposal and political agreement on the **Regulation establishing the 'Union Secure Connectivity Programme** for the period 2023-2027'⁹ and the adoption of a Joint Communication 'An EU approach on **Space Traffic Management** - An EU contribution addressing a global challenge'¹⁰. Beyond that, DG DEFIS continued to implement the different dimensions of the **EU Space Programme, Horizon Europe for space and the Space Entrepreneurship Initiative CASSINI** and took steps to further increase **EU autonomous access to space**.

Tailored internal and external **communication activities** were deployed for each specific objective, making sure to target society and communities at large. Online presence and a range of virtual events underpinned the success of many actions and contributed to strengthening the cross-sectoral uptake, increasing awareness about DG DEFIS' portfolio and ensuring the presence of the EU as a credible global actor.

³ https://commission.europa.eu/system/files/2020-10/defis_sp_2020_2024_en.pdf

⁴ <https://www.consilium.europa.eu/media/54773/20220311-versailles-declaration-en.pdf>

⁵ JOIN(2022) 24 final

⁶ COM(2022) 349 final

⁷ JOIN(2022) 48 final

⁸ JOIN(2022) 49 final

⁹ COM(2022) 57

¹⁰ JOIN(2022) 4 final

A stronger Europe in the world

To strengthen the EU's role in the area of security and defence and move towards a closer European Defence Union, in February 2022 the Commission presented a defence package¹¹ that included two key initiatives, namely a Communication on 'the Commission contribution to European Defence'¹² and a 'Roadmap on critical technologies for security and defence'¹³, providing input in the run-up to the EU's 'Strategic Compass on Security and Defence'¹⁴.

In the context of Russia's unprovoked and unjustified military aggression against Ukraine and to follow up on the 2022 Versailles Declaration, the Commission, working closely with the EEAS, presented in May 2022 a 'Joint Communication on the Defence Investment Gap Analysis and Way Forward'¹⁵, aiming to help Member States to invest together, better and in a European way.

The Joint Communication established a Defence Joint Procurement Task Force to support the coordination of Member States' most urgent procurement needs by consolidating demand and identifying production capacity across the EU to deliver against these needs.

In July 2022, DG DEFIS put forward the proposal for a short-term instrument (EUR 500 million) under the EDIRPA¹⁶, which is expected to be adopted by the European Parliament and Council in 2023. This initiative aims at incentivising Member States to jointly procure the most urgent and critical defence products, allowing the European defence industry to ramp up its production capacities.

In July 2022, the projects selected from the 2021 EDF calls for proposals were published, leading to contracts worth a total EU support of EUR 1.17 billion in 60 projects by December 2022. By 24 November 2022, 134 proposals for joint defence R&D projects were received in response to the 2022 EDF calls for proposals, which will lead to funding awards of more than EUR 920 million. In February 2022, DG DEFIS introduced the EU Defence Innovation Scheme (EUDIS), which offers European early-stage start-ups and innovators five tailored innovation support tracks through the EDF.

DG DEFIS continues to manage 40 projects under EDIDP, including monitoring the implementation of tasks under the related Contribution Agreements signed with the Organisation for Joint Armament Co-operation (OCCAR). Two EDIDP projects have been completed in the course of 2022. Of the 18 collaborative research projects that were selected for funding under PADR, 9 projects were completed by the end of 2022, while the management of the remaining projects will continue beyond 2022. Lessons learned from PADR and EDIDP programmes are taken into account during the implementation of the EDF.

¹¹ https://ec.europa.eu/commission/presscorner/detail/en/IP_22_924

¹² COM(2022) 60 final

¹³ COM(2022) 61 final

¹⁴ Doc. 7371/22

¹⁵ JOIN(2022) 24 final

¹⁶ COM(2022) 349.

DG DEFIS coordinates the Commission's activities contributing to improving military mobility within Europe. The 'Action Plan on Military Mobility 2.0' that was presented in November 2022 will substantially enhance military movements within the EU and to its external borders or beyond.

EU space diplomacy actions were continued to strengthen Europe's role as a strong global space actor and promote the EU Space Programme, provide information on promising markets and foster new business opportunities for the EU Space ecosystem.

A Europe fit for the digital age

In February 2022, the Commission presented a proposal for a Regulation establishing the Union Secure Connectivity Programme for the period 2023-2027¹⁷ that aims at deploying a new EU satellite constellation 'IRIS²' (Infrastructure for Resilience, Interconnectivity and Security by Satellite). The Regulation was adopted by co-legislators and entered into force on 20 March 2022.

In February 2022, the Joint Communication on 'An EU Approach for Space Traffic Management - An EU contribution addressing a global challenge'¹⁸ was adopted. It sets out the EU's strategy for space traffic management to further the discussions in international fora.

In February 2022, further work programmes of the EU Space Programme were adopted, setting out detailed objectives, activities and budget spending plans for 2022 per space component of the programme (Galileo, EGNOS, Copernicus, Space Situational Awareness, GOVSATCOM, the Space Entrepreneurship Initiative CASSINI and including horizontal activities).

The EU space services provided under EGNOS, Galileo and Copernicus continue to report excellent performance levels and service availability, making it the most accurate positioning system in the world. In the context of Russia's unprovoked and unjustified military aggression against Ukraine, the two Galileo launches that were originally planned in 2022 using the Russian Soyuz launcher were cancelled. Alternative solutions are under consideration along with an updated Galileo launch plan.

Work on technological sovereignty and increasing the number and quality of Galileo services available to the public continued, i.e. with the Galileo Emergency Warning Service (EWS), the Galileo Open Service Navigation Message Authentication (OSNMA) and the Galileo High Accuracy Service (HAS). Two new Galileo satellites entered into service in May and August 2022 for even greater precision and faster positioning.

Commissioner Breton announced in February 2022 that in the future Copernicus will rely on hybrid constellations, combining Sentinels, Sentinel expansion missions and NewSpace solutions. It was also decided to develop four Copernicus thematic hubs on Energy, Health, Coastal areas and Arctic by 2023 to achieve a single user access point for all Copernicus

¹⁷ COM(2022) 57

¹⁸ JOIN(2022) 4

data and information related to a thematic or geographical area. Furthermore, in December 2022, the procurement of a new innovative Copernicus data access service was signed (contract value of almost EUR 150 million). This new Copernicus service is expected to become fully operational in July 2023. Finally, it was decided to initiate work towards a potential Copernicus Earth observation governmental service.

Work continued to address the four recommendations of the European Court of Auditor's Special Report 07/2021 on the effectiveness of the measures taken by the Commission to promote the uptake of services from the EU space components (Galileo and Copernicus). A comprehensive action plan for supporting this uptake whilst leveraging all possible synergies between the two systems will be released in 2023.

The number of Copernicus, Galileo and EGNOS users is steadily on the rise, widely exceeding the 2022 target, transforming our societies, modernising transport, enabling precision farming and influencing human behaviour in cities and rural areas to become greener and more sustainable. Chipsets processing Galileo signals are widely available and there are already more than 3.8 billion Galileo-enabled smartphones in use. The number of registered users downloading Copernicus data and information has also increased, with a total of 950 000 registered Copernicus users for all services by Q3 2022¹⁹. Furthermore, in March 2022, it became mandatory for all smartphones sold in the EU to start leveraging Galileo signals, in addition to other Global Navigation Satellite Systems (GNSS).

Under the Horizon Europe 2021-2022 work programme (Horizon Europe Cluster 4), further topics and actions were published in the 2022 calls on the development of quantum technologies, works contributing to the technology maturation of quantum space gravimetry and on the critical components of the EuroQCI space segment (in close cooperation with ESA).

To support SMEs and start-ups in space and foster the EU space sector's competitiveness, the roll-out of the CASSINI initiative continued in 2022. Actions focused on launching the CASSINI Investment Facility, with the European Investment Fund (EIF) signing two new venture capital funds and five capacity building workshops with investors and space domain experts. CASSINI Matchmaking was also launched in 2022, with more than 100 start-ups, investors and corporates attending five physical events. In June 2022, CASSINI Maritime Challenge was published to award digital applications that remedy plastic pollution. Two CASSINI Hackathons with 600 participants were held. Finally, a contract to run the CASSINI Business Accelerator was signed and is expected to start in 2023. As an important complement, the first competition for Copernicus anchor customer contracts with start-ups aiming to deploy new satellite constellations was successfully concluded in December 2022. To increase awareness about space among potential institutional investors, the Commission contributed to the launch of a space stock index managed by Euronext stock exchange.

¹⁹ Worldwide users registered on European Copernicus data access portals.

As regards international activities in the field of Earth observation, a Copernicus Cooperation Arrangement with the Canadian Space Agency was signed on 16 May. The signature of a Copernicus Cooperation Arrangement with Japan was scheduled to take place on the occasion of the EU-Japan Space Dialogue on 17 January 2023. Furthermore, the signing of an agreement with Panama to share Copernicus data was announced on 12 December 2022.

A European Green Deal

DG DEFIS is committed to making the EU more sustainable, including by maximising the take-up of EU space-enabled services in cross-policy EU legislative initiatives.

Copernicus continued to provide reliable Earth monitoring data and information throughout 2022 on a full, free and open basis, supporting the EU to stay on track towards achieving the EU 2050 climate neutrality and sustainability objectives.

The number of users of the Copernicus climate change service (C3S) continued to rise and reached almost 150 000 users by the end of 2022. The added value of Copernicus services in the context of climate adaptation and monitoring were showcased for example at EU side events of the United Nations' Climate Change Conference of the Parties (COP27) in November 2022 in Sharm El-Sheikh (Egypt).

Supporting the transition to carbon neutrality, the EU's satellite navigation systems Galileo and EGNOS provided high-accuracy positioning and navigation signals throughout 2022, which are essential for determining optimal routes in any mode of transport, leading to the reduction of CO₂ emissions. When it comes to air transport, an increasing number of airports are using EGNOS-based landing procedures (462 airports by the end of 2022), permitting to reduce fuel consumption and CO₂ emissions of air transport.

DG DEFIS continued working closely with the civil aeronautics industry and in June 2022 launched the Alliance for Zero-Emission Aviation (AZEA) at the ILA Berlin Air Show. More than 100 member organisations and associations joined for the first general assembly, leading to the constitution of six working groups in December 2022.

Furthermore, following the 2021 EDF call for proposals, DG DEFIS awarded three projects in the category 'Energy resilience and environmental transition' (ENERENV) and the 2022 calls for proposals included one topic in the ENERENV category.

Promoting our European way of life

DG DEFIS contributes to building Europe's strategic autonomy. In 2022, DG DEFIS worked on defining the characteristics of the Governmental Satellite Communications (GOVSATCOM) service (i.e. the operational requirements, rules for sharing and prioritisation of satellite communication capacities and security requirements). DG DEFIS supervised and supported the public procurement of GOVSATCOM Hubs through EUSPA. The innovation partnership procurement that was launched in 2021 is ongoing and should be finalised in early 2023.

Activities progressed under the Space Situational Awareness (SSA)²⁰ component consisting of three subcomponents: Space Surveillance and Tracking (SST), Space Weather (SWE) and Near-Earth Objects (NEO). In 2022, 15 Member States successfully applied for a joint participation in an EU SST Partnership, which will take over the provision of SST services from the EU SST consortium as of 1 July 2023. To co-finance the future activities, in December 2022 the Commission launched a procedure to award a grant to the EU SST Partnership.

A key EU space policy priority was to pursue EU's autonomous access to space. A framework for aggregating launch services for the EU Space Programme was partially put in place in 2022 to reduce costs and achieve planning efficiencies. In November 2022, the Commission signed a framework contract with Arianespace for Copernicus satellite launch services. This contract with Arianespace does not include launch services for future Galileo satellites, for which negotiations are ongoing. The idea of a European Alliance on Space Launchers that was launched in 2022 will be further developed in 2023.

Delivering on the Security Union Strategy and working closely with the EEAS, the sixth progress report on the implementation of the 2016 Joint Framework on countering hybrid threats and the 2018 Joint Communication on increasing resilience and bolstering capabilities to address hybrid threats was released to the Council in September 2022.²¹

²⁰ The SSA component will cover EU SST, SWE and NEO, as well as an overall strengthening of security requirements when developing EU space systems.

²¹ SWD(2022) 308

B. Key performance indicators

Overall, DG DEFIS progressed well towards reaching its general policy objectives for the defence industry and space and making the EU more secure, sustainable and resilient.

KPI 1 shows that the number of Copernicus Climate Change Service (C3S) users of the is growing at a very fast rate and exceeded 150 000 users in 2022. This reflects the successful market uptake activities, the growing demand and the urgent need for reliable data on climate change. Copernicus is a leading global provider of Earth monitoring data and information with a total number of 950 000 registered Copernicus users for all services by Q3 2022.

KPI 2 confirms that the overall performance of Galileo and EGNOS progressed well during 2022. The positioning and timing performance of Galileo is better than for any other GNSS. In addition, it can be noted that in 2022 there were more than 3.8 billion Galileo-enabled smartphones in use. DG DEFIS's activities focused on ensuring the continuity of service provision and related operations, as well as developing new innovative service features (i.e. the development of the Galileo EWS, HAS and OSNMA).

KPI 3 depicts the number of start-ups supported by EU space programmes, including by the CASSINI initiative and R&D actions. With regard to calls managed by HaDeA in 2022, SMEs obtained 19,8% of the budget, which accounts for EUR 38,3 million. The 2022 EUSPA calls are still ongoing. In addition, more than 100 start-ups and investors participated in the Cassini Matchmaking.

KPI 4 depicts the number of legal entities supported by the EDF. DG DEFIS rolled out the EDF promoting the further development of a European defence internal market and the competitiveness and innovation capacity of the EU defence industry. In 2021, the first EDF calls for proposals were published (11 calls targeting research actions and 12 calls targeting development actions), addressing 37 topics with a total budget of about EUR 1.2 billion²². In 2022, DG DEFIS awarded funding for those calls. The grant agreements implemented in direct and indirect management involve 670 unique entities.

KPI 5 depicts stable progress in the number of services provided for operational safety and security related services (including dual-use) of the EU Space Programme that are essential for EU security actors. DG DEFIS is exploring synergies between space, security and defence at various levels and this work is resulting in gradual service reinforcements and the introduction of new services.

²² Submission deadline 9 December 2021

1. Number of users of the Copernicus Climate Change Service

Result indicator: Number of users of the Copernicus Climate Change Service

Source of data: ECMWF, <https://climate.copernicus.eu/>

| Baseline (2019) ²³ | Interim Milestone (2022) | Target (2024) | Latest known results (2022) |
|---|-----------------------------|---|---|
| The Copernicus Climate Change Service started operations in June 2018. The baseline is based on the number of registered users available by 2019. | | The indicated number of users corresponds to 'registered' users of the Copernicus climate change service. | The number of users is growing at very fast rate. Daily up-to-date status can be followed on: https://climate.copernicus.eu/ |
| 28 000 | 70 000 | 80 000 | 150 000 |

2. Availability, accuracy, and continuity of services provided by Galileo and EGNOS separately

Result indicator: Availability, accuracy, and continuity of services provided by Galileo and EGNOS separately²⁴

Source of data: EUSPA: EGNOS service provision provider

| Baseline (2020) | Interim Milestone (2022) | Target (2024) | Latest known results (2022) |
|---|--|--|--|
| Galileo availability: 77% | Galileo availability: 95.5% | Galileo availability: 99.5% | Better than 99.5% at all user locations and for all frequency combinations. |
| Galileo accuracy: <ul style="list-style-type: none"> Horizontal positioning accuracy <= 7.5m (95%) Vertical positioning accuracy <= 15m (95%) | Galileo accuracy: <ul style="list-style-type: none"> Horizontal positioning accuracy <= 5m (95%) Vertical positioning accuracy <= 8m (95%) | Galileo accuracy: <ul style="list-style-type: none"> Horizontal positioning accuracy <= 4m Vertical positioning accuracy <= 8m | Galileo accuracy: <ul style="list-style-type: none"> Horizontal accuracy = 1.8m (95%) Vertical accuracy = 2.8m (95%) |
| Galileo continuity: Not presently defined | ... | Galileo continuity: Will be defined in the applicable issue of the Open Service Service Definition Document (OS SDD) | No figure for continuity has yet been defined |
| EGNOS availability: <ul style="list-style-type: none"> APV-I²⁵: Over 99% of the EU territories with more than 99% of | ... | EGNOS availability: <ul style="list-style-type: none"> APV-I: Over 99% of the EU territories with more than | EGNOS availability: <ul style="list-style-type: none"> APV-I: 97.4% of the EU territories with more than 99% of availability. |

²³ The Copernicus Climate Change Service started operations in June 2018. The baseline is based on the number of registered users available by 2019.

²⁴ This indicator is also reported under the Programme Statement for the EU Space Programme, as part of the annual draft general budget of the European Union.

²⁵ APV-I = Approach procedure with vertical guidance, category 1.

| | | | |
|---|-----|---|---|
| availability. <ul style="list-style-type: none"> LPV-200²⁶: over 90% of the EU territories with more than 99% of availability | ... | 99% of availability. <ul style="list-style-type: none"> LPV-200: over 95% of the EU territories with more than 99% of availability. | <ul style="list-style-type: none"> LPV-200: over 95% of the EU territories with more than 99% of availability |
| EGNOS accuracy: Horizontal (95%): 2m, Vertical (95%): 3m | ... | EGNOS accuracy: Horizontal (95%): 1.5m, Vertical (95%): 2.5m | EGNOS accuracy: Horizontal (95%): 1.2m Vertical (95%): 1.7m |
| EGNOS continuity: <ul style="list-style-type: none"> APV-I: over 90% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. LPV-200: over 80% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. | ... | EGNOS continuity: <ul style="list-style-type: none"> APV-I: over 95% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. LPV-200: over 85% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. | EGNOS continuity: <ul style="list-style-type: none"> APV-I: over 97% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. LPV-200: over 88.8% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. |

3. Number of start-ups supported by EU space programmes, including CASSINI initiative and R&D actions

Result indicator: Number of start-ups participating in CASSINI matchmaking, and calls under Horizon managed by HADEA

Source of data: HADEA, DG DEFIS

| Baseline (2020) | Interim Milestone (2022) | Target (2024) | Latest known results (2022) |
|-----------------|--------------------------|---------------|---|
| N/A | 22 | 60 | Above 100 (out of which 30 under Horizon) |

4. Number of legal entities supported by the European Defence Fund

Result indicator: Legal entities involved in EDF²⁷

Source of Data: European Commission (DG DEFIS) - European Defence Fund

| Baseline (2020) | Interim Milestone (2022) | Target (2024) | Latest known results (2021) |
|-----------------|--------------------------|---------------|---|
| 0 | N/A | increase | 670 unique entities involved in actions implemented in direct and indirect management |

²⁶ LPV-200: Localizer Performance with Vertical guidance to a decision altitude of 200ft.

²⁷ This indicator reports on unique entities, which involvement in actions implemented in direct and indirect management is known. It does not reflect on the outcome of the two ongoing precursor programmes PADR and EDIDP, supporting defence research and capability development, on which the EDF is based.

5. Number of operational safety and security (including dual-use) related services from the EU Space Programme

Result indicator: Number of operational safety and security (including dual-use) related services from the EU Space Programme

Source of data: European Commission (DG DEFIS) - EU Space Programme

| Baseline (2020) | Interim Milestone (2022) | Target (2024) | Latest known results (2022) |
|---|--|--|--|
| GALILEO Public Regulated Service (PRS) Initial Service | GALILEO Public Regulated Service (PRS) Initial Service | GALILEO Public Regulated Service (PRS) Full Operational Capability ²⁸ | GALILEO Public Regulated Service (PRS) Initial Service will be declared in 2023. |
| EGNOS Safety of Life (SoL) service | EGNOS Safety of Life (SoL) service | EGNOS Safety of Life (SoL) service | EGNOS Safety of Life (SoL) service |
| GALILEO Search and Rescue (SAR) service | GALILEO Search and Rescue (SAR) service | GALILEO Search and Rescue (SAR) service | GALILEO Search and Rescue (SAR) service - with return link feature since 2020. |
| | | GALILEO Emergency Warning Service (EWS) | GALILEO Emergency Warning Service (EWS) is in the service definition stage. |
| Copernicus security service ²⁹ / emergency service | Copernicus security service/ emergency service | Copernicus security service/ emergency service | Copernicus security service/ emergency service |
| Space Surveillance and Tracking | Space Surveillance and Tracking | Space Surveillance and Tracking; Space Weather Near Earth Objects | Space Surveillance and Tracking |
| | | GOVSATCOM | |

²⁸ The schedule is at risk. New target date is under assessment.

²⁹ (1) Copernicus Maritime Surveillance Service, (2) Copernicus Border Surveillance Service, (3) Copernicus Support to EU External Actions.

C. Key conclusions on financial management and internal control

In line with the Commission's Internal Control Framework, DG DEFIS assessed its internal control systems during the reporting year and concluded that they are effective and the components and principles are present and functioning well overall. However, some improvements are needed as minor deficiencies were identified related to the internal control principles 10 and 13. Please refer to annual activity report section 2.1.3 for further details.

In addition, DG DEFIS has systematically examined the available control results and indicators, as well as the observations and recommendations issued by the internal auditor and the European Court of Auditors. These elements have been assessed to determine their impact on management's assurance about the achievement of the control objectives. Please refer to Section 2.1 for further details.

In conclusion, management has reasonable assurance that, overall, suitable controls are in place and working as intended. The risks are being appropriately monitored and mitigated and the necessary improvements and reinforcements are being implemented. The control strategy will be revised in this respect, taking into account the latest recommendations from the IAS. The Director-General, in his capacity as Authorising Officer by Delegation, has signed the Declaration of Assurance.

D. Provision of information to the Commissioner(s)

In the context of the regular meetings during the year between the DG and the Commissioner on management matters, the main elements of this report and assurance declaration, have been brought to the attention of Commissioner Thierry Breton, responsible for the Internal Market.

1. KEY RESULTS AND PROGRESS TOWARDS ACHIEVING THE COMMISSION'S GENERAL OBJECTIVES AND SPECIFIC OBJECTIVES OF THE DEPARTMENT

A. European Green Deal

Specific objective 1.1: The reliable data and services of the EU Space Programme are cornerstones for the monitoring of, and transition to climate-neutrality and ecological sustainability

The EU Space Programme and in particular **Copernicus** provide reliable monitoring data and information on a full, free and open basis, supporting the EU to stay on track towards achieving the EU's 2050 climate-neutrality and sustainability objectives. In 2022, DG DEFIS ensured the inclusion of EU space-based services as enablers for the implementation of several **cross-policy legislative initiatives**:

- the **EU biodiversity strategy for 2030**: Copernicus-data based solutions help preserving and restoring ecosystems and better understanding and protecting soil and ocean health, which is paramount for food security and carbon sequestration. The C3S that routinely monitors the Earth's climate provided continuous, reliable and actionable information throughout 2022 on key indicators such as temperature, sea ice and CO2 levels. The number of C3S users continues to increase, reaching almost 150 000 EU users by the end of 2022. The Copernicus Marine Service (CMEMS) reported to EUROSTAT under the Sustainable Development Goal 14 ('Life below water') on the impact of climate on water acidification and eutrophication.
- the **EU climate mitigation strategy**: The fifth Copernicus 'European State of the Climate' Report³⁰ was issued in April 2022 and attracted broad media attention, highlighting the globally recognised and trusted role of the EU as a provider of climate data.
- a **sustainable blue economy**: DG DEFIS, with DG RTD and DG MARE, started the development of a Digital Twin Ocean (DTO), building on Copernicus data and information services. DTO was announced as the EU contribution to the 2022 One Ocean Summit.³¹ The CMEMS published its 6th Ocean state report.³²
- the **EU Regulation on deforestation-free supply chains**: the Copernicus Land Monitoring Service supports the implementation of the Regulation and the



150.000 users
of Copernicus
climate change
service

³⁰ <https://climate.copernicus.eu/esotc/2021>

³¹ <https://www.oneplanetsummit.fr/en/events-16/one-ocean-summit-221>

³² <https://www.tandfonline.com/doi/full/10.1080/1755876X.2022.2095169?src=&>

establishment of a tropical forest observatory, providing mid-term near real time products on forest cover change.

- the **EU sustainable and smart mobility strategy**: throughout 2022, Galileo provided high accuracy positioning and navigation signals that are essential for determining optimal routes for cars, public transport, buses or boats. Shorter and more efficient journeys result in significant reductions of fuel consumption and thus contribute to the reduction of CO₂ emissions. For instance, the use of Galileo for road navigation can reduce fuel consumption on the roads in the order of 5 billion litres of fuel³³. EGNOS allows efficient definition of flight routes, reducing fuel consumption and CO₂ emissions; the number of airports with EGNOS landing procedures reached a total of 462 airports in 2022.



462 airports
using EGNOS-based
landing procedures

The cooperation between Copernicus and the **Destination Earth**³⁴ (DestinE) project (part of the Digital Europe Programme and Horizon Europe; co-led by DG CNECT, DG DEFIS, DG RTD and the JRC) continued. In March 2022, a public online event³⁵ officially launched DestinE. Building on Copernicus, it aims at developing dynamic, interactive, computing and data intensive ‘Digital Twins of the Earth’ and enabling simulations with highest spatial or timely resolution to support the green transition and help plan for major environmental degradation and disasters.

In June 2022, the **Alliance for Zero-Emission Aviation** was officially launched at the ILA Berlin Air Show, calling on the **civil aeronautics industry** community to join forces in preparing for the advent of zero emission aircrafts. Led by DG DEFIS in its implementation, this industrial alliance is intended to bundle and support efforts to prepare the aviation market for the entry into service and commercialisation of new and environmentally sustainable aircrafts, such as hydrogen and electric aircraft. More than 100 member organisations and associations were welcomed by Commissioner Breton at the Alliance’s first general assembly in November. Six working groups on priority topics were constituted in December.

Following the 2021 EDF call in the ENERENV category, DG DEFIS awarded three projects. The 2022 calls for proposals included one topic in the ENERENV category.

Communication

Under the auspices of the French Presidency of the Council of the EU, DG DEFIS organised a high-level conference on the future of the Copernicus programme in Toulouse in February 2022, in the presence of the President of the French Republic, Emmanuel Macron.

³³ European Commission’s Internal Study. “Analysis of the Environmental Impact of the EU Space Programme”, (2020), page 88

³⁴ <https://ec.europa.eu/digital-single-market/en/destination-earth-destine>

³⁵ <https://digital-strategy.ec.europa.eu/en/events/destination-earth-launch-event#:~:text=Destination%20Earth%20launch%20event%2030%20March%202022%20Public,the%20Destination%20Earth%20initiative%20together%20with%20implementing%20entitie>
[s](#)

Throughout 2022, DG DEFIS continued the successful travelling exhibition on ‘Space for Our Planet’³⁶ by entering in partnerships with cities around the world, showing how space technologies contribute to the attainment of the Sustainable Development Goals. In 2022, it attracted more than 250 000 participants and was featured at 6 different locations in Bonn (DE), Berlin (DE), Trento (IT), Barcelona (ES), Rome (IT) and New York (USA).

In the same vein, the #EarthArt exhibition based on images provided by Copernicus and presenting concrete examples of their use to accompany the impact of climate change on populations, was presented in 5 cities across Europe.

The AGRI-SANTE-DEFIS partnership materialised through the development of a joint stand at the International Agricultural Show in Paris (FR). This allowed to promote the EU’s space-based applications to this ecosystem and to showcase to the general public the importance of space for this sector.

A communication campaign also accompanied the launch of AZEA in June 2022, as well as the organisation of the first general assembly of the Alliance.

Finally, as every year and in partnership with DG CLIMA, DG DEFIS promoted the key role of the Copernicus programme in the framework of the Conference of the Parties to the UNFCCC organised in Egypt.

B. Europe fit for the digital age

Specific objective 2.1: Modern and well-functioning EU space-enabled services to support the Union’s priorities

A space package³⁷ was presented on 15 February 2022 including:

- a proposal for a Regulation establishing the ‘**Union Secure Connectivity Programme**’ for the period 2023-2027³⁸. Co-legislators achieved a political agreement on 17 November 2022, including on the name **IRIS²** (Infrastructure for Resilience, Interconnectivity and Security by Satellite), and the Regulation entered into force on 20 March 2023.
- a Joint Communication on ‘**An EU Approach for Space Traffic Management – An EU contribution addressing a global challenge**’³⁹, to further the discussions in international fora.

DG DEFIS continued to manage the implementation of **the EU Space Programme** and adopted work programmes for each EU Space Programme component on 18 February⁴⁰.

³⁶ <https://www.space4ourplanet.org/>

³⁷ https://ec.europa.eu/commission/presscorner/detail/en/IP_22_921

³⁸ COM(2022) 57

³⁹ JOIN(2022) 4

⁴⁰ C(2022) 902

Galileo showed excellent performance levels and service availability throughout 2022. Continuity of services was assured over the reporting year without interruptions and with a high level of user satisfaction. Following the successful Galileo satellite launch in 2021, two new satellites entered into service in May and in August 2022, allowing even greater precision and faster positioning and more market opportunities for European businesses. These satellites, like all other Galileo satellites, were named after school students, Nikolina from Croatia and Shriya from Norway, who won their national rounds of the Galileo drawing competition.⁴¹

In 2022, software upgrades were uploaded to 7 Galileo satellites, with the rest of the constellation planned to be upgraded by mid-2023. The Full Operational Capability of the **Galileo Open Service**, a key milestone expected by the end of 2022, has been delayed due to the Russian invasion of Ukraine and the subsequent unavailability of the Soyuz launchers. New dates are being consolidated along with an updated launch plan.

Three pioneering services were made available for worldwide user testing in 2022: the Galileo EWS, which will provide warnings to users in a geographical area in case of natural disasters or other critical situations; Galileo OSNMA, ensuring the authenticity of signals processed by Galileo receivers necessary for road tolling and many other innovative applications; and Galileo HAS, providing a positioning accuracy of 20 cm.

In 2022, EGNOS was operated with EGNOS V242A system release in a seamless manner.

All six Copernicus services are operational and were provided in support of atmosphere monitoring, marine environment monitoring, land monitoring, climate change monitoring, emergency management monitoring and security. Copernicus data and information products are made available and accessible to all citizens and organisations around the world on a free, full, and open basis. Four Copernicus thematic hubs related to Energy, Health, Coastal areas and Arctic will open in the course of 2023 and will group in one single point of access all Copernicus data and information related to a thematic or geographical area, thus facilitating the discovery of Copernicus by non-expert users and easing the implementation of EU policies. The continuity of services was assured over most of the reporting year with some interruptions due to an outage of Copernicus satellite Sentinel-1B that resulted in an inability to send further radar data. Despite the engineers' efforts to resolve the problem, in August 2022 it was decided to end this mission due to the malfunction and focus on limiting its impact as far as possible.

In December 2022, the procurement of a new innovative Copernicus data access service was signed⁴² for a contract value of almost EUR 150 million between ESA (delegated task by the Commission) and a consortium led by T-Systems International. This new Copernicus service is expected to become fully operational in July 2023, after a progressive phase-in

⁴¹ https://defence-industry-space.ec.europa.eu/eu-space-policy/galileo/galileo-drawing-competition_en

⁴² https://ec.europa.eu/commission/presscorner/detail/en/ip_22_7374

period. The initial size of the Copernicus data archive amounts to 34 petabytes and is expected to reach around 80 petabytes after six years.

Commissioner Breton announced in February 2022 that Copernicus will rely in the future on hybrid constellations, combining Sentinels, Sentinel expansion missions, and NewSpace solutions. He also announced the start of work towards a potential Copernicus Earth observation governmental service.

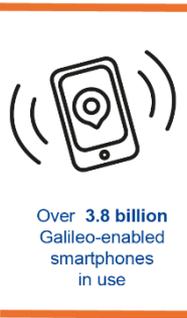
DG DEFIS decided, in partnership with ESA, to carry out the development of the six Sentinel expansion missions, and the Commission confirmed the urgency of deploying the Copernicus CO₂ monitoring satellite constellation in 2025-2026. Regarding NewSpace, on behalf of the Commission ESA put in place a Dynamic Procurement System tool and carried out a tendering phase to select emerging European Earth observation companies. The Commission and ESA will act as an anchor customer for these companies, whose data are expected to significantly enhance Copernicus' responsiveness and agility. Lastly, major Copernicus ground segment transformation upgrades, including maximisation of cloud resources, were completed.

Communication

The focus of communications in 2022 was on building confidence on the high quality of the EU space-based services. With a new governance structure in place under the EU Space Programme, DG DEFIS fostered closer cooperation with ESA, EUSPA and other entrusted entities and key partners to streamline and reduce costs for communication and outreach-related activities. As part of the promotion of the new Union Secure Connectivity Programme, DG DEFIS teamed up with DG EAC to organise a competition among students in the EU and the African Union to find a name for the new constellation. Launched under the auspices of Commissioner Breton and Commissioner Gabriel, the competition attracted around 700 entries and resulted in the name IRIS² being selected. The competition was part of the European Year of Youth activities.

Specific objective 2.2: EU Space Programme maximises socio-economic benefits

The number of Copernicus, Galileo and EGNOS users is steadily on the rise, transforming our societies, modernising transport, enabling precision farming and influencing human behaviour in the cities and rural areas to become greener and more sustainable. Nowadays, chipsets processing Galileo signals are widely available and there are already more than 3.8 billion Galileo-enabled smartphones in use. The number of registered users downloading Copernicus data and information has also increased, with a total of 950 000 registered Copernicus users for all services by Q3 2022⁴³.



On 17 March 2022, it became mandatory for all smartphones sold in the EU to start leveraging Galileo signals, in addition to other GNSS⁴⁴. The addition of the EU positioning

⁴³ Worldwide users registered on European Copernicus data access portals.

system to European 112-calls was a major achievement in the area of location-based services that results in faster response times and consequently more lives saved.

DG DEFIS continued to actively promote the European values of equality, diversity and inclusion in the defence and space sectors. In 2022, a study was launched for the collection of baseline data to complement earlier findings from a 2021 pan-European study to map the status quo and help designing future actions.

The European Court of Auditor's Special Report 07/2021 found that EU space 'services are launched, but the uptake needs a further boost'. Activities to address the four recommendations were continued in 2022 focusing on the development of a comprehensive action plan to be released in 2023 on supporting the uptake of Galileo and Copernicus services whilst leveraging all possible synergies between the two systems

Under the 2021-2022 work programme of the **Horizon Europe Cluster 4**⁴⁵, calls were launched in the following areas: quantum technologies, technology maturation of quantum space gravimetry, and critical components of the EuroQCI space segment (in close cooperation with ESA). Horizon Europe also continued to provide research funding for the further development of the EU Space Programme components Galileo/EGNOS, Copernicus, SSA-SST and GOVSATCOM.

A second call for experiments under the **In-Orbit Demonstration and Validation (IOD/IOV)** initiative was launched in March 2022. Out of 46 received applications, 21 experiments from 11 countries were preselected by a group of independent experts.

In 2022, the CASSINI Investment Facility was launched, with the EIF signing two new venture capital funds, and five capacity building workshops with investors and space domain experts. CASSINI Matchmaking was launched in 2022, with five physical events and more than 100 start-ups, investors and corporates attending. CASSINI Maritime Challenge was published in June 2022, a prize competition for digital applications to remedy plastic pollution. Two CASSINI Hackathons were held in 2022 with 600 participants. Finally, a contract to run the CASSINI Business Accelerator was signed and is expected to start in 2023. The first competition for Copernicus anchor customer contracts with start-ups aiming to deploy new satellite constellations was successfully concluded in December 2022. To increase awareness about space among potential institutional investors, the Commission contributed to the launch of a space stock index managed by Euronext stock exchange.

DG DEFIS and ESA undertook efforts to innovate and update the procurement principles for Copernicus contributing missions and to change the ways of working. The novelties agreed are expected to facilitate access for SMEs who wish to take part in calls for tender for contracts to supply satellite data for the Copernicus contributing missions.

⁴⁴ Entry into force of the Commission Delegation Regulation (EU) 2019/320, OJ L 55, 25.2.2019

⁴⁵ C(2021)6096

As regards **international activities** in the field of Earth Observation, a Copernicus Cooperation Arrangement with the Canadian Space Agency was signed on 16 May to share satellite Earth observation data based on reciprocity.

In the field of satellite navigation, DG DEFIS supported the uptake of Galileo and EGNOS services worldwide and promoted technical cooperation with strategic international partners. Negotiations with the United States resulted in a five-year extension of the existing Galileo-GPS⁴⁶ Cooperation Agreement.

DG DEFIS continued its cooperation with DG INTPA to support the second phase of the 'GMES⁴⁷ and Africa' initiative and programme, and the third support activity of the EGNOS Joint Programming Office in Africa.

Beyond DG DEFIS' specific objectives in this section, **other important contributions** to the objective of making 'Europe fit for the digital age' included:

- Preparatory works for setting out **a transition pathway for the aerospace and defence ecosystem** to speed up the digital, green and resilient transitions.
- The continued implementation of relevant actions under the Action Plan on Synergies between Civil, Defence and Space Industries⁴⁸. A key example here is the launch of EUDIS to deliver on a series of dual-use and innovation actions. Another example is the work with DG MOVE on the development of the 'Drone Strategy 2.0', focusing in particular on identifying areas of civil-military cross-fertilisation in support of the Drone Technologies Action. In addition, the **Observatory for Critical Technologies (OCT)** is expected to become operational by 2023. An OCT expert group with Member States was created in 2022.
- Working closely with the EEAS and DG CNECT on the development of the European Policy on Cyber Defence (EPCD), the **European Cyber Resilience Act** and the **European Chips Act** ensure the specific needs of the space and defence sectors given their strategic role in Europe. Within the Chips Act, the defence sector is explicitly listed among the 'critical sectors' benefitting from priority in case of crisis.
- Following the 2021 EDF calls in the categories 'Digital transformation and Cyber', DG DEFIS awarded co-funding to six projects. The 2022 calls for proposals include six additional topics in those categories, including two topics setting up a technological challenge.

⁴⁶ Global Positioning System (GPS) is the GNSS which is owned and operated by the United States.

⁴⁷ Global Monitoring of Environment and Security – precursor to the Copernicus programme

⁴⁸ COM(2021) 70 final

Communication

DG DEFIS ensured a strong presence at the ESA Living Planet Symposium organised in Bonn (DE), which represents the largest event on Earth observation in the world. A pavilion showcased the role of EU Earth observation, notably by hosting thematic sessions.

Under the auspices of the Czech Presidency of the Council of the EU, DG DEFIS successfully organised the EU Space Week in October 2022, gathering more than 3 000 participants in Prague and online. This new edition consisted of 35 sessions covering the EU space programme, involving more than 150 speakers, and showcasing the benefits of the EU Space Programme, notably through live demonstrations presenting the latest applications.

Activities under CASSINI were widely promoted throughout 2022, mainly on social media channels and via a new dedicated sub-webpage on europa.eu.⁴⁹ For the first time, DG DEFIS organised an EU Space Pavilion at two key technology events, VivaTech (Paris, FR) and the Web Summit (Lisbon, PT), gathering a total of 162 000 participants. It allowed to promote CASSINI to young entrepreneurs of the non-space ecosystem and to facilitate matchmaking opportunities between investors and start-ups.

C. A stronger Europe in the world

Specific objective 4.1: Fostered innovation capacity and competitiveness of the European defence industry and strengthened EU defence supply chains due to increased cross-border R&D cooperation involving in particular SMEs and mid-caps

DG DEFIS contributed to the Commission defence package⁵⁰ adopted on 15 February 2022, including:

- a Communication on a **'Roadmap on critical technologies for security and defence'**⁵¹;
- a Communication on **'the Commission contribution to European Defence'**⁵², providing valuable contributions to the **EU Strategic Compass for Security and Defence**⁵³ that was agreed by Council on 21 March 2022.

In the context of Russia's unprovoked and unjustified military aggression against Ukraine and to follow up on the Versailles Declaration of 2022, the Commission was tasked to help Member States to invest together, better and in a European way. DG DEFIS, working closely with the EEAS, presented a **Joint Communication on the Defence Investment Gaps**

⁴⁹ https://defence-industry-space.ec.europa.eu/eu-space-policy/space-entrepreneurship-initiative-cassini_en

⁵⁰ https://ec.europa.eu/commission/presscorner/detail/en/IP_22_924

⁵¹ COM(2022) 61

⁵² COM(2022) 60

⁵³ https://www.eeas.europa.eu/eeas/strategic-compass-security-and-defence-0_en

Analysis and Way Forward⁵⁴ in May 2022. The Joint Communication established a **Defence Joint Procurement Task Force** to support the coordination of Member States on most urgent procurement needs by consolidating demand and identifying production capacity across the EU to deliver against these needs.

Delivering on its commitments under this Joint Communication, DG DEFIS prepared the proposal for a **European defence industry Reinforcement through common Procurement Act**⁵⁵, adopted by the Commission in July and expected to be adopted by the European Parliament and the Council in 2023. This initiative with a budget of EUR 500 million aims at incentivising Member States to jointly procure the most urgent and critical defence products, thereby allowing the European defence industry to ramp up its production capacities. DG DEFIS continued to manage the **implementation of the EDF**, PADR and EDIDP. In February 2022, DG DEFIS introduced EUDIS, offering European early-stage start-ups and innovators five tailored innovation support tracks through the EDF.

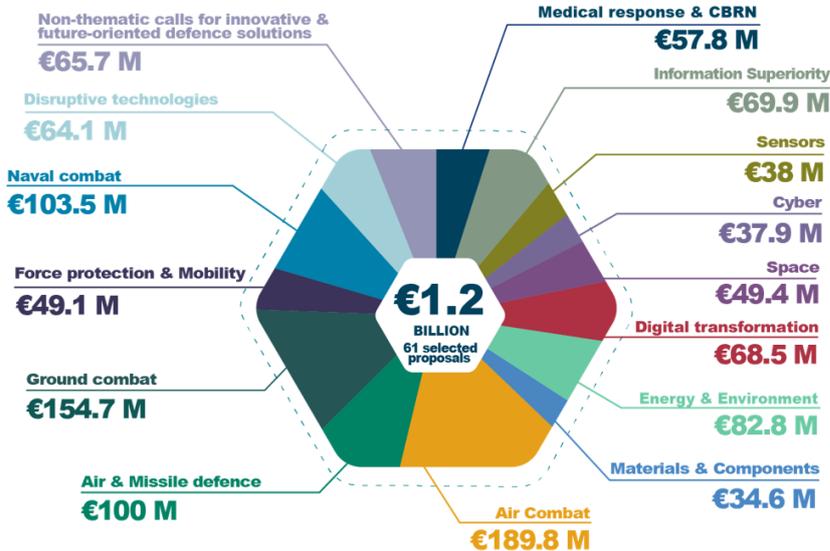
The EDF work programmes for 2022 (part 2) and for 2023 (part 1) were adopted on 25 May⁵⁶ and on 7 June⁵⁷ respectively, setting out the detailed objectives, activities and budget spending plans for 2022.

The selected proposals following the 2021 EDF calls for proposals were published on 20 July 2022, leading to contract awards for a total EU support of EUR 1.17 billion in 60 defence industrial cooperation projects by December 2022.⁵⁸

EDF 2021 CALLS RESULTS



SELECTED PROJECTS BY CATEGORIES (IN GRANT AMOUNT)



⁵⁴ JOIN(2022) 24 final.

⁵⁵ COM(2022) 349

⁵⁶ C(2022)3403

⁵⁷ C(2022) 3659

⁵⁸ https://ec.europa.eu/commission/presscorner/detail/en/IP_22_4595 ; Information based on currently available data.

The European defence industry submitted 134 proposals for joint defence R&D projects in response to the 2022 calls for proposals under the EDF.⁵⁹ The results of the evaluation of proposals will be announced in 2023 and will lead to awards of more than EUR 920 million of EU funding to the successful projects.

In December 2022, the Commission signed Contribution Agreements with EDA and OCCAR to delegate the implementation, under indirect management, of four strategic EDF defence projects covering EU hypersonic interceptors, radar, naval and ballistic protection.

EDIDP activities focused on preparing the capability development window of the EDF. DG DEFIS continues to manage 40 awarded projects and to monitor the implementation of tasks under the related Contribution Agreements signed with OCCAR, while two EDIDP projects have been completed in the course of 2022.

As concerns PADR, all 18 collaborative research projects selected for funding were launched⁶⁰ and 9 projects were completed by the end of 2022. The results of PADR have already started to inform the implementation of the EDF, with several projects and calls following up on the promising results of PADR projects.

Stepping up space defence activities, the EDF supported research and development actions targeting space-based capabilities for defence applications, contributing to the EU's and Member States' priorities and seeking synergies between the space and defence sectors.

Responding to the identified needs for improved military mobility in several areas, DG DEFIS, working closely with EEAS, EDA, other Commission services (particularly DG MOVE) and Member States, prepared an '**Action Plan on Military Mobility 2.0**'⁶¹ adopted by the Commission on 10 November 2022. It includes measures to substantially enhance military movements within the EU to the external borders or beyond. Under the EDF Work Programme 2021, a grant agreement was signed in December 2022 with a consortium of companies from 9 Member States plus Norway was selected in 2022 for a co-funding of EUR 9 million to develop a digital system for the quick and secure exchange of Military Mobility information by the end of 2025.

In the field of international relations, the Foreign Partnership Instrument-funded 'Global Action on Space' (June 2021-June 2024) continued delivering services to the EU space ecosystem to boost its internationalisation, namely through the organisation of events, conferences and webinars, market reports, business coaching services and study visits.

⁵⁹ https://defence-industry-space.ec.europa.eu/european-defence-industry-submits-134-joint-defence-rd-proposals-under-european-defence-fund-2022-2022-12-01_en

⁶⁰ These projects are the result of 10 calls for proposals published over the three year duration of the PADR. Through a delegation agreement, 15 projects are managed by the European Defence Agency while three projects with a high disruptive potential in the defence context, such as artificial intelligence and quantum technologies, are managed directly by the Commission.

⁶¹ JOIN(2022) 4 final.

Communication

DG DEFIS organised the EDF Info Days in Brussels, attracting more than 1600 participants from all over Europe, as well as a one-day brokerage and matchmaking event. DG DEFIS presented the EDF and EUDIS in numerous events at national or local level.

For the first time, DG DEFIS also ensured strong presence at defence-related events such as at Eurosatory (Paris, FR), where a stand promoting the EDF was organised to exchange with key stakeholders from the defence ecosystem. In addition, DG DEFIS participated in Euronaval fair (Paris, FR) and was present in the ENDR conference in Malaga (ES). DG DEFIS also played a key role at the 2nd European Defence & Security Conference held in Brussels (BE) in October 2022.

D. Promoting our European way of life

Specific objective 5.1: Security actors have access to EU autonomous tools, space-enabled services, and technologies, needed to build resilience to security threats, safety hazards and crisis situations

In an evolving geo-political context marked by instability safety and security, (dual use) space-based services are in high demand. Regarding the **GOVSATCOM component** of the EU Space Programme for governmental satellite communications, DG DEFIS focused on the preparations of the implementing acts for the definition of the characteristics of the GOVSATCOM service portfolio, operational requirements, rules for sharing and prioritisation of satellite communication capacities and security requirements. DG DEFIS supervised and supported the public procurement of the **GOVSATCOM Hubs**, which is entrusted to EUSPA. The innovation partnership procurement that was launched in 2021 should be finalised in early 2023. In parallel, downstream research for GOVSATCOM service uptake and upstream technology are being carried out by EUSPA and ESA.

Activities progressed under the **Space Situational Awareness**⁶² component, consisting of three subcomponents - SST, SWE and NEO. Since 2016 the EU has been active in the field of **Space Surveillance and Tracking** via the EU SST consortium of 7 Member States that delivers collision avoidance services for more than 320 satellites. In 2022, 15 Member States successfully applied for a joint participation in an EU SST Partnership. This new EU SST Partnership will take over the provision of SST services from the EU SST consortium on 1 July 2023. In December 2022, the Commission launched a procedure to award a grant to the EU SST Partnership.

⁶² The SSA component will cover EU SST, Space Weather and Near Earth Objects, as well as an overall strengthening of security requirements when developing EU space systems.



In June 2022, the Commission selected EUSPA as the SST Front Desk,⁶³ further consolidating its role in the EU Space Programme. Measures for a continuous provision of SST services from the current Front Desk provider SatCen were put in place.

In 2022, preparatory activities started towards an **EU operational Space Weather service** by 2025, assessing SWE user needs and a socio-economic study that will look at the impacts of the potential services and their technological readiness.

In 2022, activities continued on mapping Member States' capacities for detecting and monitoring **Near-Earth Objects**. To be prepared for a rapid response to a NEO approaching Earth, work is ongoing to study the most likely deflection missions.

Galileo is introducing an innovative **Emergency Warning service** services which is relevant for security actors. In 2022, together with Member States' civil protection entities, work focused on the definition of this service, leading to a service baseline ready to be assessed with EUSPA and ESA.

The **Galileo Search and Rescue service (SAR)** was further reinforced with the addition of a new SAR ground station in October 2022 to boost coverage in the Indian Ocean.

The **Copernicus emergency service** continued supporting EU actions during major natural disasters and distress at sea. In recognition of the important contribution of the Copernicus Emergency Management Service (EMS), the Spanish Ministry of Interior awarded the Civil

⁶³ C(2022) 3691

Protection Medal of Merit to the Commission on the 12 March 2022 for its support during the volcanic eruption on the island of La Palma (Spain).

Striving towards an **EU autonomous access to space** is a priority of the EU space policy. To this end, and to reduce costs and achieve planning efficiencies, in November 2022 the Commission signed a framework contract with Arianespace for Copernicus satellite launch services . This contract does not include launch services for future Galileo satellites, for which negotiations are ongoing.

DG DEFIS continued coordinating and mainstreaming activities of Commission services to countering hybrid threats. Working closely with the EEAS, the sixth progress report on the implementation of the 2016 Joint Framework on countering hybrid threats and the 2018 Joint Communication on increasing resilience and bolstering capabilities to address hybrid threats, was released to the Council of the EU on 16 September 2022.⁶⁴

Communication

In 2022, DG DEFIS rolled out a strong promotion of services addressing emergency situations, such as the Copernicus EMS in partnership with DG ECHO and DG JRC.

DG DEFIS also organised the *EU Space for You* exhibition in different locations in Europe, gathering 50 000 participants. With the objective of communicating directly with European citizens, DG DEFIS once again set up a partnership with the city of Brussels to promote the benefits of EU space data in citizens' daily lives. An online countdown calendar has also been created to discover new success stories in each Member State.

⁶⁴ SWD(2022) 308

2. MODERN AND EFFICIENT ADMINISTRATION AND INTERNAL CONTROL

2.1. Financial management and internal control

Assurance is provided on the basis of an objective examination of evidence of the effectiveness of risk management, control and governance processes. This examination is carried out by management, who monitors the functioning of the internal control systems on a continuous basis, and by internal and external auditors. The results are explicitly documented and reported to the Director-General. The following reports have been considered:

- the reports from Authorising Officers by Delegation in other DGs managing budget appropriations in cross-delegation;
- the results of the DG's supervisory controls on the operational and financial reporting of these bodies;
- the contribution by the Head of Unit in charge of Risk Management and Internal Control, including the results of internal control monitoring at DG DEFIS;
- the recorded exceptions, non-compliance events and any cases of 'confirmation of instructions' (Art 92.3 FR);
- the results of ex-post controls;
- the limited conclusion of the Internal Auditor on the state of internal control, and the observations and recommendations reported by the Internal Audit Service (IAS);
- the observations and the recommendations reported by the European Court of Auditors (ECA).

The systematic analysis of the available evidence provides sufficient guarantees as to the completeness and reliability of the information reported and results in the full coverage of the budget delegated to the Director-General of DG DEFIS.

This section covers the control results and other relevant elements that support management's assurance. It is structured into 2.1.1 Control results, 2.1.2 Audit observations and recommendations, 2.1.3 Effectiveness of internal control systems, and resulting in 2.1.4 Conclusions on the assurance.

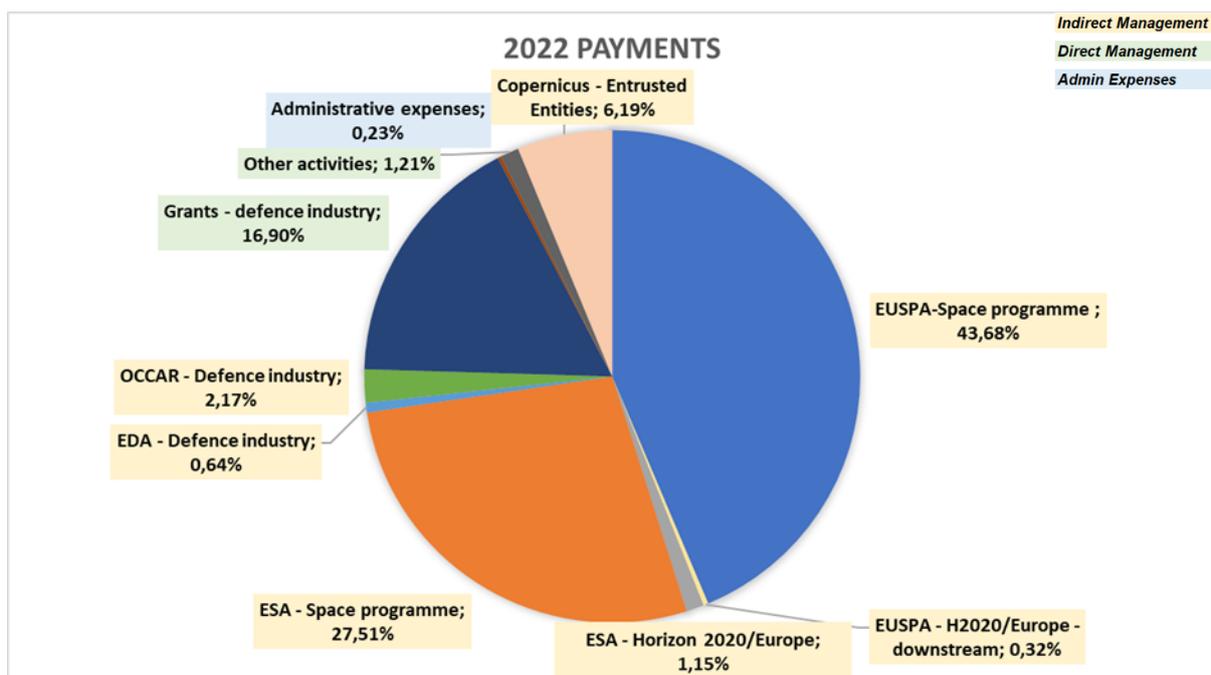
2.1.1. Control results

This section reports and assesses the elements identified by management which support the assurance on the achievement of the internal control objectives (ICO)⁶⁵. The DG DEFIS's assurance building and materiality criteria are outlined in annual activity report annex 5. The annual activity report annex 6 outlines the main risks together with the control

⁶⁵ 1) Effectiveness, efficiency and economy of operations; 2) reliability of reporting; 3) safeguarding of assets and information; 4) prevention, detection, correction and follow-up of fraud and irregularities; and 5) adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of programmes as well as the nature of the payments (FR Art 36.2). The 2nd and/or 3rd Internal Control Objective(s) (ICO) only when applicable, given the DG's activities.

processes to mitigate them and the indicators used to measure the performance of the relevant control systems. DG DEFIS transactions are carried out under both direct and indirect management modes. The following table and chart give an overview of the main types of expenditure with their respective percentage in the total payments made in 2022. The total amount paid in 2022 amounts to 2.627.864.785 EUR as shown in the Excel table below.

| Headings | Activity | | Entity / Subsidy | Payments 2022 | % on total payments | Main ICO Indicator | |
|-------------------------|-------------------------|--|------------------|---------------|---------------------|---|--|
| Heading 1 | Direct Management | Grants | DEFIS | 12.049.324 | 0,46% | Time to pay; Time to grant; Overall cost of Control; No Olaf Cases; Clean opinion on accounts; Detected or estimated error rate | |
| | | Procurement | DEFIS | 17.581.272 | 0,67% | | |
| | Indirect Management | Delegation Agreements /Contribution Agreements | EUSPA | | 1.156.083.903 | 43,99% | CA objectives achieved; Time to pay; Overall cost of control; No Olaf Cases; Clean opinion on accounts; Detected or estimated error rate |
| | | | ESA | | 752.813.057 | 28,65% | |
| | | | EUMETSAT | | 81.033.000 | 3,08% | |
| | | | ECMWF | | 22.556.000 | 0,86% | |
| | | | MERCATOR | | 25.209.035 | 0,96% | |
| | | | EEA | | 20.736.000 | 0,79% | |
| | | | EMSA | | 12.876.000 | 0,49% | |
| | | | SATCEN | | 348.000 | 0,01% | |
| | | | EDA | | | 0,00% | |
| OCCAR | | | 0,00% | | | | |
| Administrative Expenses | | DEFIS | 5.434.806 | 0,21% | | | |
| Heading 3 | Indirect Management | Delegation Agreements /Contribution Agreements | ESA | 400.000 | 0,02% | See above | |
| Heading 5 | Direct Management | Grants | DEFIS | 444.000.178 | 16,90% | See above | |
| | | Procurement | DEFIS | 2.207.709 | 0,08% | | |
| | Indirect Management | Delegation Agreements | EDA | | 16.823.870 | 0,64% | See above |
| | | | OCCAR | | 57.043.882 | 2,17% | |
| Administrative Expenses | | DEFIS | 666.474 | 0,03% | | | |
| Heading 7 | Administrative Expenses | | DEFIS | 2.275 | 0,00% | | |
| TOTAL | | | | 2.627.864.785 | | | |



The largest part of DG DEFIS expenditure was implemented in indirect management through contribution agreements (especially for Space activities) and in direct management through grants for the defence programmes. In 2022, 81.66% of the expenditure was implemented in indirect management, 18.11% under direct management (mostly in grants). Administrative expenses both for direct and indirect management only amount to 6.1 M EUR (0.23%).

DG DEFIS does not have to disclose any case of financing not linked to costs (Financial Regulation (FR) art 125.3), nor cases of derogations from the principle of non-retroactivity for grants (FR art 193.2). The cases of ‘confirmation of instructions’ (FR art 92.3) are listed in the DG DEFIS register of exceptions and non-compliance events. DG DEFIS has signed a Financial Framework Partnership Agreement >4 years with EUSPA and ESA (FR art 130.4). DG DEFIS has to disclose cases of flat rates >7% for indirect costs decided by Commission Decisions (FR art 181.6) as PADR, EDIDP and EDF finance indirect costs at a flat rate of 25%. This is included in the financing decision (for PADR) and regulations.

1. Effectiveness of controls

a) Legality and regularity of the transactions

DG DEFIS is using internal control processes to ensure the adequate management of the risks relating to the legality and regularity of the underlying transactions it is responsible for, taking into account the multiannual character of programmes and the nature of the payments concerned. The control objective is to ensure that the residual error rate or the risk of error does not exceed 2%.

DG DEFIS’s portfolio consists of different segments all with relatively low error rates.

Since 2007, the R&I Family has adopted a common audit strategy intended to contribute to the legality and regularity of expenditure on a multi-annual basis, including detection and correction of non-systemic and systemic errors.

For Horizon 2020, the Common Audit Service (CAS) of the Common Implementation Centre carries out all audits, including those concerning grants concluded by the Executive Agencies and the Joint Undertakings. This is a major step towards ensuring a harmonised approach, legal certainty, equality of treatment of beneficiaries and minimising the audit burden on beneficiaries.

For Horizon Europe, the Audit Strategy will be based on the achievements and lessons learnt from H2020 and will be risk based. The strategy is currently under preparation.

The **targets** set for this control system are respectively:

- for Horizon 2020, to ensure that the cumulative residual error rate remains within a range of 2-5 %, aiming to be as close as possible to 2%. Progress against Horizon 2020 targets is assessed annually based on the results of the implementation of the ex-post audit strategy and taking into account the frequency and importance of the detected errors along with cost-benefit considerations regarding the effort and resources needed to detect and correct the errors.
- for Horizon Europe, to ensure that cumulative detected and residual error rates do not exceed 2%.⁶⁶

It should be noted, however, that due to its multi-annual nature, the effectiveness of the control strategy of the R&I Family can only be measured and assessed fully in the final stages of the EU Framework Programme, once the ex-post audit strategy has been fully implemented, and errors, including those of a systemic nature, have been detected and corrected.

Despite objective challenges due to carry over from the COVID-19 pandemic, the foreseen audit target was achieved. The CAS managed to finalise audits on 633 participations corresponding to 103.6% of the planned most probable scenario for the 2022 target.⁶⁷

The error rates for Horizon 2020 are as follows:

- Cumulative representative detected error rate: **2.71%**⁶⁸
- Cumulative residual error rate for the Research and Innovation Family DGs: **1.67%**

⁶⁶ No representative error rate for Horizon Europe will be available in 2022 and 2023 as the ex-post audit campaign for the Programme is planned to be launched by the end of 2023, at the earliest.

⁶⁷ Given the uncertainties related to the evolution of the COVID-19 pandemic and related carry over, the CAS developed two scenarios for the closure of audit targets.

⁶⁸ Based on the 479 representative results out of the 628 expected in the four Common Representative Samples.

(1.71 % for DG Research and Innovation)⁶⁹.

The relatively higher level of error in Horizon 2020 grants is linked to the reimbursement of eligible costs and errors in particular on personnel costs mainly due to the beneficiaries' lack of thorough understanding of the rules. New entrants and Small and Medium Enterprises (SMEs) are more prone to this type of errors. However, since Horizon 2020 is a multi-annual programme, the representative detected error rate of 2.71 % should be considered within a time perspective. Due to the cleaning effect of audits the cumulative residual error rate is only 1.67 % (for more detailed information see Annex 5). The simplifications introduced under Horizon Europe should reduce the number of errors made by the beneficiaries and lead to a further decrease in the error rate in the long run.

For the 2022 reporting year, no serious control issues were signalled by the operational units regarding the work implemented by entrusted entities (81,02 % of the budget). Through the monitoring and supervision work, which included regular contacts and analysis of periodic reports as well as audit reports, no legality and regularity risks were identified.

DG DEFIS's relevant expenditure, estimated overall risk at payment, estimated future corrections and risk at closure are disclosed in the Table X ("Estimated risk at payment and at closure") provided below.

| DG DEFIS | Payments made | Relevant expenditure | Estimated risk (error rate %) at payment | | Estimated future corrections and deductions | | Estimated risk (error rate %) at closure | |
|---|-----------------|----------------------|--|--------------|---|--------------|--|--------------|
| | m EUR | m EUR | m EUR | % | m EUR | % | m EUR | % |
| Administrative expenses | 6,10 | 6,72 | 0,03 | 0,50% | 0,00 | 0,00% | 0,03 | 0,50% |
| Heading 1 -Own procurement | 17,58 | 17,70 | 0,09 | 0,50% | 0,00 | 0,00% | 0,09 | 0,50% |
| Heading 1 -Own grants | 12,05 | 29,82 | 0,15 | 0,50% | 0,00 | 0,00% | 0,15 | 0,50% |
| Heading 5 -EDF Grants | 444,00 | 4,98 | 0,02 | 0,50% | 0,00 | 0,00% | 0,02 | 0,50% |
| Heading 5 -EDF Procurement | 2,21 | 2,21 | 0,01 | 0,50% | 0,00 | 0,00% | 0,01 | 0,50% |
| Heading 1 -International Organisations -ESA - Copernicus | 657,85 | 361,10 | 1,81 | 0,50% | 0,00 | 0,00% | 1,80 | 0,50% |
| Heading 1 -International Organisations -ESA - IOV/IOD | 8,00 | 6,09 | 0,03 | 0,50% | 0,00 | 0,00% | 0,03 | 0,50% |
| Heading 1 -International Organisations -ESA - GALILEO | 58,16 | 465,82 | 2,33 | 0,50% | 0,00 | 0,00% | 2,33 | 0,50% |
| Heading 1 -International Organisations -ESA - Govsatcom/SSA | 6,91 | 1,54 | 0,01 | 0,50% | 0,00 | 0,00% | 0,01 | 0,50% |
| Heading 1 -International Organisations -ESA - Horizon 2020/Europe | 22,29 | 24,20 | 0,12 | 0,50% | 0,00 | 0,00% | 0,12 | 0,50% |
| Heading 1 -International Organisations - Copernicus - Mercator | 25,21 | 28,48 | 0,14 | 0,50% | 0,00 | 0,00% | 0,14 | 0,50% |
| Heading 1 -International Organisations - Copernicus - ECMWF | 22,56 | 48,54 | 0,24 | 0,50% | 0,00 | 0,00% | 0,24 | 0,50% |
| Heading 1 -International Organisations - Copernicus - EUMETSAT | 81,03 | 64,81 | 0,32 | 0,50% | 0,00 | 0,00% | 0,32 | 0,50% |
| Heading 1 -International Organisations - Copernicus - EEA | 20,74 | 17,39 | 0,09 | 0,50% | 0,00 | 0,00% | 0,09 | 0,50% |
| International Organisations -Copernicus - EMSA | 12,88 | 6,31 | 0,03 | 0,44% | 0,00 | 0,00% | 0,03 | 0,44% |
| Heading 1 -International Organisations - Copernicus - SatCen | 0,35 | 6,33 | 0,10 | 1,61% | 0,00 | 0,00% | 0,10 | 1,61% |
| Heading 1 -International Organisations - Copernicus - Frontex | - | 8,08 | 0,03 | 0,31% | 0,00 | 0,00% | 0,03 | 0,31% |
| Heading 5 -International Organisations -OCCAR | 57,04 | 4,29 | 0,02 | 0,50% | 0,00 | 0,00% | 0,02 | 0,50% |
| Heading 1 -Agencies -EUSPA Subsidy | 65,39 | 44,14 | 0,22 | 0,50% | 0,00 | 0,00% | 0,22 | 0,50% |
| Heading 1 -EUSPA-EGNOS | 78,65 | 139,30 | 0,42 | 0,30% | 0,00 | 0,00% | 0,42 | 0,30% |
| Heading 1 -EUSPA- GALILEO | 1.000,54 | 925,22 | 0,09 | 0,01% | 0,00 | 0,00% | 0,09 | 0,01% |
| Heading 1 -EUSPA - Govsatcom/SSA | 3,14 | 0,26 | 0,00 | 0,50% | 0,00 | 0,00% | 0,00 | 0,50% |
| Heading 1 -EUSPA - H2020/Europe - downstream | 8,36 | 16,38 | 0,44 | 2,71% | 0,00 | 0,00% | 0,44 | 2,71% |
| EDA | 16,82 | 18,67 | 0,09 | 0,50% | 0,00 | 0,00% | 0,09 | 0,50% |
| DG Total | 2.627,86 | 2.248,39 | 6,84 | 0,30% | 0,00 | 0,00% | 6,84 | 0,30% |

⁶⁹ It should be noted that in 2022 most H2020 grants managed by DG R&I were transferred to Executive Agencies. Hence, this figure is based only on the actions that remained with DG R&I at the end of 2022.

The estimated overall risk at payment for 2022 expenditure amounts to EUR 6.84 million, representing 0.30 % of the DG’s total relevant expenditure for 2022. This is the Authorising Officer by Delegation’s (AOD) best, conservative estimation of the amount of relevant expenditure not in conformity with the contractual and regulatory provisions applicable at the time the payment was made. This expenditure will subsequently be subject to ex-post controls and a proportion of the underlying errors will be detected and corrected in subsequent years. Since there are not future corrections for 2022 expenditure amount the estimated overall risk at closure is identical to the risk at payment.

The difference between those two amounts results in the estimated overall risk at closure.⁷⁰ The risk at closure decreased from 0,61% in 2021 to 0,30 % in 2022 mainly due to the clearing effect of the audits over the years.

For an overview at Commission level, the departments' estimated overall risk at payment, estimated future corrections and risk at closure are consolidated in the AMPR.

In addition, DG DEFIS has in place an effective mechanism for correcting errors, through ex-ante and ex-post controls, resulting in preventive and corrective measures, respectively. Please see table below for details:

| | | Preventive Measures (m EUR) | Corrective measures (m EUR) |
|---|---|--------------------------------|--------------------------------|
| Implemented by the Member States | | | |
| | <i>of which from Member States controls</i> | 0 | 0 |
| | <i>of which from EU controls⁷¹</i> | 0 | 0 |
| Implemented by the Commission | | | |
| | <i>of which from Member States controls</i> | 0 | 0 |
| | <i>of which from EU controls</i> | 6,23 | 0,5 |
| DG DEFIS | | 6,23 | 0,5 |

The amount of 0,5 M EUR is the result of the ex-post audits performed. The correction is done through clearing and not through recovery orders or correction on invoices, which makes that this amount does not appear in Annex 3 Table 8, ex-post controls.

DG DEFIS’ supervision arrangements are based on the principle of intensive control of the entrusted entity and, for EUSPA, on the participation in the Administration Board.

⁷⁰ This is the AOD’s best, conservative estimation of the expenditure authorised during the year that would remain not in conformity of applicable regulatory and contractual provisions by the end of implementation of the programme.

⁷¹ As a result of Commission controls and audits (including additional corrections to ensure a risk at closure below 2% in case of EMPL, REGIO and MARE), OLAF investigations or ECA audits.

The cost of controls is highly outweighed by their benefits. The EU Space Programme components are major industrial programmes of significant size and complexity.

Although the audited samples of financial transactions are not statistically representative, but represent at least 50% of the total costs declared, DG DEFIS considers that the error rates detected by its ex-post audits, are a reliable indicator for the non-audited transactions. Although the level of detected errors remains relatively stable over the years and in order to mitigate the risk that the actual error rate could be higher, DG DEFIS decided to apply a conservative approach and to declare an error rate of 0.50 % for the budget delegated to these non-audited organisations and to the audited organisations with no detected errors. For more detail on legality and regularity of the transactions, see annex 7.

b) Fraud prevention, detection and correction

DG DEFIS has developed and implemented its own anti-fraud strategy since 2020, on the basis of the methodology provided by OLAF. It was last updated 01 February 2022 and published on DG DEFIS Intranet. Its implementation is being monitored and reported to the management annually. All necessary actions have been implemented. The anti-fraud strategy is an essential element in the development of an anti-fraud culture within the DG. DG DEFIS contributes whenever needed to the actions identified in the Commission Anti-Fraud Strategy and follows up on eventual financial recommendations.

DG DEFIS Unit 02 also contributed to the Commission anti-fraud strategy and followed up to OLAF's recommendations with the following results: 100 % of recommendations were implemented. No incidences of fraud have been reported neither at the Commission level nor through our partners, thanks to the anti-fraud measures in place.

c) Other control objectives: safeguarding of assets and information, reliability of reporting (if applicable)

Reliability of reporting

DG DEFIS delegates most of its budget implementation to external entities. In addition to the pillar assessment of these entities (except EU decentralised agencies), prior to the conclusion of any contribution agreement, it also relies on the declarations of assurance and on the unqualified audit opinions provided every year.

All controls performed by DG DEFIS on ex-ante and ex-post level revealed overall no material misstatements on the accounts presented by the entrusted entities under the programmes managed by DG DEFIS.

Valuation and Safeguarding of assets and information

The total asset value on the Balance Sheet at end 2022 is EUR 11.640 billion. The non-current assets amount to EUR 9.010 billion of intangible assets, property plant and equipment and long-term pre-financing. Furthermore, EUR 524 million of current assets

consists of pre-financing managed and controlled in the context of the DG's direct and indirect management of space and defence related activities.

The property, plant and equipment balance (EUR 8.483 million) is the most material one in DEFIS Balance Sheet given hereafter. It includes the value of the assets generated by the implementation of EU space programme (namely: EGNOS, Galileo and Copernicus). By end of 2022, the gross assets values for the different components of this programme are:

- EUR 7.092 million for Galileo;
- EUR 4 634 million for Copernicus; and,
- EUR 570 million for EGNOS (European Geostationary Navigation Overlay System).

Further information on these balances is provided in the notes to the balance sheet given in annex 3. The depreciation charge related to these space assets amounted to EUR 811 million for the year 2022.

During 2022, the controls performed on the data provided by ESA and EUSPA for the valuation of the space assets were maintained. Specific workshops on the operational stages of asset development were organised by DG DEFIS to discuss per programme the costs to be capitalised and the stages of operational development.

Regarding Copernicus Satellite – Sentinel 1B, we have been informed on 3 August 2022 by ESA that the instrument was permanent unavailable. Sentinel-1B was launched on 25 April 2016 from the Centre Spatial in Kourou (French Guiana) and it was declared operational on 14 September 2016 following the completion of the In-Orbit Commissioning Review (IOCR). At end-2021, the net book value of Sentinel-1B satellite in the DG DEFIS Balance Sheet amounted to € 101 million (Gross value € 340 million) and has been written off from the balance sheet.

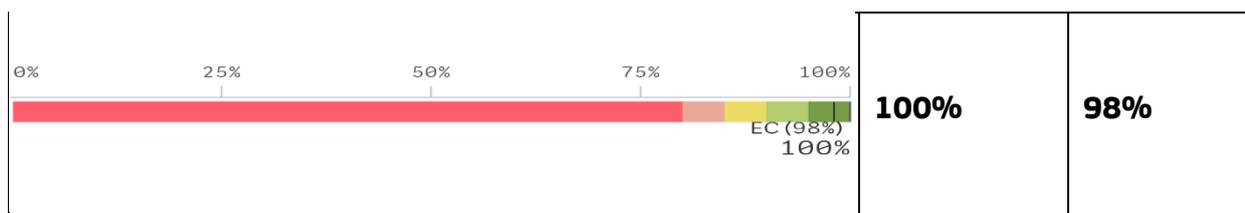
2. Efficiency of controls

DG DEFIS manages a large portfolio of heterogeneous activities in the defence industry and space sectors, involving different ways of implementation. Based on an assessment of the most relevant key indicators and control results, DG DEFIS has assessed the efficiency of the control system and reached a positive conclusion.

Timely payments:

In 2022, DG DEFIS ensured efficient processing of payments within the legal deadline. The corporate indicator for **timely payments**, reaches 100%.

| | | |
|------------------------|--------------------|-----------------|
| Timely Payments | DEFIS Score | EC Score |
|------------------------|--------------------|-----------------|



Procurements:

The average time to publication in 2022 is relatively high (141 days) due to the complexity for the launch and conclusion of 2 contracts. Nevertheless, the indicator improved compared to 2021, which was 190 days.

Grants:

In 2022, we signed the grant agreements of the first EDF calls of 2021, with an average time to grant of 354 days, which is in line with the figure of last year (342 days).

The signature of the EDF grants takes an important amount of time due to the double comitology, the security classification, the high complexity of the programme and the validation/input from Member States during grant agreement preparation.

3. Economy of controls

The cost of controls at Commission level is assessed by the cost of the different control stages. The assessment for each management mode is obtained from the ratio between these costs and the total amount paid in the year for the related management mode. The cost of control for assets is not reported as they are included in the supervision costs of entrusted entities.

Cost of control - direct management⁷²

| DG results for the reporting year - Direct management | | |
|--|---------------|---------------------|
| Common indicators on cost of control | Grants | Procurements |
| Percentage of overall cost of control of grant / procurement process in comparison to total expenditure <u>executed</u> during the year | | 1,55% |
| | 1,35% | 5,14% |
| Overall cost of control (grant/procurement) | € 6.157.918 | € 1.329.850 |
| Average number of ongoing contracts (grant/procurement) managed per full time equivalent | 2,97 | 5,47 |
| Percentage of costs of control related to the evaluation and selection procedure in comparison to the <u>total value of grants / procurement</u> contracted | 0,44% | 3,4% |
| Average value of ongoing grant / procurement agreements managed per full time equivalent | € 32.342.565 | € 3.345.962 |
| Average project management costs per ongoing grant / procurement agreement | € 47.736 | € 18.998 |
| Total Costs of ex post audits | € 0 | |

⁷² Details of the estimated cost related to shared/pooled control activities carried out by DG REA and hosted by DG RTD (Common Implementation Centre including Common Audit Service) for the Research and Innovation family are reported in the annual activity reports of DG REA and DG RTD.

Cost of control - indirect management

| DG results for the reporting year - Indirect management | | | | | | | | |
|---|--|--------------|-------------|-------------|-------------|-----------|-----------|--------------|
| Common indicators on cost of control | International Organisations and other entrusted entities | | | | | | | |
| Overall cost of control of supervision process | € 4.005.966 | | | | | | | |
| Percentage of overall cost of control of supervision process in comparison to the total annual amount delegated excluding any remuneration paid | 0,21% | | | | | | | |
| Remuneration fees paid (to international organisations, agencies, EIF) | € 261.356.303 | | | | | | | |
| | ESA | Eumetsat | ECMWF | Mercator | EEA | Frontex | Satcen | EUSPA |
| | € 171.076.074 | € 17.194.000 | € 3.628.000 | € 1.500.000 | € 1.634.000 | € 405.000 | € 526.737 | € 65.392.492 |
| Percentage of cost of remuneration fees paid to entrusted entities in comparison to the total annual amount delegated excluding any remuneration paid | 13,87% | | | | | | | |
| Percentage of costs of control related to the establishment or prolongation in comparison to the total annual amount delegated | 0,02% | | | | | | | |
| Percentage of costs of control related to the reporting and subsequent monitoring of the execution in comparison to all payments executed | 0,168% | | | | | | | |
| Total cost of ex post audits | € 210.630 | | | | | | | |

The overall costs of control for direct management have decreased by more than fifty percent (from 3.41% to 1.55%) mainly due to the establishment of multiple, high-value EDF grants.

The control strategy in indirect management is considered to be cost-effective overall, as their benefits outweighs the cost of controls considering the major responsibilities of DG DEFIS especially in the space field. All the percentages remained stable compared to last year.

The 'remuneration fees' paid to international organisations increased slightly compared to last year, mainly due to the delegated technical tasks and the technical specificities of the EU space programme.

4. Conclusion on the cost-effectiveness of controls

Based on the most relevant key indicators and control results, DG DEFIS has assessed the effectiveness, efficiency and economy of its control system and reached a positive conclusion on the cost-effectiveness of the controls for which it is responsible.

DG DEFIS is of the opinion that the current control system is the best suited for fulfilling the relevant control objectives efficiently and at a reasonable cost. It represents a good balance between the invested efforts (internal control costs and remuneration fees), the obtained error rates (effectiveness of controls) and delivery of objectives (efficiency). The declaration of assurance (Section 2.1.5) includes no reservation for the expenditure categories or control systems concerned.

2.1.2. Audit observations and recommendations

This section sets out the observations, opinions and conclusions reported by auditors – including the limited conclusion of the Internal Auditor on the state of internal control. Summaries of the management measures taken in response to the audit recommendations are also included, together with an assessment of the likely material impact of the findings on the achievement of the internal control objectives, and therefore on management's assurance.

Internal Audit Service (IAS)

In its contribution to the 2022 AAR of DG DEFIS, IAS concluded that the internal control systems in place for the audited processes were effective, except for the observation described hereafter. The IAS concluded in 2022 their audit on the preparedness of Directorate-General for Defence Industry and Space for the management of the European Defence Fund. A very important recommendation has been issued to improve the controls in place for the validation of the SMEs and mid-cap companies' status. The action plan in response has been already submitted to IAS and entails: (i) the establishment of a written procedure to assess the risky candidates; (ii) the Control Strategy revision. The implementation of these corrective measures is foreseen for June 2023.

As foreseen in IAS audit plan of 2022, an audit on the preparedness of DEFIS' management and control systems for the 2021-2027 Space programme implementation was launched. The fieldwork started in May 2022 and is still ongoing. In addition, a multi-DG audit on Horizon Europe governance arrangements, preparation of the work programmes and of budget planning, allocation and monitoring, including DG DEFIS, has started during the year and still in progress.

European Court of Auditors (ECA)

On 10 November 2022 (published on 14/11), the ECA adopted its Annual Report 2022 on the performance of the EU Budget – Status at the end of 2021. The only reference made to DG DEFIS relates to EDF in the context of gender equality.

The Annual report concerning the 2021 financial year (ECA Statement of Assurance (DAS) 2021) was published by ECA on 13/10/2022. This report does not make specific reference to DG DEFIS but disclose findings in relation to the expenditure cycle on the management of grants (Report chapter 3) within heading 1 in research. This is a recurring issue on which ECA already issued and still issues recommendations. Three third of past recommendations are implemented.

The audit of transactions managed by DEFIS in the frame of the audit pertaining to ECA statement of assurance for the financial year 2021 did not lead to any finding. One transaction managed by HADEA (financed by appropriation delegated by DEFIS) led to a finding from the court. Corrective action is being implemented

The same ECA report does not disclose any issue regarding the reliability of accounts drawn up by the Commission. DG DEFIS was audited on that point by ECA in 2022. The Audit did

not disclose any financial related issue but recommended to reinforce the segregation of duty regarding the position of ABAC local authorisation manager. This recommendation was implemented.

Regarding the ECA specific audits in 2022: Preparatory Action on Defence Research, this audit is reaching its final stage since the Draft report was received on 17/01/2023. Its content is currently being analysed, but there are no major issues.

2.1.3. Assessment of the effectiveness of internal control systems

The Commission has adopted an Internal Control Framework based on international good practice, to ensure the achievement of its policy and management objectives. Compliance with the internal control framework is a compulsory requirement. DG DEFIS uses the organisational structure and the internal control systems suited to achieving its policy and internal control objectives in accordance with the internal control principles and has due regard to the risks associated with the environment in which it operates.

To implement the Space Programme, DG DEFIS largely relies on entrusted entities and regulatory agencies, and works in close cooperation with various partners and international organisations. Looking at Defence Industry, the Commission has increased its effort with the adoption of the European Defence Fund, which is mainly implemented through direct management. Concerning the overall state of the internal control system, DG DEFIS complies with the three assessment criteria for effectiveness, i.e. (a) staff has the required knowledge and skills, (b) systems and procedures are designed and implemented to manage the key risks effectively, and (c) any possible instance of ineffective controls is timely analysed and corrected. Every year, the Head of Unit in charge of Risk Management and Internal Control reports on the state of internal control and provides her opinion to the Director-General, taking into account any possible recommendation received either from IAS or ECA.

DG DEFIS has assessed its internal control system during the reporting year and has concluded that it is effective and the components and principles are present and functioning well overall. However, some improvements are needed as minor deficiencies were identified related to the internal control principles 10 (improvement concerning the validation of the SMEs and Midcap companies' status) and 13 (increase filing of documents). To strengthen internal control, it is planned to revise the DG control strategy, taking into account the latest recommendations from the IAS.

2.1.4. Conclusions on the assurance

The above-mentioned approach provides sufficient guarantees as to the completeness and reliability of the information reported and results in a comprehensive coverage of the budget delegated to the Director-General of DG DEFIS.

In conclusion, based on the elements reported above, management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are

being appropriately monitored and mitigated; and necessary improvements and reinforcements are being implemented. The Director General, in his capacity as Authorising Officer by Delegation has signed the Declaration of Assurance.

2.1.5. Declaration of Assurance [and reservations]

I, the undersigned,

Director-General of DG DEFIS,

In my capacity as authorising officer by delegation

Declare that the information contained in this report gives a true and fair view.⁷³

State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.

This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment, ex-post controls, the work of the Internal Audit Service and the lessons learnt from the reports of the Court of Auditors for years prior to the year of this declaration.

Confirm that I am not aware of anything not reported here which could harm the interests of the institution

Brussels, 31 March 2023

e-signed

Timo Pesonen

⁷³ True and fair in this context means a reliable, complete and correct view on the state of affairs in the DG/Executive Agency

2.2. Modern and efficient administration – other aspects

2.2.1. Human resource management

In 2022, the first DEFIS away day could take place with the objective to allow DG DEFIS staff to better know each other, improve staff awareness of the DG objectives and enhance the inter-unit collaboration. This event allowed staff to re-connect (and connect for the newcomers) after the long teleworking periods of 2020 – 2021 that happened shortly after DG DEFIS creation.

DG DEFIS is supporting innovation and technological developments in the high-tech sectors of space and defence industry. Thus ensuring that the necessary expertise is available within the DG is a key aspect of HR management. Expertise is provided through a large presence of seconded national experts (17% of staff) and in-house knowledge of technically-trained staff. This expertise will be reinforced by the selection of officials through specialised EPSO competitions launched in mid-2022 to attract highly skilled candidates with experience in the field of space and defence.

DG DEFIS **internal communication** strategy focused on maintaining close links with staff in order to keep them connected and adequately informed. This was done via corporate digital tools and with the DG DEFIS Buzz weekly newsletter, weekly video recordings of “DG DEFIS’ Management Meeting Debriefing”, a ‘Question Box” series presenting staff in a more informal way, and regular “DEFIS Lab” webinars with internal and external experts to stimulate common exchanges, brainstorming and out-of-the-box thinking on topical issues of relevance to both Defence Industry and Space.

2.2.2. Digital transformation and information management

Implementation of the EC Digital Strategy

The implementation of the Commission Digital Strategy progressed in 2022 with the continuation of the Memorandum of Understanding (MoU) signed between DG DEFIS and DG GROW. In the last quarter of 2022, the DG DEFIS Information Resource Manager (IRM) worked closely with DG GROW to transfer the role and responsibilities as the MoU expired in December 2022.

One big accomplishment of the year is the good progress achieved at information system rationalisation level; DG DEFIS phased out an obsolete system and, more important, set the foundations for further rationalization of its information systems based on the dual pillar approach and its core principles: Re-Use, Before Buy, Before Build.

Two new projects were started in 2022 following the PM² methodology with a security-by-design mindset and looking for the reuse of solutions, like authentication platforms or collaborative workspaces, and consider market solutions as Software as a Service.

In relation to IT security, DG DEFIS started specific actions to identify the DG DEFIS IT assets and their compliance status with the IT security framework defined in the Commission Decision 2017/46. As result, one of the systems, DEFEND-S, delivered its security plan using the ITSRM methodology and provided the result to DG DIGIT. In addition, future actions were defined to review and update the IT security plans for the rest of the systems.

In the field of data, information and knowledge management, DG DEFIS progressed in the implementation of the principles of “Data governance and data policies at the European Commission” by, for example, applying the principles and implementing guidelines provided by the Commission’s information security team (data protection and information security), using open standards to manage data assets (data interoperability and standards) or restricting the access to sensitive non-classified data assets (data management), within the IT systems owned by DG DEFIS.

Data Protection

In 2022, the shared **Data Protection** Coordinator (DPC) for DEFIS/GROW contributed to the implementation of the Commission’s Data Protection Action Plan through the following actions:

- awareness raising activities to promote corporate initiatives, i.e. the international Data Protection Day on the 28 January 2022 with a staff mailing to all DEFIS staff drawing attention to the golden rules of data protection and inviting staff to take a quiz to test their knowledge;
- organisation of unit ‘meet your DPC’ sessions introducing this function in the DG;
- organisation of a mandatory refresher training on data protection roles and responsibilities for middle management (GROW/DEFIS);
- advisory support for units to improve overall compliance to the data protection rules and obligations, i.e. for the creation or update of records and privacy statements, as well as advice on the conformity of IT systems, IT projects and websites with data protection rules and in particular when transferring personal data to third countries or using international cloud services.

2.2.3. Sound environmental management

During the reporting year, DG DEFIS held discussions with stakeholders with the ultimate aim of achieving a shared ambition and roadmap for implementing a sector-specific category rules (e.g. PEFCR) for the EU space sector activities. This would allow further developments of life cycle environmental footprint of European space activities and sector-specific environmental footprint methodology.

2.2.4. Security of information

The security of information is key in the field of defense industry and for the space programme. It is the mandate of DG DEFIS task force on the security of information, reporting directly to the General Director. DG DEFIS is continuously improving its security, implementing the guidance established in a corporate information security strategy.

DG DEFIS has completed the physical security of its premises following the recent reallocation of offices to the BREYDEL building. DG DEFIS has also strengthened the monitoring of its internal policy requesting that all personnel in DG DEFIS are either in possession of a valid security clearance or they have started the vetting procedure.

Security awareness is one of the lines of effort. DG DEFIS staff are requested to go through security training proposed by Directorate-General for Human Resources and Security, DG HR. DG DEFIS staff is regularly briefed on the evolution of the security threat environment. A tailor-made awareness and training fitting the needs of DG DEFIS was delivered by Q4 2022. On a quarterly basis, a security report is circulated internally raising the security awareness of DEFIS management.