



European  
Commission

# Strategic Plan 2020-2024

DG Defence Industry and Space

September 2020

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## INTRODUCTION

This Strategic Plan sets out how, over the period 2020-2024, Directorate-General Defence Industry and Space, DG DEFIS, will contribute to the ambitions formulated in the President von der Leyen's political guidelines "A Union that strives for more". DG DEFIS was established as a service at the end of 2019<sup>1</sup>, and started from 1 January 2020. Part 1 explains what DG DEFIS' contribution will be to four of the six headline ambitions, whereas Part 2 explains how this will be done, and which steps will be taken to optimise the way of working, including security aspects.

DG DEFIS is one of the Commission services which gives substance to President von der Leyen's objective to become a "geopolitical" Commission. The Strategic Plan also includes the contribution of DG DEFIS to the recovery and enhanced resilience of the industrial ecosystems after the coronavirus pandemic.<sup>2</sup>

DG DEFIS, together with DG CNECT and DG GROW, supports Commissioner Breton in charge of the Internal Market in his work, working under the guidance of Executive Vice-President Vestager. DG DEFIS implements two defence internal market directives. Commissioner Breton is responsible for the implementation of space and defence industrial policies. This includes implementation of the EU Space Programmes, the European Defence Fund and its precursor Programmes. This includes the policy responsibility for the strategic industrial ecosystem Aerospace and Defence, which is schematically represented in Figure 1. This industrial ecosystem comprises manufacturing companies in aeronautics, space and defence, service providers and applications industry.

The Space Programmes, such as the Galileo satellite navigation system and the Copernicus Earth observation system, are both strategic assets of utmost value to the Union. They generate growth and jobs, enhance industrial competitiveness and provide security. Copernicus is already making a major contribution in the transition to climate neutrality and ecological sustainability. This capability will be further enhanced in the upcoming years.

In the domain of Defence Industry, after the two successful precursor programmes - the Preparatory Action on Defence Research and the European Defence Industrial Development Programme, the Multi-Annual Financial Framework 2021-2027 marks the start of the European Defence Fund. In addition, the DG implements two defence internal market directives. It coordinates the Commission's activities contributing to enhanced military mobility within Europe. It is also in charge of the coordination of Commission services' actions in the field of countering hybrid threats namely to prevent, detect, respond, and build resilience.

Political highlights of the period include the implementation of the European Defence Fund, full operational capability of Galileo, including the Public Regulated Service, the development of the new Copernicus greenhouse gas mission, new safety and security-

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<sup>1</sup> SEC(2019) 451 final

<sup>2</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0456&from=EN>

related space services such as Space Situational Awareness and GOVSATCOM, and the implementation of research and innovation actions for a competitive EU space sector.

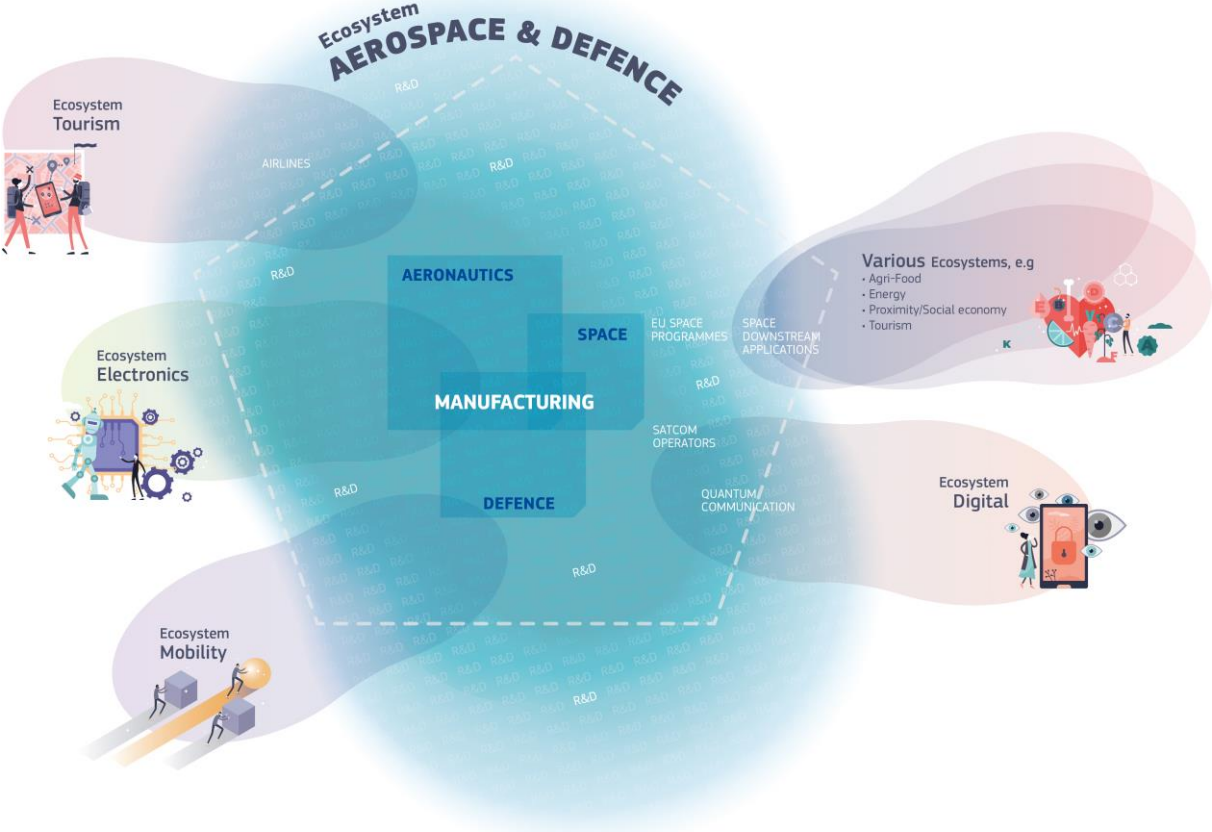


Figure 1 Schematic representation of the Aerospace and Defence industrial ecosystem, and interaction with other ecosystems. DG DEFIS is responsible (or co-responsible) for the field marked in the white dotted line.

## PART 1. Delivering on the Commission's priorities

### A. Mission statement

*DG Defence industry and space: Making EU more secure, sustainable and resilient*

DG DEFIS is a new Directorate General, up and running since 1 January 2020 with the aim to develop policies and implement programmes and EU legislation in the domain of defence industry and space in order to support the Commission's ambitions in the European Green Deal, in a Europe fit for the digital age, enhancing EU strategic autonomy, the EU as a security actor that protects citizens, and the role of Europe in the world.

The purpose of DG DEFIS is

- To promote the further development of a European defence internal market, and the competitiveness and innovation capacity of the EU defence industry, notably through the effective implementation of the European Defence Fund.
- to develop an EU space policy promoting an innovative and competitive EU space industry, to manage the implementation of, and promoting the uptake of data and services provided by the future EU Space Programme and its components (Copernicus, the European Global Navigation Satellite Systems, GOVSATCOM and Space Situational Awareness) in order to support the Union's political priorities, inter alia for climate change, transport, and security;
- to develop policies related to the aerospace and defence industrial ecosystem, and their contributions to a resilient, safe and secure society;
- and to take responsibility for
  - EU space research and innovation,
  - the strategy to capitalise on the synergies between space and defence industry,
  - the coordination of the Commission's actions on countering hybrid threats and of the Commission's actions to improve military mobility in the EU,

DG DEFIS's work is focused on the policy domains of defence industry and space where no exclusive EU competence exists, but rather a shared competence with Member States, bordering on domains where Member States have exclusive competences, such as security and defence. Therefore, DG DEFIS seeks EU added value, efficiencies, breakthrough innovations, economies of scale, promotion and synergies in full respect of, and in constant communication with EU Member States.

## **B. Operating context**

### **Obligations in the Treaty and competences**

For space policy, the legal basis lies in TFEU Article 189. Under this article, the Union shall draw up a European space policy, embedded in the Space Strategy for Europe, and may support research and technological development (currently under Horizon 2020, as well as in the future Horizon Europe). Measures may take the form of a European space programme, as will be the case under the next MFF, where a single EU Programme will regroup the Galileo, EGNOS (European Geostationary Navigation Overlay Service), Copernicus, SSA and GOVSATCOM components, all with TFEU Article 189 as the legal base. The Union shall also establish appropriate relations with international organisation, notably the European Space Agency.

TFEU Article 4 (3) establishes the competence of the Union to carry out activities, in particular to define and implement programmes; however, the exercise of that competence shall not result in Member States being prevented from exercising theirs, i.e. it is a shared competence.

Currently, EGNOS and Galileo are established as trans-European networks, in the meaning of Article 172 TFEU. The new legal basis for EGNOS and Galileo under the EU Space Programme Regulation will be Article 189 TFEU.

The European Defence Fund is based on the TFEU Title XVII Industry, and in particular on Article 173(3), and Title XIX Research and development, and in particular on Article 182(4), Article 183 and the second paragraph of Article 188 thereof. The proposal anchored the defence research strand of the European Defence Fund in the Horizon Europe Framework Programme while leaving the development strands outside of its scope. Article 6 TFEU establishes that industry is a supporting, coordinating and supplementary competence of the Union with respect to Member States.

In addition, the two defence-related internal market directives (Transfers Directive<sup>3</sup> and Public Procurement Directive<sup>4</sup>) are based on Article 114 TFEU (Title VII – Common rules on competition, taxation and approximation of laws) and in addition for the Public Procurement Directive, Article 53 TFEU and Article 62 TFEU (Title IV – Free movement of persons, services and capital).

### **Types of intervention**

The main type of intervention of DG DEFIS is through its budget execution programmes. In the MFF 2014-2020<sup>5</sup>, these are: Satellite Navigation (Galileo and EGNOS, EUR 7 billion), Copernicus (EUR 4 billion), the space part of Horizon 2020 (EUR 1.7 billion), the European Defence Industrial Development Programme (EUR 500 million), the Preparatory Action for

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<sup>3</sup> Directive 2009/43/EC

<sup>4</sup> Directive 2009/81/EC

<sup>5</sup> Council Regulation (EU, Euratom) No 1311/2013 MFF 2014-2020. Budgets are in current prices.

Defence Research (EUR 90 million), and the Preparatory Action for GOVSATCOM (EUR 10 million).

In the MFF 2021-2027 all space components will be merged into one single EU Space Programme. Funding for research and development actions with defence applications will be part of one single European Defence Fund. The space programmes (with the exception of Space Surveillance and Tracking) are different from other EU budget programmes in the sense that they do not fund stakeholder for their activities, but procure tangible assets (e.g. satellites, ground systems). It leads to the EU owning assets, operating space systems, and providing services, which is unique for the Commission. In relation with the EU space programmes, international agreements are concluded with international organisations (e.g. European Space Agency, EUMETSAT) and third countries (e.g. Norway, Switzerland).

Regulatory and enforcement activities are limited to the implementation of the Defence Procurement Directive and the Transfer Directive, which were set up as relevant guidelines in order to establish an EU framework in this area.

In addition, DG DEFIS implements actions through a series of 'soft policy tools', such as the actions committed to under the Commission's European Defence Action Plan of 2016 or in the respective space components' related legal framework. These relate to supporting space and defence Small and Medium-sized Enterprises (SMEs) to access cross-border defence supply chains or to benefit from the support to space start-up through the Cassini initiative, sharing best practices through the European Network of Defence-related Regions (ENDR) or the Network of Copernicus Relays that support strategic cooperation between key stakeholders, and encourage the use of existing EU programmes and tools designed to foster new skills, retraining, and reskilling in the space and defence industry, and access other EU budget programmes.

Policy co-ordination activities of DG DEFIS are relevant in four areas: (i) space policy, (ii) aeronautics, and (iii) military mobility and (iv) countering hybrid threats.

DG DEFIS will be seeking synergies between space, security and defence at various levels (technology level, system level, etc.), in different domains (satellite navigation, earth observation, etc.) and through different tools (standards, funding programmes, etc.). Since the common denominator is the Industrial Strategy, DG DEFIS will be looking into possible actions for synergy and contribute to an Action Plan that is foreseen by the Industrial Strategy Communication.

## **Management modes of the spending programmes**

### **Horizon 2020/Horizon Europe**

Horizon 2020 is the largest multinational support programme for research and innovation in the world with a total budget close to EUR 80 billion. Horizon Europe is the follow-up programme to Horizon 2020 for the period 2021-2027.

The management of the Horizon 2020 programme is shared among a number of services, coordinated by DG Research and Innovation. DG DEFIS is responsible for the implementation of the Space part, with a budget of EUR 1.7 billion, consisting of:

1. actions furthering the **competitiveness of the EU space sector**, including critical technologies, In-orbit Demonstration and Validation activities, and support to space science.
2. actions in preparation of development and evolution of the **EU Space Programme components** (Galileo, EGNOS, Copernicus, SST, GOVSATCOM)
3. actions in support of **user take-up of space-enabled services**, such as downstream applications, and data systems for Copernicus.

The implementation is shared between the Research Executive Agency (REA) (direct management) and under indirect management the European GNSS Agency (GSA) and the European Space Agency (ESA). GSA focusses on the implementation of Galileo and EGNOS downstream applications and security-related actions, and ESA focusses on technology development for evolutions for Galileo and EGNOS, and for In-orbit Demonstration and Validation activities.

Under Horizon Europe this implementation structure for space will largely continue, although the direct management part will be implemented by the European Digital, Small and Medium Sized Enterprises and Health Executive Agency in order to align it with the new structure where space is part of a larger cluster.

## **EU Space Programme**

In 2018, the Commission proposed a single EU Space Programme for the period 2021-2027. It will contain all current space programmes (Galileo/EGNOS and Copernicus), as well as two new components, Space Situational Awareness (SSA) and GOVSATCOM, and provisions to support autonomous, reliable and cost-effective access to space.

In addition, the programme envisages actions in support of an innovative and competitive Union space sector and to promote the uptake and use of the data, information and services provided by the Programme's components.

The programme will be implemented in a mix of direct and indirect management. The Space Programme Regulation foresees the implementation of a tri-partite Financial Framework Partnership Agreement between the Commission, EU Agency for the Space Programme (EUSPA) and European Space Agency (ESA), which will provide the legal framework for specific contribution agreements covering both the Space Programme and Horizon Europe budget.

### **Galileo and EGNOS**

Galileo provides global navigation, positioning and timing information. EGNOS enhances the performance of global satellite navigation systems over Europe and neighbouring regions.

Galileo and EGNOS are implemented by both direct and indirect management, with indirect management entrusted to the European Space Agency (ESA) and the European GNSS Agency (GSA).



## **Copernicus**

Copernicus uses Earth observation data from EU satellites and contributing missions, as well as in-situ data, to provide timely and reliable added-value information and forecasting. It is implemented through both direct and indirect management. The indirect management is provided by a range of agencies and bodies, including the European Space Agency (ESA) and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) for the development and operations of the space component, and the European Environment Agency (EEA), FRONTEX, EMSA, SATCEN, the European Centre for Medium-Range Weather Forecasts (ECMWF) and Mercator Océan for the provision of services.

## **Space Situational Awareness and GOVSATCOM**

Under the new Space Programme Regulation two new components will be developed.

Space Situational Awareness (SSA) will contribute to avoiding collisions, uncontrolled re-entry and monitor fragmentation (Space Surveillance and Tracking), and other space hazards (Space Weather and Near Earth Objects). Space Surveillance and Tracking (SST) is the most important part, and will inherit initial services provided by the EUSST Support Framework<sup>6</sup> - through a consortium of eight Member States in collaboration with SATCEN, funded by grants in direct management with budget from Horizon 2020, Galileo, and Copernicus.

GOVSATCOM will provide reliable, secure, and cost-effective satellite communication services for EU and national public authorities managing security critical missions and infrastructures. The underlying secure satellite communication capacity and services will be provided by Member States and by security-accredited commercial private companies, while future space assets could be developed after 2024. A current Preparatory Action of EUR 10 million is ongoing, with both direct and indirect management with the GSA.

## **European Defence Fund**

In 2018, the Commission adopted a proposal for a European Defence Fund (EDF) for the programming period 2021-2027. The fund will include grants, out of which part to finance collaborative research projects, and part to finance collaborative development projects. These cooperative projects have to be carried out by consortia of legal entities from at least three member States. The Commission will implement the Fund in direct management, whilst in duly justified cases, it may decide that specific parts of the implementation projects can be indirectly managed.

## **European Defence Industrial Development Programme**

The European Defence Industrial Development Programme (EDIDP) was adopted in July 2018 for a two-year duration 2019-2020. It aims to support the competitiveness and innovative capacity of the EU defence industry through grants in direct management,

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<sup>6</sup> Established by the Decision of the European Parliament and the Council n°541/2014/EU with the general objective to contribute to the protection of European and national space infrastructures from space debris.

specifically in the development of prototypes, by supporting development projects jointly carried out by companies from at least three Member States.

### **Preparatory Action on Defence Research**

The Preparatory Action on Defence Research (PADR) for the period 2017-2019 provides grants for collaborative research projects. The implementation is largely entrusted to the European Defence Agency in indirect management, and partly in direct management by DG DEFIS. Although the last calls have been concluded, the resulting projects and their management will continue well into the 2020-2024 period.

### **Key Stakeholders**

The EU space and defence programmes act as enablers for a wide range of EU policies, including climate, environment, security, and mobility. As a consequence, good collaborations exist between DG DEFIS and other services such as DG HOME, DG AGRI, EEAS, DG EAC, DG CLIMA, DG CNECT, DG ENVI, DG DEVCO, DG ECHO, DG JRC, DG MARE, DG TAXUD and DG MOVE. A close coordination exists with DG GROW and DG CNECT because, together with DG DEFIS, all three carry out part of the portfolio under Commissioner Breton's responsibility. For the research actions, DG DEFIS closely collaborates with DG RTD. On aeronautics a close collaboration exists with DG MOVE, responsible for regulating aviation. A special and long-term relation exists with DG JRC, active in operational research for Galileo and Copernicus. In addition, the relation with EEAS and SG is crucial for aspects relating to the Common Security and Defence Policy, such as the Foreign Affairs Council Defence.

For DG DEFIS the close interaction with EU Member States is essential. Member States are not only co-decision makers, as well as partners in the implementation. They are also important users, and sometimes suppliers of the services of the EU space programmes. Member States are also users and sometimes co-financers of the products and technologies developed through the defence fund, and overall are major customers of the aerospace and defence industry.

In the European Parliament, the most relevant fora for DG DEFIS are the Committee for Industry, Research and Energy (ITRE) and the Subcommittee for Security and defence (SEDE). Some files fall under the remit of other parliamentary committees, for example Galileo currently falls under the Transport Committee.

DG DEFIS is the parent DG of the European GNSS Agency (GSA), a regulatory agency located in Prague, which also carries out a large part of the budget implementation for Galileo and EGNOS in indirect management. From 2021 onwards, the mandate of this Agency will be partly extended to all components of the EU Space Programme, and will be renamed to the EU Agency for the Space Programme (EUSPA). In addition, DG DEFIS works closely with other Commission decentralised agencies, which in many cases are also entrusted with budget implementation tasks for Copernicus.

DG DEFIS works closely with two Council agencies, the European Defence Agency (Brussels) and the EU Satellite Centre (Madrid), which are both entrusted with budget implementation

tasks for DG DEFIS in the area of space and defence. Another stakeholder is OCCAR, (Organisation Conjointe de Coopération en matière d'Armement / Organisation for Joint Armament Co-operation), which is an international organisation managing cooperative defence equipment programmes.

For Space, a special and long relation exists with the European Space Agency (ESA), an international intergovernmental organisation, with partly overlapping Member States membership (Norway, Switzerland, and the United Kingdom are members of ESA, but not of the EU). The relation between the Union and ESA is governed by a Framework Agreement of 2004. In the MFF 2014-2020, ESA is entrusted with a significant budget for the development and implementation of the space component of the EU Space Programmes.

All programmes implemented by DG DEFIS rely on and involve the aerospace and defence industry, either by funding for research, development and innovation, or by public procurement of extensive space systems for the EU space programmes. Therefore, the European space and defence industry and research institutes are important stakeholders. The Aerospace and Defence Industries Association of Europe (ASD) – and its space group Eurospace are the main representatives of industry, together with the smaller SME4Space association. DG DEFIS set up and now coordinates the Network of Copernicus Relays and the Galileo Info Centres that gather hundreds of stakeholders at regional level within the Union and in third countries, whose role is notably outreach and to maintain a direct channel of communication with local economic players.

DG DEFIS, in collaboration with DG SG and EEAS, also maintains contacts at technical level with the North Atlantic Treaty Organization (NATO) where this relates to defence-related activities under its responsibility, such as R&D and countering hybrid threats.

## C. Strategy

The Strategy of DG DEFIS is expressed through five Specific Objectives relating to the work of DG DEFIS, with outputs contribution to four different General Objectives for this mandate. As shown in Figure 2, DG DEFIS' Specific Objectives contribute to several general objectives. The enabling, cross-cutting nature of DG DEFIS' actions are characteristic for this DG. For each Specific Objective the steps by DG DEFIS towards achieving the objective are outlined, and a limited number of measurable result indicators have been selected (see Annex 1). Results will mainly be achieved by the implementation of the Space and Defence Industry Programmes. The ex-post evaluation of the existing programmes, and the mid-term evaluation in 2024 of the upcoming programmes will be important better regulation milestones for DG DEFIS.

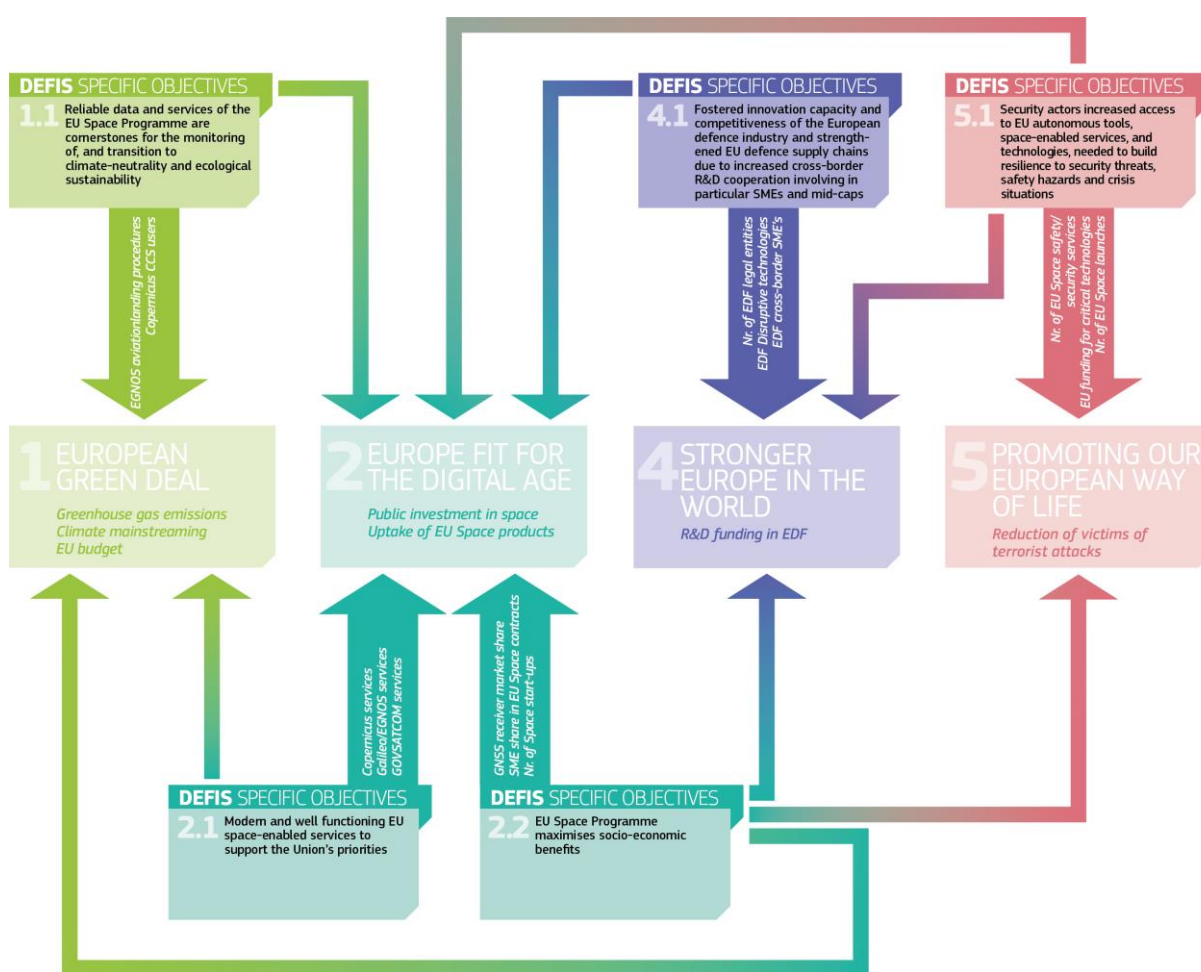


Figure 2 Schematic representation of the Intervention logic of DG DEFIS, corporate level Impact Indicators are indicated below the General Objectives in italic, and DEFIS level Result Indicators are indicated italic in the arrows.

## General objective 1: A European Green Deal

The Green Deal hinges on two complementary elements: 1) the capability to set and deliver global climate and sustainability targets by monitoring the environment, and 2) transforming everything we do to a more climate neutral and sustainable society. The EU Space Programmes offer many opportunities to enable the European Green Deal's implementation, based on sound scientific data, providing key products, information, maps and datasets to drive the necessary transformations and environmental compliance assessments.

The Union had the foresight 20 years ago to develop the **world-leading environmental monitoring system: Copernicus**. With key data and information from its satellites, the Sentinels, and through its six thematic services dedicated to the three subsystems of the Earth, Land, Atmosphere and the Oceans, Copernicus informs and supports a wide range of policies in the environmental domain. This is a strategic asset for the European Green Deal.

In addition, **green downstream services and applications** of Galileo, EGNOS and Copernicus enable a wide range of actors throughout the economy and society to change towards a more climate neutral and sustainable way. Over this mandate, DG DEFIS ensures that the EU Space Programme increasingly contributes to the overall efforts for an EU Green Deal, and makes sure that the targeted community and society at large is aware of the contribution of EU space data and information through a range of communication efforts.

### 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 main policy output of DG DEFIS for the European Green Deal will consist of operational space enabled services which directly or indirectly, and in a cross-cutting way contribute to achieving the objectives of the Green Deal. To ensure that the EU is on track towards achieving the EU 2050 climate-neutrality and ecological sustainability objectives it is important to rely on robust and reliable European monitoring data. Systematic Earth observation data gathering, as well as modelling provided by Copernicus services, is used in order to provide necessary information to the Commission, Member States, and all actors involved in the green transition.

At the **global level**, Copernicus contributes to the data body used to track the trends in achieving the UN Sustainability goals (Land and marine environment monitoring services), to support the UN Paris Climate Agreement on curbing climate change (Atmosphere Monitoring and Climate Change services), or to support international actors in responding to natural disasters (Emergency Management service). At the **European level**, the Copernicus support a number of EU policy areas, such as environmental monitoring, biodiversity policy, energy policy, climate mitigation and adaptation policy. EU Member States and Copernicus

participating states benefit from the Copernicus data and information products for the implementation of national or regional policies in the bespoke policy areas.

The most significant improvement expected for this mandate is in the area of greenhouse gas monitoring. While the Copernicus Atmosphere Monitoring service already provides data on the overall concentrations of carbon dioxide or methane, the resolution is insufficient to fully support the implementation of the UN Paris Climate Agreement. The Commission has proposed to put in place a “CO<sub>2</sub> Mission”, a small constellation of three dedicated satellites and the complementary enhanced capacity for modelling and data assimilation by end of 2025. This initiative is coordinated with international partners within the appropriate frameworks, such as CEOS (Committee on Earth Observation Satellites), CGMS (Coordination Group for Meteorological Satellites), WMO or the UNFCCC secretariat. This CO<sub>2</sub> mission will be a game changing tool to monitor and assess the impact of climate policies. Other potential relevant evolutions are related to monitoring Polar Regions, specifically concerning sea ice/floating ice concentration and surface elevation, monitoring agriculture, specifically on parameters which potentially could be addressed through thermal infrared and hyperspectral observations.

The main decision point for the Copernicus CO<sub>2</sub> mission is in 2021. The constellation of three CO<sub>2</sub> Mission satellites will be developed, launched and operated and the corresponding service will be deployed in the frame of the existing Copernicus Climate Change Service. Hence, the **Result Indicator on the number of users of the Copernicus Climate Change Service**. Pending the availability of funding, other additional Sentinel missions and service evolutions will be implemented at a slower pace to match the budget profile available to the Copernicus component.

The possibilities for space-enabled services and applications based on Galileo, EGNOS and Copernicus to support the green transition are endless, and also link to the digital transformation, because such applications are typically digital (Figure 2). As a few examples:

- Galileo-based navigation, combined with Copernicus information on currents can support ship routing services allowing fuel savings resulting in less emissions.
- In agriculture the use of satellite navigation for precision farming optimises the use of fertilisers and other chemical inputs, leading to decrease in quantities used but also to improvements in the agronomic performance of farms.
- Galileo and EGNOS are at the core of smart transport solutions in smart cities, contributing to reduction of CO<sub>2</sub> emissions.
- In the domain of forestry, space data provides solutions to identify forest types, detect changes, map and monitor clear-cuts and assess forest density and health.
- Greening air transport can make an important contribution to the climate neutrality objective. Using EGNOS for more efficient definition of flight routes for all phases of flight permits reduced fuel burn and reduced CO<sub>2</sub> emissions. Today, more than 360 airports in 23 European countries use EGNOS. This number will significantly increase, as performance-based navigation will be required at European airports by 2024. By 2030, performance based navigation approach procedures are to be the

primary means of navigation. The **Result Indicator is based on the number of EGNOS-based precision approach procedures**, indicative of the number of efficient flight routes that require less fuel and in this way contributes to lowering the CO<sub>2</sub> emissions.

The combined use of Earth observations provided by Copernicus and satellite navigation services provided by Galileo and EGNOS enable value added services for users in many different sectors and markets across the globe. They thereby contribute to the achievement of the United Nation's Sustainable Development Goals.

Communication actions targeting relevant stakeholders will be implemented in order to foster awareness about the role of the EU Space programme in achieving the Green Deal objectives, by providing concrete examples of existing and potential benefits. It will aim at strongly supporting the uptake of the EU Space Programme data and services by potential communities of new users active in the green transition. The EU Space Programme will also be further promoted in international fora as well as in mass media in this regard.

DG DEFIS will actively contribute to policy initiatives of the Green Deal, such as the European Climate Law, the Biodiversity Strategy, the Farm to Fork Strategy, the Circular Economy Action Plan, and the Industrial Strategy.

## General objective 2: A Europe fit for the digital age

The general objective "A Europe fit for the digital age" is at the core of DG DEFIS' work (see Figure 2). In particular, DG DEFIS contributes to strengthening our technological leadership and strategic autonomy in the key industrial ecosystem Aerospace and Defence and through all concerted actions (Space Programmes, European Defence Fund, Horizon Europe), and ensure the cross-fertilisation between civil, defence and space industries.

Space is a key enabler for digital innovations, such as autonomous vehicles, Artificial Intelligence, and connectivity. The services and data provided by the space infrastructures Galileo, EGNOS, Copernicus, Space Surveillance and Tracking, and in the future GOVSATCOM, for which DG DEFIS is responsible, are essential in the digital transformation. Although the actual space activities constitute only a small part of our economy, between 6 and 9 % of Europe's Gross Value Added<sup>7</sup> depends in one way or another on space-enabled services. Space is therefore of considerable and growing benefit to the European economy and contributes in a cross-cutting way to most General Objectives of the Commission (Figure 2).

The contribution of DG DEFIS to the objective "A Europe fit for the digital age" can be captured in twin objectives: 1) optimise the provision of services from the EU Space

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<sup>7</sup><https://op.europa.eu/en/publication-detail/-/publication/e5450aac-0d4d-11e8-966a-01aa75ed71a1/language-en/format-PDF/source-133108136>

Programme, some of which are also relevant for defence, and 2) maximise the use of space-enabled services, and therefore maximise the benefits to our economy and society. This includes research and innovation actions under Horizon 2020 and Horizon Europe, and developing strong communication actions and contributing to such actions at corporate level in order to raise the public's understanding and visibility about the potential of space technologies and services to enabled Europe's digital transition.

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

The visible and usable output of the EU Space Programmes is provided in the form of accessible and free-of-charge data and services. Those services can only be provided if the entire space infrastructure, i.e. satellites, and launchers to get the satellites into orbit, and ground infrastructure, e.g. operations centres, ground stations to communicate with the satellites, etc., are all fully operational. In turn, the space and ground infrastructure are developed and built, and mostly also operated by space industry throughout the EU, with a major role for ESA and GSA acting as procurement agents. Thereby, the EU has become an important customer of the space industry. Without world-class EU space industry the space programmes could not exist. Horizon 2020 and Horizon Europe actions will therefore support the competitiveness and strategic autonomy of the EU space industry.

The provision of Copernicus services started in 2014 with the launch of the first Sentinel satellite. The Galileo services became operational in 2016 with the initial services declaration and improved with an updated performance commitment in May 2019. The SST service provision started in 2016.

The first objective is to ensure the continuity of the existing services, especially during the transition in governance towards the single EU Space Programme. In the upcoming five years the full operational capability will be reached for Galileo, and new services will be introduced for both Galileo and Copernicus. For Galileo, new services will include authentication and an increase of user accuracy to the level of two decimetres. In addition, a Galileo Emergency Warning Service will be developed.

The six Copernicus services will evolve to enable cross-service repositories, to ease the user access to key information on selected topics, such as biodiversity, health, coastal zones, Arctic, Energy, Sustainable Development Goals, cultural heritage, support to the UN Paris Climate Agreement, environmental compliance assurance, water management, extreme events, support to international development cooperation and the possible exploitation of synergies with DG CNECT initiatives, such as the Green Data Space or Destination Earth and the JRC initiative Knowledge Centre Earth have been initialised.

We will also see the introduction of two new components of the EU Space Programme, Space Situational Awareness (SSA) and GOVSATCOM. The secure satellite communication service of GOVSATCOM will be used in the areas of crisis management, border management, support to maritime or military specific operations and support to the management of key infrastructures. Under SSA the existing Space Surveillance and



Tracking service will continue, and will be complemented by a Space Weather Service (SWE) and a service related warnings for Near Earth Objects (NEO).

Based on the GOVSATCOM component in the Space Programme DG DEFIS (together with DG CNECT) will be working towards complementing the Union's satellite navigation (GALILEO/EGNOS) and Earth Observation programmes (COPERNICUS) with a third initiative: a novel multi-orbital satellite secure communication system. A secure and resilient global connectivity capability is Europe's own reply to geopolitical and cybersecurity threats and the compelling digitisation of the economy calling for a stronger Europe in the World.

In combination, the Union will be in the unique position to be able to provide space enabled services in all three main space domains: Earth observation, satellite navigation, and in satellite communications. Several of those services are designed as tools for security actors<sup>8</sup>, such as for example the Galileo Public Regulated Service. With the Space Situational Awareness, the Union also has an increasingly autonomous way to monitor and protects its space assets. This is a major and tangible contribution to the strategic autonomy and resilience of the Union.

Outputs will include the various Work Programmes (Copernicus, Galileo, Space Programme, Horizon 2020, and Horizon Europe).

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

Data and services derived from space systems, including satellite images, geo-positioning information and satellite communications, already contribute to a number of public policies and economic sectors: from environmental protection to transport safety, precision farming, control of fishery stocks, monitoring of shipping routes and detection of oil spills, civilian and military crisis management, to urban and regional planning. The potential areas of space data and services application are huge and they need to be even further explored to reap all possible benefits for the Union and its citizens.

Space is a driver for both public and private sector innovations, with a huge potential to leverage a flourishing downstream sector with an increasing number of users and developers of space-based applications.

DG DEFIS will encourage the use of space data, information and services in **EU policies** whenever they can provide effective solutions. DG DEFIS will liaise closely with other DGS to promote the use of EU space data in legislation. Already there are several pieces of EU legislation that explicitly refer to the use of Galileo and EGNOS, mainly in transport sector but also covering other sectors (e.g. telecom and agriculture). Particularly relevant EU policy areas include: European Climate Law, the Biodiversity Strategy, the Farm to Fork Strategy, the Circular Economy Action Plan, and the Industrial Strategy, compliance assurance (e.g. GreenData4All initiative, Destination Earth), supporting the automotive sector (connected cars), Security Union, industrial policy, SME strategies, the Union Civil Protection Mechanism,

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<sup>8</sup> Security actors is a general term that includes both civilian and military actors, i.e. civil protection, police, coast guards, law enforcement, military forces, etc.

Border Management, and intelligent transport systems (e.g. Smart and Sustainable Transport Strategy). **The market share of European companies in the overall GNSS market for receivers is at the same time an indicator of the market uptake of Galileo, and the competitiveness of EU receiver industry.**

An efficient data management for Copernicus coupled with efficient ICT tools will empower users (public authorities, businesses, general public) with the capacity to advance the European data economy and Artificial Intelligence. DG DEFIS will facilitate the use of Copernicus data and information by strengthening the data dissemination through Copernicus data and information services (DIAS).

In the private sector, DG DEFIS will support market uptake and the development of applications and value-added services such as navigation, geographical services, environmental monitoring and communications. The downstream sector of space is in particular a domain where SME's and start-ups across Europe are active.

To foster the development of innovative and competitive European upstream and downstream sectors, including small and medium-sized enterprises and start-ups, DG DEFIS will support the competitiveness of the whole supply chain and actors from industry to research organisations with actions under the Space Programme, Horizon Europe and the European Defence Fund.

DG DEFIS will improve access to risk financing for **space SMEs**, and in particular also **innovative start-ups**, and emerging business models. DG DEFIS will promote the emergence of a European "New Space" ecosystem to foster entrepreneurship. The new Space entrepreneurship initiative "CASSINI" will combine into a single toolbox the Horizon Europe, InvestEU and the Space Programme actions and will cover business incubation and acceleration, seed-funding and pre-commercial procurement.

**Relevant Result indicators are for the number of SME's in the Space Programme contracts, and the number of space start-ups supported via the Cassini initiative.**

These activities will be accompanied by awareness-raising activities to promote the benefits that the EU space programmes bring to millions of citizens and companies across Europe, and encouraging companies to use the space data and signals to develop innovative products and services. Get-together and networking activities will also be reinforced to facilitate the development of a strong market within the Union.

Both Copernicus and Galileo/EGNOS are **global systems with global reach** which makes the international dimension an essential component of the EU Space Programme. This implies a range of international engagements with third countries, international organisations and key partners, driven by reciprocity, operational needs, market opportunities, and geo-political considerations. DG DEFIS is working, in close cooperation with the EEAS, EU Delegations and other Commission DGs to drive forward coordinated actions in support of economic diplomacy and tailored market uptake activities that support the EU Space Programme on the global stage.

This includes numerous bilateral agreements and administrative arrangements in the field of Galileo, including the PRS (Public Regulated Service), EGNOS and Copernicus, standardisation<sup>9</sup> and interoperability activities, and participation in international and multilateral fora, such as the International Telecommunications Union (for frequencies), International Committee on GNSS, COSPAS-SARSAT, Group on Earth Observations (GEO), Committee on Earth Observation satellites (CEOS), relevant UN committees<sup>10</sup>, among others.

With support from the Foreign Policy Instrument (FPI) DG DEFIS will launch a Global Action on international outreach activities covering the period 2021-2023<sup>11</sup> to support space diplomacy and market uptake activities in strategically important international markets, opening new opportunities for the EU space industry and technology providers.

Specific actions will be planned in the various Work Programmes (Copernicus, Galileo, Space Programme, Horizon 2020, and Horizon Europe).

#### General objective 4: A stronger Europe in the world

Geopolitics is already having a profound effect on the lives of Europeans. The European defence sector is essential for Europe's future and finds a particular resonance in a geopolitical Commission. It plays a key role in ensuring the EU's strategic autonomy and its capacity to act as a security provider. The sector nevertheless faces challenges that put into question the preservation of its competitiveness and its technological edge: over more than a decade, defence spending by Member States has been subject to significant cuts that have particularly affected defence R&D. Furthermore, the costs of defence systems are rising and include a high proportion of R&D costs. These challenges and trends provide strong reasons for intervention at the EU level to foster collaboration, overcome fragmentation and foster the competitiveness and the technological sovereignty of the European defence industry.

EU actions in the domain of defence research and development, through the European Defence Fund and its precursor programmes, the European Defence Industry Programme, and the Preparatory Action for Defence Research, are coherent with actions for defence capability development at Member State level, such as the Permanent Structured Cooperation (PESCO), which are coordinated by EEAS.

In the domain of space, International cooperation enhances the Union's capacity to monitor implementation of global agreements such as the UN Paris Climate Agreement and the UN Sustainable Development Goals, which has an intrinsic value to the EU in terms of the EU as a global actor. In addition, the growing use of Copernicus data by the international

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<sup>9</sup> SWD(2019) 454 final

<sup>10</sup> For example, UN COPUOS

<sup>11</sup> EUR 6 million funded through the EU Foreign Policy Instrument (FPI).

scientific community (e.g. organisations like WMO, UNIPCC, UNEP, etc.) reinforces the EU's weight and reputation in international climate change talks and negotiations.

#### **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**

The European Defence Fund and its precursor programmes, aim to contribute to overcome fragmentation, and foster competitiveness by supporting at EU level both collaborative defence research and development actions. This will help build an integrated defence industrial base across the EU, fostering open and dynamic supply chains that include SMEs and new entrants. The Fund will enhance the competitiveness, efficiency and innovation capacity of the European defence technological and industrial base, which contributes to the Union strategic autonomy and freedom of action. Furthermore, by requiring common technical requirements, it will improve interoperability of developed products and technologies for the Member States, which are the end-users.

**Result indicators for DG DEFIS on the number of entities, SME's and mid-caps, and the funding of disruptive technologies** reflect the objective to implement the European Defence Fund in an inclusive manner, fostering technological innovation.

Specific actions will be planned in the various Work Programmes of the Defence industry programmes.

DG DEFIS coordinates, in close cooperation with DG MOVE, the implementation of the Action Plan on **military mobility**. DG DEFIS will ensure the definition, the implementation and the coordination of communication activities related to the Commission's role for the development of a strong European defence industry. Close relation will be developed with the European Defence Agency, the EU Member States, and EEAS to ensure smooth coordination of defence-related communication campaigns.

#### **General objective 5: Promoting our European way of life**

The European way of life is built around values of solidarity, equality, and fairness, supporting the most vulnerable in society, and championing inclusion. It is preconditioned by feeling safe and secure, and having peace of mind. It is about sufficient stability, and sufficient buffers for citizens and businesses to take economic risks leading to innovation and entrepreneurship in one of the greatest EU assets, the internal market. It is therefore about building stronger, more cohesive, and more resilient European societies.

#### **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 recent years, new safety and security threats have emerged. These threats are increasingly cross-border and cross-sectorial (e.g. cybercrime, coronavirus pandemic terrorism, natural disasters related to climate change), highlighting the need for closer cooperation, and better use of our common or shared tools and capabilities. To respond to such threats crisis situations, security actors, such as civil protection, police, border management actors, law enforcement, and military forces, need a range of tools and services. For those security sensitive tools and services Europe should not be dependent on third countries, or their entities. This is equally the case for their underlying data and technologies, such as reliable Earth observation data, satellite navigation, and secure communication.

The EU Space Programmes Galileo and Copernicus are excellent examples of EU initiatives, developed with amazing foresight 20 years ago, which have now resulted in autonomous EU level infrastructures which provide services directly relevant to resilience, safety, and security, including dual-use applications.

The Coronavirus pandemic, and the ensuing crisis with its cascading effect in health, economy, supply chains, transport, border management, safety, and security, have revealed vulnerabilities that have been insufficiently addressed. For European societies to better withstand shocks of whichever nature, it is essential to master the critical elements needed to prepare, withstand, and recover. Although safety and security are national prerogatives, the most effective tools are European, or need strong EU coordination.

As the pandemic crisis has highlighted, a sufficient level of self-sufficiency and autonomy of action are essential ingredients of resilience. The crisis has also shown that all segments of society can be affected, and that therefore resilience needs a full government response: all level of governance (EU, Member States, regional), partnerships with strategic industry, and capitalising on synergies between civilian and military technologies.

DG DEFIS contributes to building resilience, safety and security in many forms:

- 1) The EU space infrastructures already play a major role in providing safety and security, but during the coming five years the **safety and security-related space-enabled services** will increase as provided in the EU Space Programme Regulation. Such services play a role in a wide range of settings, for example in emergency and disaster management and in EU civilian and military crisis management missions and operations, protection of critical infrastructures, in personal safety (eCall, Search and Rescue), border management, and law enforcement. The security actors using such space-enabled services are equally diverse, and include both civilian and defence actors. The number of such safety and security related services is therefore an impotent result indicator. The first steps to such services in the next years are
  - a. the full operational capability of the Galileo Public Regulated Service
  - b. an impact assessment on the possible use of Galileo for timing and synchronisation of critical infrastructures
  - c. the implementation of GOVSATCOM, targeting first services in 2024
- 2) **EU access to space** is central to EU strategic autonomy, to implement the EU space policy and programme and support EU space industry. The EU has been supporting the

European launch industry as an anchor client, R&D and risk finance provider. The Space Strategy for Europe identified the need for autonomous, reliable, and cost effective access to space. Access to space underpins all space activities, and it is therefore essential to master the technology and operational capability to launch satellites. The EU Space Programme Regulation reflects this need by promoting the procurement and aggregation of EU launching services and development of space launch technologies and systems for the needs of the EU Space programme. The Commission will seek to conclude a framework contract aggregating EU institutional launch demand, as key tool to implement the EU industrial policy and strengthen the EU strategic autonomy, in line with the EU Industrial Communication and the EU recovery plan.

- 3) The new industrial strategy for Europe<sup>12</sup> calls for reinforcing **Europe's industrial and strategic autonomy**. In the Recovery Package of May 2020<sup>13</sup> this is now mirrored in the new InvestEU<sup>14</sup> strategic European investment policy window, and the Recovery and Resilience Facility for Member States, which can among others support aerospace and defence. The **aerospace and defence ecosystem** is hard-hit by the crisis, not least because Member States budgetary situation may not allow for major investments needed in the coming years. The industrial ecosystem, and the objective of reinforced strategic autonomy both benefit from full chain EU level support to **dual-use critical technologies, and from R&D** (Horizon 2020/Horizon Europe) at component level to the implementation of complex systems. Other policies, such as screening of Foreign Direct Investment, and the systematic mapping of industrial supply chains are also instrumental in enhancing strategic autonomy.
- 4) DG DEFIS is coordinating, jointly with EEAS, the Commission policies and initiatives relevant to the EU response to **hybrid threats**, and works with DG HOME and DG CNECT on more general security policies, such as the Security Union, and Cyber Security.
- 5) A key element to protect key EU and national assets is to offer critical infrastructures a ubiquitous channel for secure communications. The Commission is working with Member States to put in place a **secure end-to-end connectivity system using quantum infrastructure, terrestrial and space-based**, in combination with the **secure governmental satellite communications** system laid out in the Space Programme regulation. Digital technologies and standards (5G) will be enhancing the Union's resilience and autonomy.
- 6) A number of activities linked to education and skills, in particular on Science, technology, engineering, and mathematics subjects, are being pursued in the frame of **the Blueprint for Sectoral Cooperation on Skills**, with the objective to ensure sufficient expertise in Europe to maintain technological strategic autonomy in space and defence

Although many of the DG DEFIS actions serve to strengthen the resilience, safety and security in the Union, this should not be seen as a weakening of the international and multi-lateral ties and commitments. Rather the opposite: a strong and capable Union will be a

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<sup>12</sup> COM(2020) 102 final

<sup>13</sup> COM(2020) 456 final

<sup>14</sup> COM(2020) 403 final

better partner to its allies and neighbours, and will be in a better position to ensure open and fair trade.

When communicating with citizens, the benefits of the EU Space Programmes for safety and security, i.e. the Union that protects, will be highlighted.

Actions will be implemented by a mix of instruments including Security Union Strategy, Civil Protection Mechanism, Pact for Skills, the European Defence Fund and the Horizon Europe for R&D actions, the Space Programme, and action plans and annual reports on Countering Hybrid Threats.

## **D. Key performance indicators**

Proposed Key Performance indicators are (see Annex 1 for details):

1. The number of users of the Copernicus Climate Change Service
2. Availability, accuracy, and continuity of services provided by Galileo and EGNOS separately
3. Number of start-ups supported by EU space programmes, including CASSINI initiative and R&D actions
4. Number of legal entities supported by the European Defence fund
5. Number of operational safety and security (including dual-use) related services from the EU Space Programmes

In combination, those key performance indicators provide an indicative measure of the performance of DG DEFIS.



## **PART 2. Modernising the administration**

As a modern public administration, the Commission implements an internal control framework inspired by the highest international standards. The Commission's system covers all the principles of internal control identified in the Committee of Sponsoring Organizations of the Treadway Commission 2013 Internal Control framework, including financial control, risk management, human resource management, communication and the safeguarding and protection of information. DG DEFIS has established an internal control system tailored to its particular characteristics and circumstances and regularly assesses its implementation and overall functioning. This assessment is based on indicators, the most strategic of which are listed in this section of the strategic plan.

### **A. Human resource management**

To optimise the capacity to deliver on priorities in this strategic plan, the objective of DG DEFIS is to design, implement and monitor an effective local human resource strategy with a medium to long-term outlook (3–5 years) consistent with the overall corporate HR strategy by promoting lean processes and putting in place the right framework conditions. It will be based on the following core values: people enablement, improvement of working conditions, learning and development framework delivery.

#### **People enablement: talent management framework**

DG DEFIS strategy will focus on retaining its talents and enabling everyone to unlock their full potential. It will aim at matching the people's competencies and aspirations with corporate business needs. The DG DEFIS will focus on the workforce planning exercise, overseeing the talent management and allowing for a successful planning process within the DG. It will take in particular into account the specificities of the Space Sector and Defence Industry and the related skills and expertise needed to cope with these two domains. In accordance with the priorities set by the President of the Commission, the DG DEFIS will focus in particular on achieving the related gender equality targets for its middle management positions.

#### **Working conditions improvement**

Ensuring that people's efforts and commitment are supported by good working conditions will be one of the core values of the DG DEFIS HR strategy. The DG DEFIS will focus on ensuring the achievement of gender targets, allowing the staff and the middle management to properly deal with any potential conflict, overseeing the appraisal and promotion process. It will also focus on establishing a proper balance between the specific needs in terms of security requested by the defence industry and an efficient working environment. Taking into account the lessons learnt during the coronavirus crisis, DG DEFIS will ensure that the teleworking rules are efficient, effective and allow the staff to properly work and ensure a relevant balance between professional and personal life.

**Learning and development framework delivery**

The DG DEFIS will ensure that an effective framework of continuous education trainings is in place in the DG, ensuring the development of the necessary skills for the staff. It will define the training priorities and validate the content of specific courses or learning events prepared by the AMC, monitor and implement the learning and development budget to allow the development of soft and hard skills among the entire organisation. The focus will be in particular on the specific expertise in the fields of Space sector and Defence industry.

Objective: DG DEFIS employs a competent and engaged workforce and contributes to gender equality at all levels of management to effectively deliver on the Commission's priorities and core business

<b>Indicator 1: Number and percentage of first female appointments to middle management positions</b>	
<b>Source of data:</b> Commission Decision SEC(2020)146 of 1 April	
<b>Baseline (female representation in middle management)</b> NA	<b>Target<sup>15</sup></b> (Number of first female appointment to middle management position) by 2022 1 female HOU appointment out of 2 in total (50%)
<b>Indicator 2 : DG DEFIS Staff engagement index</b>	
<b>Source of data:</b> Commission staff survey	
<b>Baseline</b> 60% <sup>16</sup>	<b>Target</b> 2024 <b>70%</b>

**B. Sound financial management**

The final objective is to assure that the authorising officer by delegation has reasonable assurance that resources have been used in accordance with the principles of sound financial management and that cost-effective controls are in place which give the necessary guarantees concerning the legality and regularity of underlying transactions.

<sup>15</sup> The target will be reviewed for the period 2023-2024 by January 2023

<sup>16</sup> DG DEFIS was created end of 2019 by the transfer from DG GROW of Directorates I and J. The staff engagement index for these two directorates was 60% in 2018 and was taken as baseline for DG DEFIS.

Following the creation of the DG DEFIS, the Director General and its financial staff are responsible for the financial management and internal control of the DG DEFIS; in particular they are in charge of Risk Management and Internal Control (RMIC). The Control Strategy of the DG DEFIS was written in 2020, based on the EC Internal Control Framework adopted in 2017.

This Control Strategy takes into account the specific environment in which the DG DEFIS operates, which is characterised by a great variety of public and private stakeholders for direct management and entrusted entities for indirect management. As the majority of DG DEFIS budget is managed indirectly by entrusted entities, the challenge concerns mainly the supervision of these external entities, which support DG DEFIS in achieving its objectives. The adequate control measures have also been included in the Control Strategy considering the increasing weight of programmes under direct management in Defence

DG DEFIS will closely monitor its internal control system throughout the year via various control mechanisms. By following the principle of continuous improvement, any risks affecting the functioning of the internal control system will be addressed accordingly. Every year, for the preparation of the Annual Activity Report, DG DEFIS will assess the state of its internal control system according to the Internal Control Framework.

DG DEFIS will play an active role to allow a corporate common approach in financial management, using tools such as eProcurement and eGrants, the Public Procurement Management Tool (PPMT) as well as the management of expert groups (AGM, RegExp.). It will also install and use the proper IT tools which are necessary for the management of the new Defence Programmes, allowing to simplify the processes and increase the proper controls.

All the above actions and controls will allow DG DEFIS to manage adequately the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of the programmes as well as the nature of the payments concerned. The main control objective is to ensure that the estimated risk at closure is below 2% of the relevant expenditure (materiality threshold).

<b>Objective:</b> The authorising officer by delegation has reasonable assurance that resources have been used in accordance with the principles of sound financial management, and that cost-effective controls are in place which give the necessary guarantees concerning the legality and regularity of underlying transactions	
<b>Indicator:</b> Estimated risk at closure	
<b>Source of data:</b>	
<b>Baseline</b>	<b>Target</b> (2024)
Not applicable (DG DEFIS created on 1/1/2020)	Error rate < 2% of relevant expenditure

## C. Fraud risk management

The objective is to prevent, detect and correct the risk of fraud through the application of effective anti-fraud measures in line with the Commission's Anti-Fraud Strategy (CASF).

Following the creation of the DG DEFIS, the anti-fraud strategy of DG DEFIS will be elaborated in 2020. This strategy, further detailed in a specific manual, will be elaborated on the basis of the methodology provided by OLAF and will take into account the risks identified in previous years by DG GROW for the Space and Copernicus activities. This strategy and its dedicated manual is an important element to develop a strong anti-fraud culture within the Directorate-General: DG DEFIS will put a strong emphasis on ethics and fraud prevention by encouraging proportionate and targeted preventive ex-ante controls.

The DG DEFIS will ensure, through specific appointments that the actions identified in the strategy are implemented and will make the middle management regularly aware of the importance of this anti-fraud culture. It will also ensure that any recommendations from the IAS or the OLAF are properly implemented in time.

**Objective:** The risk of fraud is minimised through the application of effective anti-fraud measures and the implementation of the Commission Anti-Fraud Strategy<sup>17</sup> aimed at the prevention, detection and correction<sup>18</sup> of fraud

**Indicator: Implementation of the actions included in DG DEFIS anti-fraud strategy over the whole strategic plan lifecycle (2020-2024)**

**Source of data:** DG DEFIS annual activity report, DG DEFIS anti-fraud strategy, OLAF reporting

<b>Baseline</b> (2018)	<b>Target</b> (2024)
Not applicable (DG DEFIS created on 1/1/2020)	100% of action points implemented in time

## D. Digital transformation and information management

DG DEFIS responsibilities under this area are to a large extent shared with the Directorate-General Internal Market, Industry, Entrepreneurship and SMEs (GROW). In order to reach economies and efficiencies on resources, a Memorandum of Understanding (MoU) was signed between DG DEFIS and DG GROW, applicable as from 1 January 2020. The objective of the MoU is to ensure business continuity in the two DGs with a smooth transition considering the most efficient use of existing staff resources, as well as the necessary synergies and efficiencies in terms of strategic horizontal services.

<sup>17</sup> Communication from the Commission 'Commission Anti-Fraud Strategy: enhanced action to protect the EU budget', COM(2019) 176 of 29 April 2019 – 'the CAFS Communication' – and the accompanying action plan, SWD(2019) 170 – 'the CAFS Action Plan'.

<sup>18</sup> Correction of fraud is an umbrella term, which notably refers to the recovery of amounts unduly spent and to administrative sanctions.

In the short term, and to carefully follow the implementation of the European Commission Digital Strategy<sup>19</sup>, a much closer cooperation will be established with the sister DGs under the Commissioner for Internal Market (DGs CNECT and GROW). In the longer run and if considered reasonable, sufficient resources shall be allocated to be able to devise and pursue a stand-alone and local DG DEFIS digital strategy.

With the support of DG GROW, DG DEFIS will secure operations of available EU tools under its responsibility. This concerns both operational IT tools, corporate tools, but also improvements of other existing corporate tools to fit the needs of DG DEFIS. Particular attention will be paid to the security of information due to the high sensitive nature of data in the fields of Space Sector and Defence Industry.

To ensure rigorous implementation of the data protection rules, DG DEFIS will in close cooperation with DG GROW, focus efforts on the following areas:

- increase awareness at all levels by DG DEFIS staff, focusing on the needs of every type of actor and on practical implementation;
- inform about the latest corporate developments;
- Improve internal processes in close cooperation with the Data Protection Office (DPO).

DG DEFIS will continue working on mapping the degree of implementation per Unit (to target awareness actions) and on ensuring that DEFIS IT systems comply with the data protection rules.

<b>Objective:</b> DG DEFIS is using innovative, trusted digital solutions for better policy-shaping, information management and administrative processes to forge a truly digitally transformed, user-focused and data-driven Commission		
<b>Indicator 1: Degree of implementation of the digital solutions modernisation plan<sup>20</sup></b>		
<b>Source of data:</b> [each service]		
<b>Baseline</b> (2018)	<b>Interim milestone</b> (20XX)	<b>Target</b> (2024)
Not applicable (DG DEFIS created on 1/1/2020)	[insert value]	[insert value]
<b>Indicator 2: Percentage of [a service's] key data assets for which corporate principles for data governance have been implemented</b>		
<b>Source of data:</b> [each service]		

<sup>19</sup> [https://ec.europa.eu/info/sites/info/files/file\\_import/digitally-transformed\\_user-focused\\_data-driven\\_commission\\_en.pdf](https://ec.europa.eu/info/sites/info/files/file_import/digitally-transformed_user-focused_data-driven_commission_en.pdf).

<sup>20</sup> The European Commission Digital Strategy (C(2018)7118) calls on Commission services to digitally transform their business processes by developing new innovative digital solutions or make evolve the existing ones in line with the principles of the strategy. At the beginning of the year N+1, the Solution Owner and IT Investments Team will assess the progress made on the basis of the proposed modernisation plan. For each of the 3 solutions, a table will reflect – per principle - the progress achieved during the last year.

<b>Baseline</b>	<b>Interim milestone</b> (2022)	<b>Target</b> (2024)
Not applicable (DG DEFIS created on 1/1/2020)	50%	80%
<b>Indicator 3: Percentage of staff attending awareness raising activities on data protection compliance</b>		
<b>Source of data:</b>		
<b>Baseline</b> (2018)	<b>Interim milestone</b> (20XX)	<b>Target</b> (2024)
Not applicable (DG DEFIS created on 1/1/2020)	<ul style="list-style-type: none"> <li>- 50% of senior management attending awareness raising activities.</li> <li>- 50% of middle management attending awareness raising activities.</li> </ul> 50% of other staff attending awareness raising activities.	100% of staff

**E. Sound environmental management**

DG DEFIS will promote the EMAS corporate campaigns at local level and strive to identify local environmental actions in order to support the Commission’s commitment to implement the objectives of the Green Deal for its own administration, including becoming climate neutral by 2030.

For this purpose, DG DEFIS will appoint an EMAS correspondent (ECOR) who will deal with the promotion of the EMAS corporate campaigns and work closely with the Director General for the implementation of the Green Deal measures within the DG DEFIS.

In particular, two campaigns that are organised on a yearly basis by the corporate EMAS will be promoted:

- Resources’ efficiency/ sustainable@work;
- Waste Reduction/Suppression of single-use items.

The ECOR will set-up a DG DEFIS network and participate in cross-DG working groups to feed into future initiatives. Campaigns will be handled in close partnership with OIB and DG GROW, with which DG DEFIS shares its building.

In accordance with the overall corporate strategy, and taking into account the lessons learnt during the coronavirus crisis, DG DEFIS will set-up specific guidelines to promote measure to rationalise the number of missions, limit the number of staff per mission and increase the use of videoconferencing tools.

## F. Sound security of information

The objective is to ensure sound security of information, by preventing the risk of unauthorised disclosure of information to the public, a third party or a third country, as well as detecting its occurrence and mitigating the impact.

DG DEFIS handles a significant amount of sensitive and classified information. This information can be used against the interest of the Commission, and therefore needs to be protected.

For that purpose, a set of actions are conducted, in particular with consolidated security procedures, systematic vetting and training<sup>21</sup>. The aim is that all DG DEFIS staff have a Personal Security Clearance, and that the physical security situation of the building (Breydel) is enhanced.

DG DEFIS will ensure that the actions identified are implemented and will make the senior management regularly aware of the security status in the DG. It will also coordinate with HR.DS so that the actions fit in the overall Commission Security Framework.

<b>Objective:</b> DG DEFIS is ensuring a high level of protection of the sensitive and classified information it manages		
<b>Indicator 1: Percentage of staff holding a Personal Security Clearance</b>		
<b>Source of data:</b> LSO database		
<b>Baseline</b> (2018)	<b>Interim milestone</b> (2020)	<b>Target</b> (2024)
Not applicable (DG DEFIS created on 1/1/2020)	95%	100%
<b>Indicator 2: number of security incidents detected versus number of transfers of EUCI (on a yearly basis)</b>		
<b>Source of data:</b> LSO database, RCO database		
<b>Baseline</b> (2018)	<b>Interim milestone</b> (2021)	<b>Target</b> (2024)
Not applicable (DG DEFIS created on 1/1/2020)	Less than 1 per 1000	Less than 1 per 2000
<b>Indicator 3: percentage of staff completing awareness and training plan for security</b>		
<b>Source of data:</b> awareness and training plan		

<sup>21</sup> The awareness and training plan remains to be established by September 2020 by the Security Task Force and Unit 02.

<b>Baseline</b> (2018)	<b>Interim milestone</b> (2021)	<b>Target</b> (2024)
Not applicable (DG DEFIS created on 1/1/2020)	50% of senior management 50% of middle management 50% of other staff	100% of staff



## Annex 1 Performance tables Part 1

General objective 1: A European Green Deal		
<b>Impact indicator 1: Greenhouse gas emissions</b>		
<p><b>Explanation:</b> This indicator measures man-made emissions of the so-called ‘Kyoto basket’ of greenhouse gases, which are integrated into a single indicator expressed in units of CO<sub>2</sub> equivalents using each gas’ global warming potential. It shows changes in percent of the emissions compared to 1990 levels</p> <p><b>Origin of the indicator:</b> Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action; EU Sustainable Development Goal indicator</p> <p><b>Source of the data:</b> European Environmental Agency (Eurostat online data code: sdg_13_10)</p>		
Baseline (2017)	Interim milestone (2020)	Target (2030)
-20.7%	-20%	-55%
<b>Impact indicator 2: Climate mainstreaming in the European Union budget</b>		
<p><b>Explanation:</b> Proportion of climate related spending (mainstreaming) in the EU budget</p> <p><b>Origin of the indicator:</b> Commission proposal for the 2021–2027 Multiannual Financial Framework</p> <p><b>Source of the data:</b> European Commission Draft Budget Reports</p>		
Interim milestone (2018)	Interim milestone (2022)	Target (2024)
25%	25%	25%

<p><b>Specific objective 1.1: Reliable data and services of the EU Space Programme are cornerstones for the monitoring of, and transition to climate-neutrality and ecological sustainability</b></p>	<p>Related to spending programme(s): Copernicus, EGNSS, EU Space Programme</p>	
<b>Result indicator: Number of users of the Copernicus Climate Change Service</b>		
<p><b>Explanation:</b> The Copernicus Climate Change service provides access to several climate indicators (e.g. temperature increase, sea level rise, ice sheet melting, warming up of the ocean) and climate indices (e.g. based on records of temperature, precipitation, drought event) for both the identified climate drivers and the expected climate impacts. The uptake by registered users of the Copernicus Climate change service data and products, supplies an indication of the growing involvement in designing and developing models and projects to face climate change. This will include data from the future CO<sub>2</sub> Mission to be developed. These data are essential for civil society, industry, and education bodies to adopt the right environmental actions and answers. They encompass land, ocean, and atmosphere data ( including CO<sub>2</sub> observations).The registered users have a relay function for the wider scientific, academic, political, administrative and professional sectors.</p> <p><b>Source of data:</b> ECMWF, <a href="https://climate.copernicus.eu/">https://climate.copernicus.eu/</a></p>		
Baseline (2019)	Interim milestone (2022)	Target (2024)

28 000	60 000	75 000
<p><b>Result indicator:</b> <b>Number of EGNOS-based precision approach procedures published (both APV-I and LPV-200)</b></p> <p><b>Explanation:</b> EGNOS Safety of Life service (SoL) is used in civil aviation for improving the flight routes. The indicator measures the number of EGNOS-based precision approach procedures in European airports.</p> <p><b>Source of data:</b> European Satellite Services Provider</p>		
<b>Baseline</b> (2020)	<b>Interim milestone</b> (20XX)	<b>Target</b> (2024)
695	increase	Increase, target 1000

## General objective 2: A Europe fit for the digital age

### Impact indicator 1: Public EU and EU Member States investments in space *[indicator is in GO an economy that works for people, but asked to move it to digital, since space is under GO digital]*

**Explanation:** This indicator measures public space expenditures by combining EU and EU Member State public programmes. In the space sector, public investment is indicative of the importance of the sector for the economy and for the use of space-enabled services by society at large (e.g. downstream economic operators, public services, scientific use)

**Origin of the indicator:** Related to the Communication 'Space Strategy for Europe' COM(2016) 705 final

**Source of the data:** Euroconsult report 2019 Profiles for government space programs

Baseline (2018)	Interim milestone (2022)	Target (2024)
€10 941 million	increase	increase

### Impact indicator 2: Uptake of space products from the European Space Programme<sup>22</sup>

**Explanation:** This indicator is measured in two parts: (1) the percentage of the EU population that have a Galileo enabled device and (2) the number of registered users downloading Copernicus data and information. Measuring the percentage of the EU population owning a Galileo enabled device provides an indicator of reliance on space infrastructure in everyday life. The number of users downloading Copernicus data and information for their further usage shows both the interest in Copernicus as well as the digital capacity and fluency of users to engage with digital data and media

**Origin of the indicator:** Space Programme Regulation; Copernicus Key Performance Indicators

**Source of data:** European Global Navigation Satellite Systems Agency; European Space Agency; European Organisation for the Exploitation of Meteorological Satellites; Copernicus Service entrusted entities

Baseline (part 1) (2019)	Interim milestone (2022)	Target (2024)
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<sup>22</sup> EU28 data. EU27 data not available.

Share of population with Galileo enabled device: 35% <sup>23</sup> (estimate) Number of registered users downloading Copernicus data and information: 300 000 <sup>24</sup>	Increase	Increase
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<b>Specific objective 2.1: Modern and well-functioning EU space-enabled services to support the Union's priorities</b>		Related to spending programme(s): Copernicus, EGNSS, EU Space Programme
<b>Result indicator: Reliability, availability and continuity, of Copernicus Services and data stream</b>		
<b>Explanation:</b> The access to Sentinel data is proof of the continuity of service operation that is guaranteed by ESA and reported regularly for each mission (Sentinel 1, 2, 3 etc.). The reliability and accuracy refer to the data quality, demonstrated by the repeated consultation of space data by a dedicated public i.e. registered users. The number of registered users are therefore indicative of all those elements.		
<b>Source of data:</b> ESA		
<b>Baseline</b> (2019)	<b>Interim milestone</b> (2022)	<b>Target</b> (2024)
300.000	350.000	400.000
<b>Result indicator: Availability, accuracy, and continuity of services provided by Galileo and EGNOS separately</b>		
<b>Explanation</b>		
The following notes relate to Galileo indicators:		
Note 1: Availability refers to the global availability of a Galileo-only positioning service.		
Note 2: Accuracy and availability refer to committed performance as published in the Open Service Definition Document (OS SDD).		
Note 3: Actual measured performance is significantly better, where availability is already well over 99% and Horizontal accuracy is better than 2m (95%) while Vertical accuracy is better than 3.2m (95%).		
<b>Source of data:</b> Galileo and EGNOS Programmes		
<b>Baseline</b> 2020	<b>Interim milestone</b> 2022	<b>Target</b> 2024
<u>Galileo</u> Galileo availability: 77% Galileo accuracy: Horizontal positioning accuracy <= 7.5m (95%), Vertical positioning		<u>Galileo</u> Galileo availability: 99.5% Galileo accuracy: Horizontal positioning accuracy <= 4m, Vertical positioning accuracy <=

<sup>23</sup> EU 27 data.

<sup>24</sup> Worldwide users.

<p>accuracy &lt;= 15m (95%)</p> <p>Galileo continuity: Not presently defined.</p> <p>EGNOS availability:</p> <ul style="list-style-type: none"> <li>• APV-I: Over 99% of the EU territories with more than 99% of availability.</li> <li>• LPV-200: over 90% of the EU territories with more than 99% of availability</li> </ul> <p><u>EGNOS</u></p> <p>EGNOS accuracy: Horizontal (95%): 2 m, Vertical (95%): 3 m</p> <p>EGNOS continuity:</p> <ul style="list-style-type: none"> <li>• APV-I: over 90% of the EU territories with better continuity than <math>5 \cdot 10^{-4}</math> / 15 sec.</li> </ul> <p>LPV-200: over 80% of the EU territories with better continuity than <math>5 \cdot 10^{-4}</math> / 15 sec.</p>		<p>8m</p> <p>Galileo continuity: Will be defined in the applicable issue of the OS SDD.</p> <p>EGNOS availability:</p> <ul style="list-style-type: none"> <li>• APV-I: Over 99% of the EU territories with more than 99% of availability.</li> <li>• LPV-200: over 95% of the EU territories with more than 99% of availability.</li> </ul> <p><u>EGNOS</u></p> <p>EGNOS accuracy: Horizontal (95%): 1.5 m, Vertical (95%): 2.5 m</p> <p>EGNOS continuity:</p> <ul style="list-style-type: none"> <li>• APV-I: over 95% of the EU territories with better continuity than <math>5 \cdot 10^{-4}</math> / 15 sec.</li> </ul> <p>LPV-200: over 85% of the EU territories with better continuity than <math>5 \cdot 10^{-4}</math> / 15 sec.</p>
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**Result indicator: Availability of GOVSATCOM services**

**Explanation:** First services of GOVSATCOM will be provided in the 2023–24 horizon. The target is to have a quick adoption from the participation governmental users and agencies. A proxy to evaluate the service uptake is the number of EU countries that request the service, and the communication capacity that is requested (unit of measurement and target to be defined).

**Source of data:** EUSPA annual market report on GOVSATCOM

Baseline (2020)	Interim milestone (2022)	Target (2024)
none	Testing phase, not yet fully operational	Number of countries participating: 27 Capacity requested: TBD

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

Related to spending programme(s): Copernicus, EGNSS, EU Space Programme

**Result indicator: Market share of the European companies in the overall global GNSS market (for receivers)**

**Explanation:** The global GNSS related revenues are accrued based upon revenues generated from shipments of GNSS components and receivers, as well as those from added-value service provision. The market share

analysis (% split of revenues per geographic area) is performed on the latest available financial information of the respective companies.

**Source of data:** European GNSS Agency, Market report

Baseline (2017)	Interim milestone (2021)	Target (2024)
27%	28%	29%

**Result indicator:** Share of SMEs established in the EU as a proportion of the total value of the contracts relating to the Space Programme

**Explanation:** Euro values in absolute and percentage terms of the contracts awarded to SMEs, across the whole EU Space Programme

**Source of data:** DG DEFIS, GSA, ESA accounting departments

Baseline (2019)	Interim milestone (2022) [please introduce an additional column if necessary]	Target (2024)
TBD (02)	+10% with respect to 2019	+8% with respect to 2022

**Result indicator:** Number of start-ups supported by EU space programmes, including CASSINI initiative and R&D actions

**Explanation:** Cumulated number of new companies started by individuals after participating to CASSINI activities (e.g. hackathons, mentoring, prize competitions, business acceleration) and/or by researchers being funded by R&D (e.g. spin offs of existing organizations).

**Source of data:** Contractors organising the activities and participating partners

Baseline (2019)	Interim milestone (2022)	Target (2024)
0	22	60

#### General objective 4: Stronger Europe in the world

**Impact indicator 1:** Value of research and development actions funded by the European Defence Fund

**Explanation:** The indicator measures the uptake of the European Defence Fund through the value of the collaborative defence research and development actions financially supported by the Fund.

**Origin of the indicator:** Based on the Regulation establishing the European Defence Fund

**Source of the data:** European Commission

Baseline (2019)	Interim milestone (2022)	Target (2024)
tbd	increase	increase

<b>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&amp;D cooperation involving in particular SMEs and mid-caps</b>		Related to spending programme(s): EDIDP, EDF
<b>Result indicator: Legal entities involved in EDF</b>		
<b>Explanation:</b> The indicator measures the outreach of the European Defence. The rate of increase will not be uniform over the period. Over the first years of the period, the number of unique participants will quickly increase. After this initial build-up period, the growth rate of the count of unique participants will slow down.		
<b>Source of data:</b> European Commission		
<b>Baseline</b> (2020)	<b>Interim milestone</b> (2022)	<b>Target</b> (2024)
0	increase	increase
<b>Result indicator: Proportion of budget of EDF dedicated to disruptive technologies</b>		
<b>Explanation:</b> Funding disruptive technologies is a game changer for defence. It is central to the competitiveness and innovation of the European defence industry, and to secure radical technological superiority. The EDF Regulation as it currently stands imposes that at least 4% and up to 8% of the financial envelope of the EDF shall be allocated to support R&D on disruptive technologies for defence.		
<b>Source of data:</b> European Commission		
<b>Baseline</b> (2020)	<b>Interim milestone</b> (2022)	<b>Target</b> (2024)
Where relevant historical data exists: Estimation will be based on the projects funded under the Preparatory Action on Defence Research (PADR) and the European Defence Industrial Development Programme (EDIDP). Where relevant historical data does not exist: baseline is 0.	4%	6%
<b>Result indicator: Share of EDF contracts awarded involving collaboration with to cross-border SME and mid-caps</b>		
<b>Explanation:</b> Ability of the Fund to open-up supply-chains across borders for SMEs and mid-caps		
<b>Source of data:</b> European Commission		
<b>Baseline</b> (2020)	<b>Interim milestone</b> (2022)	<b>Target</b> (2024)
Where relevant historical data exists: Estimation will be based on	increase	increase

the projects funded under the Preparatory Action on Defence Research (PADR) and the European Defence Industrial Development Programme (EDIDP). Where relevant historical data does not exist: baseline is 0.		

### General objective 5: Promoting our European way of life

#### Impact indicator 7: Victims of terrorist attacks

**Explanation:** This indicator measures the number of victims of terrorist attacks in the EU. Citizens consider security as one of their top concerns and terrorism continues to be a major threat to the security of Europeans and to their way of life. Data becomes available at year N+0.5

**Source of the data:** [The Europol Te-Sat report](#)

Baseline (2017)	Interim milestone (2022)	Target (2024)
32 people died as a result of terrorist attacks 157 people were injured	decrease	decrease

**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**

Related to spending programme(s): Space Programme, Horizon 2020/Europe

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

**Explanation:** The EU space infrastructures and their safety and security related services are powerful tools at the disposal of all EU security actors (police, border management, maritime surveillance, CSDP crisis management, civil protection, fire fighters and military forces) to further the protection of EU citizens and the resilience of its societies and critical infrastructures. The number security and safety related space services is planned in the current and future EU Space Programmes to be increased in the coming years. Relevant decisions on the specifications for those new services will be made by Implementing Acts.

**Source of data:** DG DEFIS, EU Space Programmes

Baseline (2020)	Interim milestone (2022)	Target (2024)
EGNOS SoL, SAR, Copernicus security service/emergency service, SST	PRS, EGNOS SoL, SAR, Copernicus security service/emergency service, SST,	PRS, EGNOS SoL, SAR, Copernicus security service/emergency service, SST, SWE, NEO, GOVSATCOM

#### Result indicator: EU Funding for critical technologies for European strategic autonomy in aerospace and defence

**Explanation:** The indicator measures the level of funding allocated from Horizon 2020/Europe to the calls dedicated to critical space technologies as defined in the critical space technologies list established by the joint task force (JTF) of the European Commission, ESA and EDA.

The JTF list provides critical technologies, at component or equipment level, that are not available from a European source and for which the unrestricted availability from non-European suppliers cannot be assured. Additional funding for the development of technologies in the JTF list should lead to wider availability of such critical technologies for the EU aerospace and defence systems and accordingly to the European strategic non-dependence.

**Source of data:** DG DEFIS programmes

Baseline (2014-2020)	Target (2024)
105 M€	TBD

**Result indicator:** Number of EU launches for the Space Programme (including numbers by type of launchers).

**Explanation:** The Union should support autonomous, reliable and cost-effective access to space, especially as regards critical infrastructure and technology, public security and the security of the Union and its Member States

**Source of data:** DG DEFIS, EU Space Programmes

Baseline (2022)	Interim milestone (2023)	Target (2024)
3 (A6/Soyuz, Galileo)	4 (A6)	TBD