



Annual Activity Report 2021

Annexes

DG DEFENCE INDUSTRY AND SPACE

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ANNEX 1: Statement of the Director(s) in charge of Risk Management and Internal Control

“I declare that in accordance with the Commission’s communication on the internal control framework ⁽¹⁾, I have reported my advice and recommendations on the overall state of internal control in the DG/Executive Agency to the Director-General/Executive Director.

I hereby certify that the information provided in the present Annual Activity Report and in its annexes is, to the best of my knowledge, accurate and complete.”

Brussels, 24 March 2022

e-signed

Christine Bernot

Head of Unit Financial management and Internal Control coordinator of DG DEFIS

⁽¹⁾ C(2017)2373 of 19.04.2017

ANNEX 2: Performance tables

General objective 1: A European Green Deal

Impact indicator 1: Greenhouse gas emissions

Source of the data: European Environmental Agency (Eurostat online datacode: sdg_13_10)

Baseline (2018)	Interim Milestone		Target (2030)	Latest known results (2021)
	(2020)	(year)		
-23%	-20%	...	-55% of net GHG emissions	-31% of GHG emissions - 34% of net GHG emissions (i.e. including emissions and removals from land use, land use change and forestry)

Impact indicator 3: Climate mainstreaming in the European Union budget

Source of the data: European Commission Draft Budget Reports

Baseline (2019)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
21%	30%	...	30%	32.5%

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

Related to spending programme(s):

EU Space Programme

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

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

Baseline 2019 ²	Interim Milestone (please add as many columns as the number of defined milestones)		Target (2024)	Latest known results (2021)
	(2022)	(year)		
28 000	70 000	...	80 000	100.000

⁽²⁾ The Copernicus Climate Change Service started operations in June 2018. The baseline is based on the number of registered users available by 2019.

Output indicator: Number of EGNOS-based precision approach procedures published (both APV-I and LPV-200) ³

Source of the data: European Satellite Services Provider

Baseline (2020) ⁴	Interim Milestone (please add as many columns as the number of defined milestones)		Target (2024)	Latest known results (2021)
	(2022)	(year)		
562	Increase	...	1 150 Figure approx. corresponds to the total number of instrumental runway ends in EU Member States, including in Norway and Switzerland	769

Main outputs in 2021:

External communication actions

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Organisation of online events promoting the role of the EU Space Programme for the Green deal	<ul style="list-style-type: none"> - Number of events organised - Number of participants 	<ul style="list-style-type: none"> - 4 workshops - 1.000 participants 	<ul style="list-style-type: none"> - 3 workshops - 1.091 participants <p>Detailed breakdown:</p> <ol style="list-style-type: none"> 1. Copernicus & Agriculture: 640 participants 2. Copernicus & Health: 292 participants 3. Copernicus & SMEs: 159 participants

⁽³⁾ This indicator is also be reported under the Programme Statement for the EU Space Programme, as part of the annual draft general budget of the European Union.

⁽⁴⁾ Please note that the baseline value for some DEFIS indicators which have their legal base under the EU Space Regulation and European Defence Fund proposals or which were set out in the DEFIS Strategic Plan (2020-2024) with the creation of the DG DEFIS in January 2020, is set at 2020. In such cases, the earliest known values from year 2020 are set as the baselines and the latest available results by 2020 are reported, by end of 2020. Whereas, indicators which were developed under the previous MFFs and under existing programmes which are now part of the DEFIS portfolio's, may present baseline values which started earlier than in 2020.

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
<p>Launch of a partnership to organise a touring exhibition on “Space for Our Planet” and a multimedia platform to promote portrait as real life insights of the UN SDGs.</p>	<ul style="list-style-type: none"> - Number of events organised - Number of participants 	<ul style="list-style-type: none"> - 4 different locations - 3.000 participants 	<ul style="list-style-type: none"> - 4 different locations (3 in Brussels + 1 in Paris) - 4.500 participants <p>An inaugural event of the touring exhibition “Space for our Planet” was held in front of the European Parliament on 28 September 2021.</p>

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Promotion of the benefits of EU Space data in international fora	<ul style="list-style-type: none"> - Number of events - Number of participants 	<ul style="list-style-type: none"> - 5 events - 5.000 participants 	<ul style="list-style-type: none"> - 6 events - 7.033 participants <p>Detailed breakdown:</p> <p>14-17/10: Artic Circle Conference (Iceland) : 1.400 participants</p> <p>1-12/11: UN COP26 – Glasgow (UK) 7 side events: 755 participants</p> <p>10-15/10: Phi-week (ESA): 3.800 participants</p> <p>17-18/06 International Conference on Climate Change - International Weather and Climate Forum: 478 participants</p> <p>9/6-1/7: Joint Virtual Workshop on “Connecting global to local hydrological modelling and forecasting: scientific advances and challenges” : 400 participants</p> <p>20-22/12: ISES 2021 – International Symposium on Exposure Science : 200 participants</p>
Animation of a dedicated webpage on Europa on DG DEFIS contribution to ‘A European Green Deal’	<ul style="list-style-type: none"> - Number of visits 	<ul style="list-style-type: none"> - 5.000 visits 	<ul style="list-style-type: none"> - 712 visits

Other important outputs			
Output	Indicator	Target	Latest known results (situation on 31/12/2021)
ESTAT SDG annual report	EUROSTAT SDG indicators based on Copernicus for SDG 15, 14	Q3 2021	ESTAT SDG annual Report released on 15/06/2021
Annual European State of the Climate Report	Adoption by the Commission	April 2021	The annual European State of the Climate Report showed, among other, that atmospheric concentrations of the greenhouse gases CO ₂ and CH ₄ continued to rise and are at their highest levels on record. Globally, it was one of three warmest years on record. In the Arctic seas, sea ice was at a record low for most of the summer and autumn.
Annual Ocean State Report n°5	Publication in the Journal of operational oceanography	Q4 2021	The Annual Ocean State Report N°5 was published on 22 September 2021.
Development of the FPI project EU4OceanObs related to the G7 centre for future of seas and GEO Blue Planet	Workshops and international meetings	December 2021	The Foreign Policy Instrument project EU4OceanObs is a success. DG DEFIS (and DG RTD) are participating in the steering committee of the project which is led by DG FPI under a delegation agreement with Mercator-ocean. 29 workshops and international meetings were organised in 2021.

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Launch of the EU Space Programme Sustainability Solutions Testing and Scaling up environment	Number of solutions tested	First semester 2021	<p>One action on “Shared Space-and Non-Space Data for Agriculture” was launched in 2020 with 3 Member States. In 2021, when entering the second phase of the project, the application was extended for use by 5 additional Member States. The FaST digital service platform is supported by DG DEFIS, DG AGRI and DG DIGIT (ISA² Programme). The project tests and promotes data sharing and the scaling up of solutions proposed by the downstream sector and by other EU initiatives (from various DGs, Member States, private actors etc.).</p>

General objective 2: A Europe fit for the digital age

Impact indicator 2: Uptake of space products from the European Space Programme⁵

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.

Source of the data: European Union Agency for the Space Programme (EUSPA); European Space Agency (ESA); European Organisation for the Exploitation of Meteorological Satellites; Copernicus Service entrusted entities

Baseline (2019)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
Share of population with Galileo enabled device: 35% ⁶ (estimate)	increase	...	increase	57%
Number of registered users downloading Copernicus data and information: 300 000 ⁷	increase		increase	428 650

(5) EU28 data. EU27 data not available.

(6) EU 27 data.

(7) Worldwide users registered on European Copernicus data access portals.

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

Related to spending programme(s):

EU Space programme

Output indicator: Reliability, availability and continuity, of Copernicus Services and data stream⁸

Source of the data: European Space Agency

Baseline (2019)	Interim Milestone (please add as many columns as the number of defined milestones)		Target (2024; less than 44 hours of interruption per month of each Sentinel mission constellation operated by ESA (corresponding to 97% availability)	Latest known results (2021)
	(2022)	(year)		
Availability ⁹ : 94%		...	97% (tbc)	over 99.97% availability reached
Reliability ¹⁰ (tbd)	95% (tbd)		97 % (tbc)	No figure for reliability has yet been defined
Continuity ¹¹ : (tbc)	95% (tbc)		97% tbc)	No figure for continuity has yet been defined

⁽⁸⁾ This indicator is also reported under the Programme Statement for the EU Space Programme, as part of the annual draft general budget of the European Union

⁽⁹⁾ Availability in percentage of time that Copernicus Information and Data products are accessible (tbc)

⁽¹⁰⁾ Reliability in one minus percentage of Copernicus Information and Data products generated that are non-conformant to the Technical Specification (tbc)

⁽¹¹⁾ Continuity in one minus percentage of Copernicus Information and Data deliveries for which the delay in becoming accessible exceeds the periodicity of that Copernicus Information and Data (tbc).

Result indicator: Availability, accuracy, and continuity of services provided by Galileo and EGNOS separately¹²

Source of the data: Galileo and EGNOS programmes

Baseline (2020)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
Galileo availability: 77%	95%		Galileo availability: 99.5%	Better than 99.5% at all user locations and for all frequency combinations
Galileo accuracy: <ul style="list-style-type: none"> Horizontal positioning accuracy <= 7.5m (95%), Vertical positioning accuracy <= 15m (95%) 	Galileo accuracy: <ul style="list-style-type: none"> Horizontal positioning accuracy <= 5m (95%) Vertical positioning accuracy <= 8m (95%) 		Galileo accuracy: <ul style="list-style-type: none"> Horizontal positioning accuracy <= 4m Vertical positioning accuracy <= 8m 	Galileo accuracy: <ul style="list-style-type: none"> Horizontal accuracy = 1.80m (95%) Vertical accuracy = 2.80m (95%)
Galileo continuity: Not presently defined	...		Galileo continuity: Will be defined in the applicable issue of the OS SDD	No figure for continuity has yet been defined
EGNOS availability: <ul style="list-style-type: none"> APV-I¹³: Over 99% of the EU territories with more than 99% of availability. LPV-200¹⁴: over 90% of the EU territories with more than 99% of availability 	...		EGNOS availability: <ul style="list-style-type: none"> APV-I: Over 99% of the EU territories with more than 99% of availability. LPV-200: over 95% of the EU territories with more than 99% of availability. 	EGNOS availability: <ul style="list-style-type: none"> APV-I: 97% of the EU territories with more than 99% of availability. LPV-200: over 95% of the EU territories with more than 99% of availability

⁽¹²⁾ This indicator is also reported under the Programme Statement for the EU Space Programme, as part of the annual draft general budget of the European Union

⁽¹³⁾ APV-I = Approach procedure with vertical guidance, category 1.

⁽¹⁴⁾ LPV-200: Localizer Performance with Vertical guidance to a decision altitude of 200ft.

Baseline (2020)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
EGNOS accuracy: <ul style="list-style-type: none"> Horizontal (95%): 2 m Vertical (95%): 3 m 	...		EGNOS accuracy: <ul style="list-style-type: none"> Horizontal (95%): 1.5 m Vertical (95%): 2.5 m 	EGNOS accuracy: <ul style="list-style-type: none"> Horizontal (95%): 2 m Vertical (95%): 3 m
EGNOS continuity: <ul style="list-style-type: none"> APV-I: over 90% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. LPV-200: over 80% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. 	...		EGNOS continuity: <ul style="list-style-type: none"> APV-I: over 95% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. LPV-200: over 85% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. 	EGNOS continuity: <ul style="list-style-type: none"> APV-I: over 98% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec. LPV-200: over 93% of the EU territories with better continuity than $5 \cdot 10^{-4}$ / 15 sec.

Result indicator: Availability of GOVSATCOM services¹⁵

Source of the data: EUSPA annual market report on GOVSATCOM

Baseline (2020)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
None. Testing phase, not yet fully operational		...	Number of countries participating: 27 Capacity requested: TBD	None. Testing phase, not yet fully operational

⁽¹⁵⁾ This indicator is also reported under the Programme Statement for the EU Space Programme, as part of the annual draft general budget of the European Union

Main outputs in 2021:

External communication actions

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Organisation of ad-hoc EU Space Programme launch event in June 2021	<ul style="list-style-type: none"> - Number of participants - Number of journalists - Website visits 	<ul style="list-style-type: none"> - 2000 participants - Increased web traffic 	<ul style="list-style-type: none"> - 3.164 participants - 39 journalists - 2.500 website visits
Promotion of the potential of EU Space data at tech events	<ul style="list-style-type: none"> - Number of events - Number of participants 	<ul style="list-style-type: none"> - 3 events - 5.000 participants 	<ul style="list-style-type: none"> - 1 event: - 21-23/9 Intergeo - 12.000 participants
Contribute to the promotion of the Knowledge Centre for Earth Observation purposes	<ul style="list-style-type: none"> - Number of events - Number of participants 	<ul style="list-style-type: none"> - 2 events - 500 participants 	<ul style="list-style-type: none"> - 10 events - 150 participants from 2 events (no data available for other 8 events)
Animation and promotion of the RACE dashboard	<ul style="list-style-type: none"> - Number of visits 	<ul style="list-style-type: none"> - 50.000 visits 	12.208. visits
Organisation of Copernicus Communication Expert Group (Copernicus Ecosystem Team) to coordinate activities implemented by Entrusted Entities and Partners	<ul style="list-style-type: none"> - Number of meetings - Number of KPIs factsheets - Number of detailed reports 	<ul style="list-style-type: none"> - 5 meetings - 4 quarterly factsheets - 1 analytical report covering a 12 month period 	<ul style="list-style-type: none"> - 5 meetings with the Copernicus Entrusted Entities. - Individual meetings with all 9 Entrusted Entities to discuss tailored communication aspects, promotion activities and how to implement corporate level KPIs on communication. - 4 quarterly KPI factsheets were published in 2021 - 1 annual report was released - 1 report and 1 dedicated video was released with guidelines on how to report on the KPIs and how to feed the online KPI tool
Animation of a dedicated webpage on EU Space contribution to coronavirus	<ul style="list-style-type: none"> - Number of visits 	<ul style="list-style-type: none"> - 15.000 visits 	<ul style="list-style-type: none"> - 7.187 visits

Other important outputs			
Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Implementing decision of annual work programme for the EU space programme	Adoption by the Commission	Q2 2021	Adopted on 18 June 2021 C(2021) 4316
Agreement on the FFPA, preparation and approval of the Commission implementing act as foreseen in the EU space regulation	Adoption by the Commission	2021 (and once Space Regulation enters into force)	Adopted on 21 June 2021 C(2021) 4351
Preparation and agreement on the contribution agreements between the Commission and EUSPA, the Commission and ESA, and EUSPA and ESA which will further detail the entrusted activities.	Adoption by the Commission	2021 (and once Space Regulation enters into force)	Adopted on 21 June 2021 C(2021) 4319
Preparation of new contribution agreements with other Entrusted Entities for the implementation of Copernicus in the 2021-2027 period	Adoption of implementing decision(s)	<ul style="list-style-type: none"> - Q1 2021: Negotiations - Q2 2021: Final text - Q3 2021: Adoption of implementing decision(s) (and endorsement by the competent management committees) - Q4: Signature of agreements 	Contribution agreements under the Copernicus component of the EU Space Programme were agreed and adopted on 22 July 2021 with a Commission Implementing Decision on entrusting budget implementation tasks to EUMETSAT, EEA, MO, ECMWF, FRONTEX, EMSA. C(2021) 5261

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Organisation and set up of the Programme Committee as foreseen in the EU Space Regulation. The Programme Committee shall meet with different configurations and will assist the Commission in implementing the EU Space Programme	Number of meetings	5 meetings in 2021	The Programme Committee and its various configurations were set-up with regular meetings held as from June 2021. 19 meetings for all configurations were held in 2021 (2 Govsatcom, 4 SSA & 2 SSA shadow expert groups, 4 Copernicus, 2 security, 3 Horizontal, 2 Galileo)
Launching 1-year study on Space Value Chains Resilience.	Launching the study	Q1 2021	The study has been postponed and will be launched in Q1 2022
Launching 1-year study on Space Exploration and Space Resource Use.	Launching the study	Q2 2021	The study has been abandoned.
Launching 1-year study aiming to develop a methodology assessing the impact of EU space industry on the EU economy	Launching the study	Q4 2021	The study has been postponed and will be launched in Q1 2022
Common product catalogue between EMODNET and CMEMS, and technical coordination	Bi-annual steering committee, publication of MSFD catalogue	June 2021 November 2021	The EMODNET and CMEMS coordination meeting was held on 9 February 2021. On 8 June 2021, a MSFD catalogue was published online
Launch Copernicus Integrated Data Management activity	Number of Meetings of the Integrated Data Management Steering Group	December 2021	4 meetings were held in 2021 with all Copernicus Entrusted Entities (on 28 February, 31 March, 6 July, 28 October). One meeting was held with Member States (2 March 2021) to discuss the Copernicus Integrated Data Management activity.

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

Related to spending programme(s): EU Space programme

Impact indicator: Market share of the European companies in the overall global GNSS market (for receivers)¹⁶

Source of the data: European Union Agency for the Space Programme (EUSPA), Market report

Baseline (2021)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2021)	(year)		
64%	...	increase	70%	64%

Impact indicator: Share of SMEs established in the EU as a proportion of the total value of the contracts relating to the Space Programme¹⁷

Source of the data: DG DEFIS, European Union Agency for the Space Programme (EUSPA), European Space Agency accounting department

Baseline (2021)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
0	increase	...	increase	No data available yet.

⁽¹⁶⁾ This indicator is also reported under the Programme Statement for the EU Space Programme, as part of the annual draft general budget of the European Union

⁽¹⁷⁾ This indicator is also reported under the Programme Statement for the EU Space Programme, as part of the annual draft general budget of the European Union

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

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

Baseline (2020)	Interim Milestone		Target (2024) The target was set by estimating the impact of the upcoming actions for startup and scaleup companies under CASSINI, notably CASSINI Business Accelerator, CASSINI Matchmaking, CASSINI Prizes and CASSINI Seed and Growth Funding Facility	Latest known results (2021)
	(2022)	(year)		
0	22	...	60	N/A (initiative not yet started)

Main outputs in 2021:

New policy initiatives

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
 Action Plan on Synergies for Civil, Defence and Space Industries	Adoption of the Action Plan	Q1 2021	Adopted on 22 February 2021 COM(2021)70
DEFIS contribution to updated EU industrial strategy	Adoption by the Commission	Q1 2021	Adopted on 17 March 2021 COM(2021)350

External communication actions			
Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Launch of a communication campaign to promote the CASSINI initiative	<ul style="list-style-type: none"> - Set-up of dedicated webpages on DEFIS website - Number of events - Number of participants - Number of media mention - Number of social media metrics 	<ul style="list-style-type: none"> - Set-up in Q1 2021 At least: <ul style="list-style-type: none"> - 2 events - 200 participants - 10 media mentions - 10% increase month on month 	Postponed till 2022
Promotional area at the US Space Symposium 2021	<ul style="list-style-type: none"> - Number of participants 	<ul style="list-style-type: none"> - 2.000 participants 	Could not participate due to US travel restrictions linked to COVID-19 pandemic.
Co-organisation of the European Space Week 2021	<ul style="list-style-type: none"> - Number of participants - Media coverage 	<ul style="list-style-type: none"> - 1000 participants - 20 mentions in media 	Online EU Space Day high-level conference was organised by DG DEFIS under the Slovenian Presidency of the Council of the EU - Conference on EU space-based secure connectivity on 10 November 2021 Participants: <ul style="list-style-type: none"> - 372 live - 118 on-demand Media coverage: <ul style="list-style-type: none"> - 11 mentions
Organisation of side events at the Dubai World Expo	<ul style="list-style-type: none"> - Number of side events - Number of participants - Number of visits at the promotional corner 	<ul style="list-style-type: none"> - 2 side events - 100 participants - 2.000 visits 	Participation was cancelled.
Animation of a dedicated webpage on Europa on DG DEFIS contribution to 'A Europe fit for the digital age'	Number of visits	<ul style="list-style-type: none"> - 5.000 visits 	178 visits

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Development of the Network of Copernicus Relays, including the number of videoconferences to exchanges on best practices with their respective actions, dissemination of targeted newsletters,	<ul style="list-style-type: none"> - Number of members - Number of videoconferences - Number of participants at the Annual General Assembly - Number of events organised by the Copernicus Relays - Total number of participants at their events 	<ul style="list-style-type: none"> - 120 members - 11 videoconferences - 250 participants - 200 events - 25.000 participants 	<ul style="list-style-type: none"> - 109 members from 36 countries - 12 video conferences - 312 participants during the General Assembly - 83 events organised by the Copernicus Relays - Numbers of participation: not yet made available.

Other important outputs

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Horizon Europe Cluster 4 Work Programme 2021-2022	Adoption of the Work Programme	Q2 2021	Adopted on 15 June 2021 C(2021)4200
Launch of CASSINI initiative	Launch of CASSINI hackathons, business accelerator, seed and growth fund, and matchmaking activities.	Q2-Q4 2021	First CASSINI Hackathon in June, second CASSINI Hackathon in November 2021
Joint declaration on space/Earth Observation cooperation during the EU-Africa Summit of 2021	Workshop declaration	Q4 2021	EU-Africa Summit postponed to 2022

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Administrative arrangement for DG ECHO funding of the Copernicus EMS service	Adoption by the Commission	Q1 2021	A tripartite agreement was signed on 31 March 2021 to implement two co-delegations: from DG DEFIS to DG JRC and from DG ECHO to DG JRC. The purpose of this agreement is to lay down the framework and the conditions of the implementation of the two co-delegations, as defined in the work programmes of the Space Regulation and the Union Civil Protection Mechanism over 2021 to 2027, concerning the Copernicus Emergency Management Service (CEMS).
Administrative arrangement with DG DEVCO funding of the Copernicus land service	Adoption by the Commission	Q2 (TBC) 2021	There is close cooperation between DG DEFIS and DG INTPA (ex-DEVCO) but no administrative arrangement resulted
Cooperation arrangements/ agreements with international partners on Copernicus	Number of signed arrangements	December 2021	No cooperation arrangements signed on Copernicus due to restrictions linked to the COVID-19 pandemic.
Technical cooperation with Canada on ocean matters	Technical meeting and implementation	December 2021	No dedicated in-person meeting in 2021 due to restrictions linked to the COVID-19 pandemic, but topic discussed in regular Copernicus coordination meetings with Canada throughout the year.

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Technical cooperation with NASA/USGS on Sentinel-2 and Landsat	Workshop	Q4 2021	No workshop was organised due to restrictions linked to the COVID-19 pandemic, but progress was achieved via two teleconference meetings in 2021

General objective 3: An Economy that works for people

Impact indicator 11: Public EU and EU Member States investments in space

Source of the data: Euroconsult report 2020 Government Space Programs Benchmarks, Profiles and Forecasts to 2029

Baseline (2018)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
EUR 10 941 million	increase	...	increase	EUR 10 006 million ¹⁸

General objective 4: A Stronger Europe in the world

Impact indicator 1: Value of research and development actions funded by the European Defence Fund¹⁹

Source of the data: European Commission

Baseline (2019)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
EUR 0	increase	...	increase	EDF: EUR 0 (EDIDP: EUR 803.13 million PADR: EUR 86 million) ²⁰

⁽¹⁸⁾ Figures from 4 EU Member States (Croatia, Cyprus, Malta, Latvia) are not included and were not made available in the source study.

⁽¹⁹⁾ This indicator does not reflect the EU contributions in the framework of the two ongoing precursor programmes PADR and EDIDP, supporting defence research and capability development, on which the EDF is based.

⁽²⁰⁾ EDF grant agreements will be the data source for this impact indicator. Data will be available by 2022 when the first grants are expected to be signed. The latest values for the precursors

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

Related to spending programme(s):

European Defence Industrial Development Programme (EDIDP),

European Defence Fund (EDF)

EU Space Programme

Output indicator: Legal entities involved in EDF²¹

Source of the data: European Commission

Baseline (2020)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
0	increase	...	increase	EDF: 0 (PADR: 139 legal entities EDIDP: 406 legal entities) ²²

Result indicator: Proportion of budget of EDF dedicated to disruptive technologies

Source of the data: European Commission²³

Baseline (2020)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
0	4%	...	6%	5.74% ²⁴

PADR and EDIDP are provided for information only. The value presented for the EDIDP is the accumulated total eligible costs of these projects, including co-funding from the Member States.

(²¹) This indicator does not reflect on the outcome of the two ongoing precursor programmes PADR and EDIDP, supporting defence research and capability development, on which the EDF is based.

(²²) In total, 1111 legal entities were involved in the admissible proposals submitted under the EDF 2021 calls. The latest values for the precursors PADR and EDIDP are provided for information only.

(²³) This indicator does not reflect the outcome of the ongoing precursor programmes. The research precursor PADR supported projects on future disruptive defence technologies, including emerging game changers, with a proportion of 14% of the PADR budget.

(²⁴) Share of the budget of EDF 2021 calls for proposals allocated to disruptive technologies.

Output indicator: Share of EDF contracts awarded involving collaboration with to cross-border SME and mid-caps²⁵

Source of the data: European Commission

Baseline (2020)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
0	increase	...	increase	N/A

Main outputs in 2021:

External communication actions

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Increase awareness of the achievements of PADR and EDIDP, as precursors of EDF	<ul style="list-style-type: none"> - Number of online views of media releases - Number of engagement on social media 	<ul style="list-style-type: none"> - 500.000 engagements on social media channels 	275.024 engagements on social media channels
Organisation of ad-hoc European Defence Fund launch event in June 2021	<ul style="list-style-type: none"> - Number of participants - Website visits - Publications 	<ul style="list-style-type: none"> - 1000 participants - Increased web traffic 	<ul style="list-style-type: none"> - 1.300 participants - 4.000 website visits - 1 press release - 28 factsheets on EDF - 1 video on EDF
Publication of a handbook dedicated to defence-related SMEs	<ul style="list-style-type: none"> - Number of readers 	<ul style="list-style-type: none"> - 5.000 readers 	<p>A digital Handbook for SMEs on the Directive for the transfer of defence-related products was developed, translated in all EU official languages and made available on the Commission's Internet site. It provides a summary of the benefits that this Directive can give to SMEs active in the defence sector, along with concrete recommendations.</p> <p>https://ec.europa.eu/defence-industry-space/download-defence-transfers-directive-handbook-smes_en</p>

⁽²⁵⁾ This indicator is also reported under the Programme Statement for the European Defence Fund, as part of the annual draft general budget of the European Union.

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Organisation of virtual EDF Info Day	- Number of attendees	- 1.000 attendees	EDF Info Day was organised on the 15 September 2021. The event attracted over 2.100 attendees.
Organisation of national EDF Info Days throughout 2021	- Number of attendees	- 1.000 attendees	- 1.500 - 2.000 participants - 400 webpage visits EDF national info Days were held: 15/07 Greece 21/09 Hungary 26/10Lithuania 27/10 Netherlands 30/10 Slovenia 25/11 Ireland
Organisation of thematic conferences	- Number of events - Number of attendees	- 4 events - 400 attendees	- 4 events - 500 attendees Detailed breakdown of events: 7-8/10: Workshop on Drones in Le Havre (FR) 12-13/10: ENDR Workshop on “Advanced Material for Defence Applications” in Gotenburg (SE) 9-10/11: ENDR Workshop on “the Soldier of the Future” in Copenhagen (DK) 12-13/10: Workshop on “Advanced Material for Defence Applications”, in Gothenburg (SE) 21-22/10: ENDR Conference “Future Skills for Europe’s Aerospace & Defence Industry” coorganised by DEFIS, ENDR and Rzeszow University, in Rzeszow (PL).
Promotion of EU’s defence industry initiatives at fairs	- Number of attendees	- 2.000 attendees	-1.000 attendees

Other important outputs

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
EDIDP 2020 competitive calls - award decision - Commission Implementing Decision	Adoption by the Commission	June 2021	Adopted on 30 June C(2021) 4877 C(2021) 4883
Commission Implementing Decision on the annual work programme for the European Defence Fund 2021	Adoption by the Commission	Q2 2021	Adopted on 30 June C(2021)4910
Issue third implementation report on the Action Plan on Military Mobility (Joint Report COM/HR)	Adoption by the Commission	Q3 2021	Adopted on 24 September JOIN(2021) 26 final
Validation of the findings of the Polar Expert Working Group III	Approved final report from the Working Group	March 2021	The Copernicus Polar Expert Group Phase 3 Report was released on 13 April 2021.

General objective 5: Promoting our European way of life

Impact indicator 7: Victims of terrorist attacks

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

Baseline (2017)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
32 people died as a result of terrorist attacks 157 people were injured	Decrease	...	decrease	21 people died as a result of terrorist attacks in the EU 57 people were injured

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):

EU Space Programme,

Horizon 2020/Europe

European Defence Fund (EDF)

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

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

Baseline (2020)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
<ul style="list-style-type: none"> • GALILEO Public Regulated Service (PRS) Initial Service • EGNOS Safety of Life (SoL) service • GALILEO Search and Rescue (SAR) service • Copernicus security service²⁶/ emergency service • Space Surveillance and Tracking (SST) 	<ul style="list-style-type: none"> • GALILEO Public Regulated Service (PRS) initial service • EGNOS Safety of Life (SoL) service • GALILEO Search and Rescue (SAR) service • Copernicus security service/ emergency service • Space Surveillance and Tracking (SST) 	...	<ul style="list-style-type: none"> • GALILEO Public Regulated Service (PRS) Full Operational Capability (FOC)²⁷ • EGNOS Safety of Life (SoL) service • GALILEO Search and Rescue (SAR) service • GALILEO Emergency Warning Service (EWS) • Copernicus security service/ emergency service • Space Surveillance and Tracking (SST) Space Weather (SWE) • Near Earth Objects (NEO) • GOVSATCOM (Governmental Satellite Communications) 	<ul style="list-style-type: none"> • GALILEO Public Regulated Service (PRS) initial service • EGNOS Safety of Life (SoL) service • GALILEO Search and Rescue (SAR) service with return link feature since 2020. • GALILEO Emergency Warning Service (EWS) is in the service definition stage. • Copernicus security service/ emergency service • Space Surveillance and Tracking (SST)

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

⁽²⁷⁾ The schedule is at risk. The new target date is under assessment

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

Source of the data: DG DEFIS Programmes

Baseline (2014-2020)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2022)	(year)		
EUR 105 M ²⁸				EUR 10.5 M (space-related activities)

Output indicator: Number of EU launches for the Space Programme (including numbers by type of launchers)²⁹

Source of the data: DG DEFIS, EU Space Programme

Baseline (2021)	Interim Milestone		Target (2024)	Latest known results (2021)
	(2023)	(year)		
0	4 (3 Soyuz, 1 Ariane6)	...	6 (3 Soyuz, 3 Ariane6, 2 Vega)	1 Soyuz launch in 2021 (Galileo#L11)

⁽²⁸⁾ 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.

⁽²⁹⁾ This indicator is also reported under the Programme Statement for the EU Space Programme, as part of the annual draft general budget of the European Union.

Main outputs in 2021:

New policy initiatives

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Prepare proposal for a European initiative on the use of Galileo in Critical Infrastructures that depend on satellite navigation for timing and synchronisation	Draft ready for adoption by College	December 2021	The preparation of this proposal has been abandoned. The topic was covered in a dedicated study that contributed to preparation of the Commission's proposal for a Directive on the resilience of critical entities (COM(2020) 829). This Directive foresees implementing acts to further define relevant measures. The guiding principles for precise timing and synchronization services as well as benefits, opportunities and challenges of using European GNSS in precise timing and synchronization services have been described in the SWD on the European Radio Navigation Plan (ERNP), SWD (2018) 95.
Proposals for implementing acts defining the characteristics of the GOVSATCOM service portfolio, operational requirements and security requirements	Adoption by College	December 2021	These implementing acts are planned to be adopted in 2024.
Proposal for an implementing act for the establishment of the future EU SST Partnership	Adoption by College	December 2021	Formal adoption is expected in Q1 2022
Proposal for an implementing act laying down the security aspects of Space Situational Awareness	Adoption by College	December 2021	Implementing Act planned to be adopted in 2024.

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Proposal for the Decision of the Commission regarding a proposal of Member States providing EU SST services	Adoption by College	December 2021	Formal adoption expected in Q3 2022
Communication from the Commission on space traffic management	Adoption by College	December 2021	Call for evidence without public consultation published on 22 October 2021 – ended on 19 November 2021 Planned in CWP 2022 with adoption anticipated by Q1 2022.

External communication actions

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Organisation of the “Galileo SAR Meet” competition and symposium	<ul style="list-style-type: none"> - Number of attendees (physical and online) - Number of engagement/impressions on social media - Number of events - Number of journalists following the event 	<ul style="list-style-type: none"> - 1.000 participants - 500.000 engagements/impressions on social media channels - 1 edition in 2021 - 15 journalists 	<p>The SAR Meet was held on 27 September 2021.</p> <ul style="list-style-type: none"> - 400 onsite participants: 100 crew members 300 registered photographers - 5 TV stations present onsite - 43 journalists attended the press briefing. - Total media views: 3.957.716
Organisation of the SAR live demonstration	<ul style="list-style-type: none"> - Number of attendees (physical and online) - Number of engagement/impressions on social media - Number of events - Number of journalists/influencers following the event 	<ul style="list-style-type: none"> - 100.000 participants - 1 million engagements/impressions on social media channels - 1 live demonstration organised - 30 journalists/influencers 	Postponed due to COVID-19 restrictions

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Animation of a dedicated webpage on Europa on DG DEFIS contribution to 'Promoting our European way of life'	- Number of visits	- 5.500 visits	- 87 visits
Communication actions to launch the new EU Space Programme components SSA and GOVSATCOM	- Number of events - Number of participants - Media coverage	- 2 events - 150 participants - 50 media mentions	- 1 event: 10/11: EU Space Day under SI PCY – Virtual Event on secure space-based connectivity - Participants: 372 live, 118 on-demand - a video on Secure Connectivity and Govsatcom was produced Media coverage: - 64 mentions for GOVSATCOM - 26 mentions for SST/SSA
Galileo Launch #11	- Global audience - Social Media - Press coverage	- 10 000 views	- 12.500 views - 35.000 Google "news" results

Other important outputs

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Negotiations with Arianespace on the framework programme for launchers	Adoption by the Commission (conclusion of the framework contract)	Q2 2021	The invitation to tender was sent out by the Commission on 25 October 2021. An offer was received on 7 December 2021. The Commission is analysing the offer in view of adopting an award decision in January 2022.
Commissioning of the Sentinel-6 Michael Freilich satellite	In Orbit Commissioning Review, delivery of data	Q3 2021	Successfully achieved on 16 November 2021

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Joint COM-ESA programmatic decision (related to the Copernicus Space Component)	Adoption of updated Work Programme	Q4 2021	In 2021, the preparation of a Joint COM-ESA programmatic decision (related to the Copernicus Space Component) was advanced with close negotiations with ESA. Final adoption is anticipated by Q1 2022.

Output	Indicator	Target	Latest known results (situation on 31/12/2021)
Renewal of the contribution agreements for the Copernicus security services with FRONTEX, EMSA, SATCEN	Adoption by the Commission	Q2 2021	<p>Contribution agreement with FRONTEX 15 November 2021</p> <p>Contribution agreement with EMSA 28 September 2021</p> <p>Contribution agreement with SATCEN in preparation. Adoption is expected in 2022</p>
Renewal of the co-delegation agreement for the Copernicus emergency service with JRC	Adoption by the Commission	Q2 2021	DG DEFIS-ECHO-JRC signed a tripartite agreement on Copernicus Emergency Management Service for 2021-2027 in March 2021.

ANNEX 3: Draft annual accounts and financial reports

Table 1 : Commitments

Table 2 : Payments

Table 3 : Commitments to be settled

Table 4 : Balance Sheet

Table 5 : Statement of Financial Performance

Table 5 Bis: Off Balance Sheet

Table 6 : Average Payment Times

Table 7 : Income

Table 8 : Recovery of undue Payments

Table 9 : Ageing Balance of Recovery Orders

Table 10 : Waivers of Recovery Orders

Table 11 : Negotiated Procedures

Table 12 : Summary of Procedures

Table 13 : Building Contracts

Table 14 : Contracts declared Secret

Table 15 : FPA duration exceeds 4 years

TABLE 1: OUTTURN ON COMMITMENT APPROPRIATIONS IN 2021 (in Mio €) for DG DEFIS

			Commitment appropriations authorised	Commitments made	%
			1	2	3=2/1
Title 01 Research and Innovation					
01	01 01	Support administrative expenditure of the "Research and Innovation" cluster	3,84	1,52	39,60 %
	01 02	Horizon Europe	104,80	104,73	99,94 %
	01 20	Pilot projects, preparatory actions, prerogatives and other actions	0,00	0,00	0,00 %
Total Title 01			108,64	106,25	97,81 %
Title 02 European Strategic Investments					
02	02 02	InvestEU Fund	0,00	0,00	0,00 %
	02 04	Digital Europe programme	0,00	0,00	0,00 %
Total Title 02			0,00	0,00	0,00 %
Title 03 Single Market					
03	03 02	Single Market Programme	0,00	0,00	0,00 %
	03 20	Pilot projects, preparatory actions, prerogatives and other actions	0,00	0,00	0,00 %
Total Title 03			0,00	0,00	0,00 %
Title 04 Space					
04	04 01	Support administrative expenditure of the "Space" cluster	7,27	6,93	95,30 %
	04 02	Space programme of the Union	2.072,76	2.049,92	98,90 %
	04 10	Decentralised agencies	57,17	57,13	99,92 %
	04 20	Pilot projects, preparatory actions, prerogatives and other actions	0,00	0,00	0,00 %
Total Title 04			2.137,21	2.113,97	98,91 %
Title 08 Agriculture and Maritime Policy					
08	08 02	European Agricultural Guarantee Fund (EAGF)	1,20	1,20	100,00 %
Total Title 08			1,20	1,20	100,00 %
Title 09 Environment and Climate Action					
09	09 02	Programme for the Environment and Climate Action (LIFE)	0,00	0,00	0,00 %
Total Title 09			0,00	0,00	0,00 %
Title 13 Defence					
13	13 01	Support administrative expenditure of the "Security and Defence" cluster	1,30	1,30	100,00 %

	13 02	European Defence Fund (EDF) – Non research	637,78	637,78	100,00 %
	13 03	European Defence Fund (EDF) – Research	328,51	328,51	100,00 %
	13 20	Pilot projects, preparatory actions, prerogatives and other actions	0,00	0,00	0,00 %
Total Title 13			967,59	967,59	100,00 %
Title 14 External Action					
14	14 02	Neighbourhood, Development and International Cooperation Instrument (NDICI)	0,00	0,00	0,00 %
Total Title 14			0,00	0,00	0,00 %
Title 20 Administrative expenditure of the European Commission					
20	20 02	Other staff and expenditure relating to persons	0,01	0,01	98,30 %
Total Title 20			0,01	0,01	98,30 %
Total Excluding NGEU			3.214,64	3.189,02	99,20 %
Title 01 Research and Innovation					
01	01 02	Horizon Europe	19,72	19,72	100,00 %
Total Title 01			19,72	19,72	100,00 %
Total NGEU Only			19,72	19,72	100,00 %
Total DG DEFIS			3.234,36	3.208,74	99,21 %
* Commitment appropriations authorised include, in addition to the budget voted by the legislative authority, appropriations carried over from the previous exercise, budget amendments as well as miscellaneous commitment appropriations for the period (e.g. internal and external assigned revenue).					

% Outturn on Commitment Appropriations in 2021 for DG DEFIS

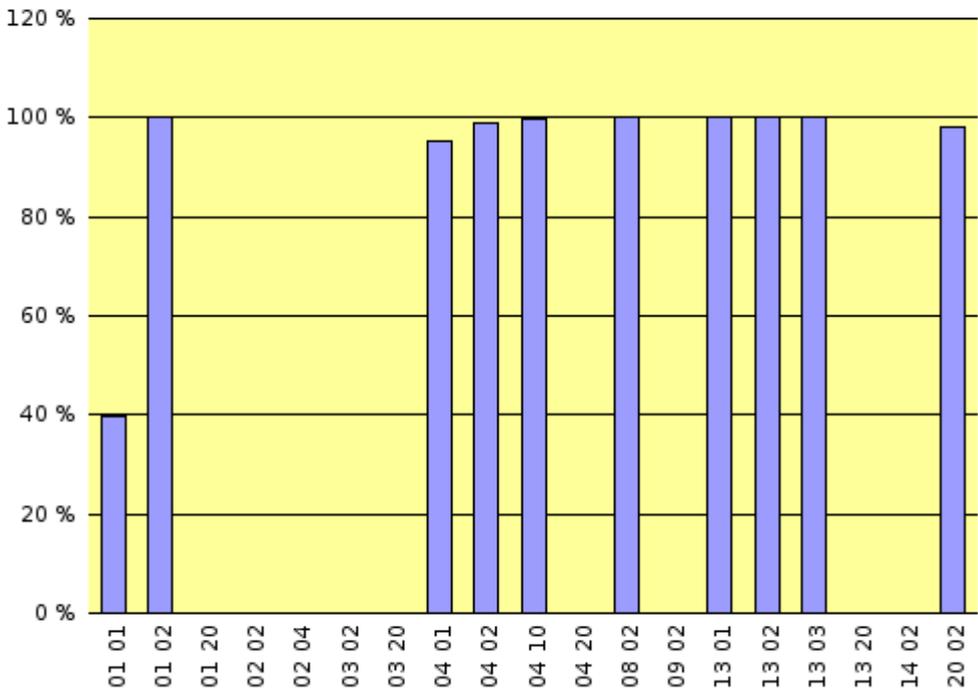


TABLE 2: OUTTURN ON PAYMENT APPROPRIATIONS in 2021 (in Mio €) for DG DEFIS

			Payment appropriations authorised *	Payments made	%
			1	2	3=2/1
Title 01 Research and Innovation					
01	01 01	Support administrative expenditure of the "Research and Innovation" cluster	4.39	0.87	19.80 %
	01 02	Horizon Europe	139.72	105.90	75.80 %
	01 20	Pilot projects, preparatory actions, prerogatives and other actions	5.56	5.56	100.00 %
Total Title 01			149.67	112.33	75.05%
Title 02 European Strategic Investments					
02	02 02	InvestEU Fund	0.00	0.00	0.00 %
	02 04	Digital Europe programme	0.00	0.50	0.00 %
Total Title 02			0.00	0.50	0.00%
Title 03 Single Market					
03	03 02	Single Market Programme	0.30	0.29	96.64 %
	03 20	Pilot projects, preparatory actions, prerogatives and other actions	0.00	0.00	0.00 %
Total Title 03			0.30	0.29	96.64%
Title 04 Space					
04	04 01	Support administrative expenditure of the "Space" cluster	10.61	5.63	53.06 %
	04 02	Space programme of the Union	2 690.71	2 547.78	94.69 %
	04 10	Decentralised agencies	44.19	44.14	99.90 %
	04 20	Pilot projects, preparatory actions, prerogatives and other actions	0.00	0.00	0.00 %
Total Title 04			2 745.51	2 597.56	94.61%
Title 08 Agriculture and Maritime Policy					
08	08 02	European Agricultural Guarantee Fund (EAGF)	0.30	0.30	100.00 %
Total Title 08			0.30	0.30	100.00%
Title 09 Environment and Climate Action					
09	09 02	Programme for the Environment and Climate Action (LIFE)	0.60	0.60	100.00 %
Total Title 09			0.60	0.60	100.00%
Title 13 Defence					
13	13 01	Support administrative expenditure of the "Security and Defence" cluster	1.44	0.45	31.53 %
	13 02	European Defence Fund (EDF) - Non research	197.72	197.72	100.00 %
	13 03	European Defence Fund (EDF) - Research	0.04	0.04	100.00 %
	13 20	Pilot projects, preparatory actions, prerogatives and other actions	4.93	4.84	98.05 %
Total Title 13			204.13	203.05	99.47%
Title 14 External Action					
14	14 02	Neighbourhood, Development and International Cooperation Instrument (NDICI)	3.13	3.13	100.00 %
Total Title 14			3.13	3.13	100.00%

Title 20 Administrative expenditure of the European Commission					
20	20 02	Other staff and expenditure relating to persons	0.02	0.00	25.96 %
Total Title 20			0.02	0.00	25.96%
Total Excluding NGEU			3 103.65	2 917.76	94.01%

Title 01 Research and Innovation					
01	01 02	Horizon Europe	10.12	10.12	100.00 %
Total Title 01			10.12	10.12	100.00%
Total NGEU Only			10.12	10.12	100.00%

Total DG DEFIS			3 113.77	2 927.88	94.03 %
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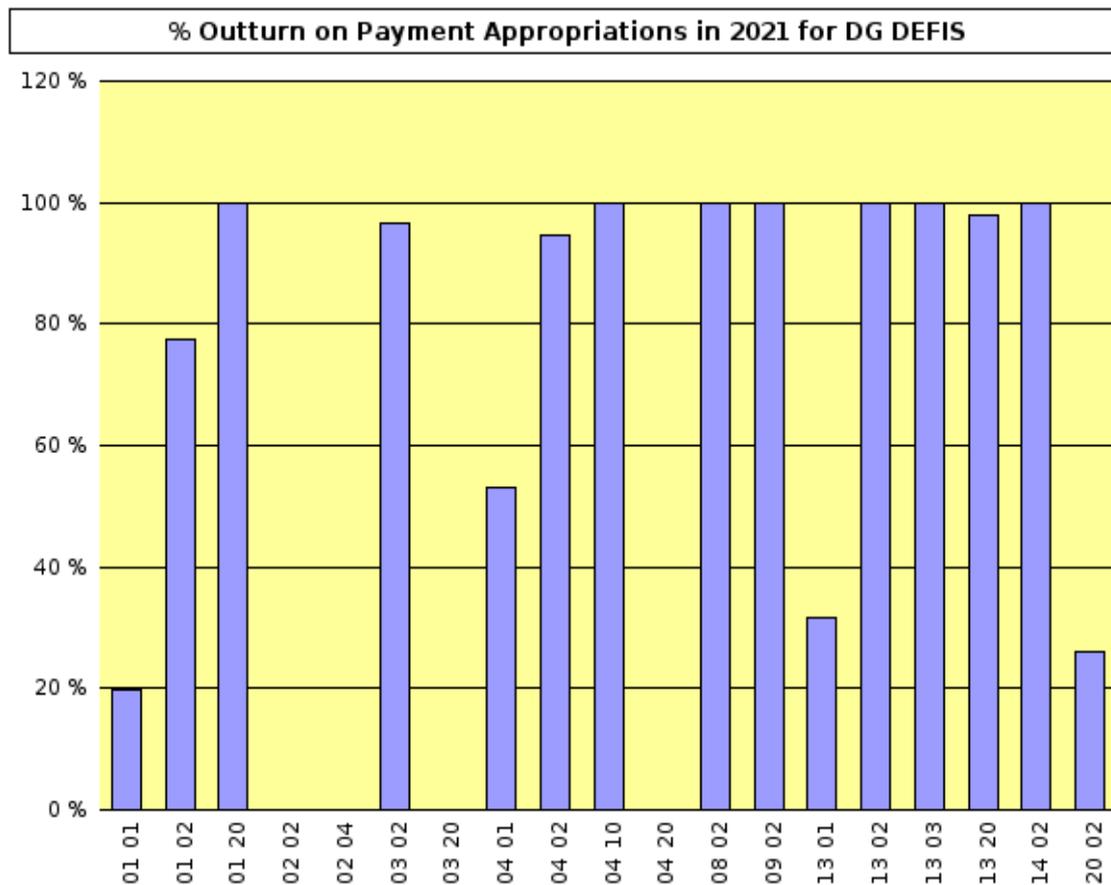


TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS

			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7
01	01 01	Support administrative expenditure of the "Research and Innovation" cluster	1.52	0.32	1.20	79.06%	0.00	1.20	0.56
	01 02	Horizon Europe	104.73	45.04	59.70	57.00%	122.72	182.41	187.32
	01 20	Pilot projects, preparatory actions, prerogatives and other actions	0.00	0.00	0.00	0.00%	5.46	5.46	11.04
Total Title 01			106.25	45.35	60.90	57.32%	128.18	189.08	198.92

TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS

			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7
02	02 02	InvestEU Fund	0.00		0.00	0.00%	0.00	0.00	0.00
	02 04	Digital Europe programme	0.00	0.00	0.00	0.00%	0.00	0.00	0.50
Total Title 02			0.00	0.00	0.00	0.00%	0.00	0.00	0.50

TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS

			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7
03	03 02	Single Market Programme	0.00	0.00	0.00	0.00%	0.71	0.71	1.10
	03 20	Pilot projects, preparatory actions, prerogatives and other actions	0.00		0.00	0.00%	0.51	0.51	0.51
Total Title 03			0.00	0.00	0.00	0.00%	1.22	1.22	1.60

TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS

			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7
04	04 01	Support administrative expenditure of the 'Space' cluster	6.93	2.41	4.52	65.21%	0.02	4.54	3.34
	04 02	Space programme of the Union	2 049.92	1 572.88	477.04	23.27%	862.80	1 339.83	1 838.42
	04 10	Decentralised agencies	57.13	41.75	15.38	26.93%	0.00	15.38	2.40
	04 20	Pilot projects, preparatory actions, prerogatives and other actions	0.00		0.00	0.00%	0.00	0.00	0.00
Total Title 04			2 113.97	1 617.04	496.94	23.51%	862.82	1 359.75	1 844.16

TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS									
			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7
08	08 02	European Agricultural Guarantee Fund (EAGF)	1.20	0.00	1.20	100.00%	0.00	1.20	0.30
Total Title 08			1.20	0.00	1.20	100.00%	0.00	1.20	0.30
TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS									
			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7
09	09 02	Programme for the Environment and Climate Action (LIFE)	0.00	0.00	0.00	0.00%	0.90	0.90	1.50
Total Title 09			0.00	0.00	0.00	0.00%	0.90	0.90	1.50
TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS									
			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7
13	13 01	Support administrative expenditure of the "Security	1.30	0.33	0.96	74.36%	0.00	0.96	0.14

		and Defence" cluster							
	13 02	European Defence Fund (EDF) ; Non research	637.78	0.00	637.78	100.00%	123.76	761.54	321.64
	13 03	European Defence Fund (EDF) ; Research Pilot projects, preparatory actions, prerogatives and other actions	328.51	0.04	328.47	99.99%	0.00	328.47	0.00
	13 20		0.00	0.00	0.00	0.00%	1.97	1.97	7.15
Total Title 13			967.59	0.38	967.21	99.96%	125.73	1 092.94	328.93

TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS

			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7
14	14 02	Neighbourhood, Development and International Cooperation Instrument (NDICI)	0.00	0.00	0.00	0.00%	6.73	6.73	9.86
Total Title 14			0.00	0.00	0.00	0.00%	6.73	6.73	9.86

TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS

			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7

20	20 02	Other staff and expenditure relating to persons	0.01	0.00	0.01	65.21%	0.00	0.01	0.00
Total Title 20			0.01	0.00	0.01	65.21%	0.00	0.01	0.00
Total Excluding NGEU			3 189.02	1 662.77	1 526.25	47.86%	1 125.57	2 651.83	2 385.77

TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2021 (in Mio €) for DG DEFIS

			Commitments to be settled				Commitments to be settled from financial years previous to 2020	Total of commitments to be settled at end of financial year 2021	Total of commitments to be settled at end of financial year 2020
Chapter			Commitments	Payments	RAL	% to be settled			
			1	2	3=1-2	4=1-2/1	5	6=3+5	7
01	01 02	Horizon Europe	19.72	10.12	9.60	48.68%	0.00	9.60	0.00
Total Title 01			19.72	10.12	9.60	48.68%	0.00	9.60	0.00
Total NGEU Only			19.72	10.12	9.60	48.68%	0.00	9.60	0.00
Total for DG DEFIS			3208.743042	1672.89	1 535.85	47.86 %	1 125.57	2 661.43	2 385.77

Breakdown of Commitments Remaining to be Settled (in Mio EUR) in 2021 DEFIS

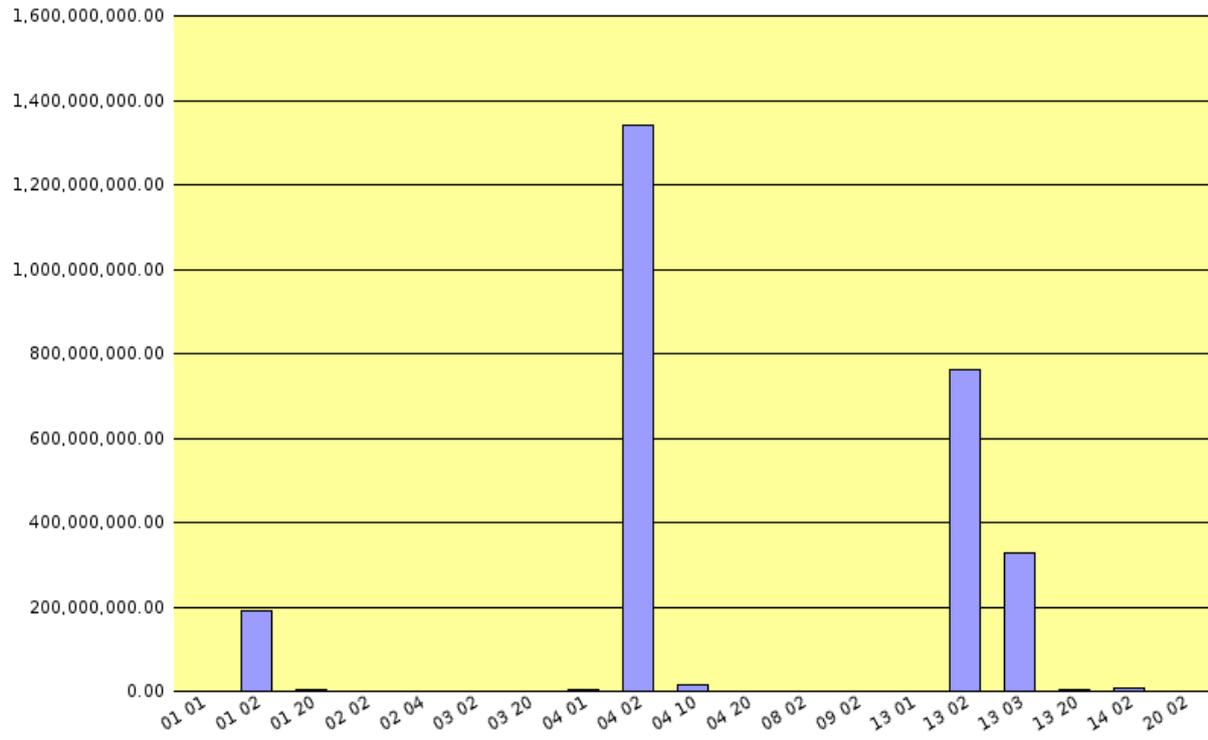


TABLE 4 : BALANCE SHEET for DG DEFIS

BALANCE SHEET				2021	2020
A.I. NON CURRENT ASSETS				8.435.948.337,91	7.242.446.282,42
	A.I.1. Intangible Assets			2.747.879,88	3.327.579,12
	A.I.2. Property, Plant and Equipment			8.128.497.204,22	7.084.318.689,99
	A.I.5. Non-Current Pre-Financing			304.703.253,81	154.800.013,31
A.II. CURRENT ASSETS				2.293.155.539,79	1.814.355.929,99
	A.II.2. Current Pre-Financing			2.293.134.019,85	1.813.766.346,50
	A.II.3. Curr Exch Receiv & Non-Ex Recoverables			21.519,94	589.583,49
ASSETS				10.729.103.877,7	9.056.802.212,41
P.II. CURRENT LIABILITIES				(15.765.148,91)	(11.897.986,14)
	P.II.4. Current Payables			(342.141,73)	(361.587,52)
	P.II.5. Current Accrued Charges & Defrd Income			(15.423.007,18)	(11.536.398,62)
LIABILITIES				(15.765.148,91)	(11.897.986,14)
NET ASSETS (ASSETS less LIABILITIES)				10.713.338.728,79	9.044.904.226,27
P.III.2. Accumulated Surplus/Deficit				2.782.480.631,96	
Non-allocated central (surplus)/deficit*				(13.495.819.360,75)	(9.044.904.226,27)
TOTAL DG DEFIS				0,00	0,00

It should be noted that the balance sheet and statement of financial performance presented in Annex 3 to this Annual Activity Report, represent only the assets, liabilities, expenses and revenues that are under the control of this Directorate General. Significant amounts such as own resource revenues and cash held in Commission bank accounts are not included in this Directorate General's accounts since they are managed centrally by DG Budget, on whose balance sheet and statement of financial performance they appear. Furthermore, since the accumulated result of the Commission is not split amongst the various Directorates General, it can be seen that the balance sheet presented here is not in equilibrium.

Additionally, the figures included in tables 4 and 5 are provisional since they are, at this date, still subject to audit by the Court of Auditors. It is thus possible that amounts included in these tables may have to be adjusted following this audit.

TABLE 5 : STATEMENT OF FINANCIAL PERFORMANCE FOR DG DEFIS

STATEMENT OF FINANCIAL PERFORMANCE			
		2021	2020
	II.1 REVENUES	(405.694.870,13)	(360.037.645,32)
	II.1.1. NON-EXCHANGE REVENUES	(408.879.339,70)	(362.328.264,11)
II.1.1. NON-EXCHANGE REVENUES	II.1.1.6. RECOVERY OF EXPENSES	(21.519,94)	(13.110,46)
	II.1.1.8. OTHER NON-EXCHANGE REVENUES	(408.857.819,76)	(362.315.153,65)
	II.1.2. EXCHANGE REVENUES	3.184.469,57	2.290.618,79
II.1.2. EXCHANGE REVENUES	II.1.2.1. FINANCIAL INCOME	(170,66)	(1.898,14)
	II.1.2.2. OTHER EXCHANGE REVENUE	3.184.640,23	2.292.516,93
	II.2. EXPENSES	1.607.122.622,43	3.142.518.277,28
	II.2. EXPENSES	1.607.122.622,43	3.142.518.277,28
II.2. EXPENSES	II.2.10.OTHER EXPENSES	630.153.171,49	640.215.611,89
	II.2.2. EXP IMPL BY COMMISS&EX.AGENC. (DM)	114.030.661,95	54.642.532,08
	II.2.3. EXP IMPL BY OTH EU AGENC&BODIES (IM)	446.612.720,68	1.179.837.780,52
	II.2.4. EXP IMPL BY 3RD CNTR & INT ORG (IM)	366.344.300,64	1.169.307.455,12
	II.2.5. EXP IMPL BY OTHER ENTITIES (IM)	49.980.178,64	98.514.897,67
	II.2.8. FINANCE COSTS	1.589,03	
	STATEMENT OF FINANCIAL PERFORMANCE	1.201.427.752,30	2.782.480.631,96

TABLE 5bis : OFF BALANCE SHEET for DG DEFIS

OFF BALANCE	2021	2020
OB.1. Contingent Assets	44.914.139,3	33.156.644,67
GR for pre-financing	44.914.139,30	33.156.644,67
OB.3. Other Significant Disclosures	-7.217.590.870,92	-2374894072
OB.3.2. Comm against app. not yet consumed	-2.645.954.703,24	-2.374.894.072,41
OB.3.3.4.Galileo programme	-382.498.121,87	0.00
OB.3.3.5.GMES programme COPERNICUS	-4.189.138.045,81	0.00
OB.4. Balancing Accounts	6.133.434.961,62	1.302.495.677,74
OB.4. Balancing Accounts	6.133.434.981,62	1.302.495.677,74
OFF BALANCE	-1.039.241.750,00	-1.039.241.750,00

TABLE 6: AVERAGE PAYMENT TIMES in 2021 for DEFIS

Legal Times									
Maximum Payment Time (Days)	Total Nbr of Payments	Nbr of Payments within Time Limit	Percentage	Average Payment Times (Days)	Nbr of Late Payments	Percentage	Average Payment Times (Days)	Late Payments Amount	Percentage
20	2	2	100.00 %	7				0	0. %
30	258	257	99.61 %	11.6459144	1	0.39 %	73	385378.65	0. %
45	8	8	100.00 %	18				0	0. %
60	41	41	100.00 %	24.75609756				0	0. %
90	7	7	100.00 %	22.28571429				0	0. %
Total Number of Payments	316	315	99.68 %		1	0.32 %		385378.65	0. %
Average Net Payment Time	13.90822785			13.72063492			73		
Average Gross Payment Time	18.57278481			18.4			73		

Suspensions							
Average Report Approval Suspension Days	Average Payment Suspension Days	Number of Suspended Payments	% of Total Number	Total Number of Payments	Amount of Suspended Payments	% of Total Amount	Total Paid Amount
0	57	26	8.23 %	316	233 636 837.56	7.98 %	2 927 884 431.42

Suspensions										
Average Report Approval Suspension Days	Average Payment Suspension Days	Number of Suspended Payments	% of Total Number	Total Number of Payments	Amount of Suspended Payments	% of Total Amount	Total Paid Amount			
0	57	26	8,23 %	316	233.636.837,56	7,98 %	2.927.884.431,42			
Late Interest paid in 2021										
DG	GL Account	Description					Amount (Eur)			
DEFIS	65010100	Interest on late payment of charges New FR					1 589,03			
						1 589,03				
<u>NB: Table 6 only contains payments relevant for the time statistics. Please consult its exact scope in the AAR Annex3 BO User Guide (https://myintracomm.ec.europa.eu/budgweb/EN/abac/dwh/Pages/its-030-10-20_documentation.aspx).</u>										

TABLE 7 : SITUATION ON REVENUE AND INCOME in 2021 for DG DEFIS

	Chapter	Revenue and income recognized			Revenue and income cashed from			Outstanding
		Current year RO	Carried over RO	Total	Current Year RO	Carried over RO	Total	balance
		1	2	3=1+2	4	5	6=4+5	7=3-6
33	Other administrative revenue	22.924,07	0,00	22.924,07	1.404,13	0,00	1.404,13	21.519,94
40	Revenue from investments and accounts	170,66	0,00	170,66	170,66	0,00	170,66	0,00
60	Single market, innovation and digital	1.065.586,07	0,00	1.065.586,07	1.065.586,07	0,00	1.065.586,07	0,00
66	Other contributions and refunds	56.384.151,27	0,00	56.384.151,27	56.384.151,27	0,00	56.384.151,27	0,00
67	Completion for outstanding recovery orders prior to 2021	3.401,71	13.110,46	16.512,17	3.401,71	13.110,46	16.512,17	0,00
Total DG DEFIS		57.476.233,78	13.110,46	57.489.344,24	57.454.713,84	13.110,46	57.467.824,30	21.519,94

**TABLE 8 : RECOVERY OF PAYMENTS in 2021 for DG DEFIS
(Number of Recovery Contexts and corresponding Transaction Amount)**

INCOME BUDGET RECOVERY ORDERS ISSUED IN 2021	Irregularity		Total undue payments recovered		Total transactions in recovery context (incl. non-qualified)		% Qualified/Total RC	
	Year of Origin (commitment)	Nbr	RO Amount	Nbr	RO Amount	Nbr	RO Amount	Nbr
2012	2	1065586.07	2	1065586.07	2	1065586.07	100.00%	100.00%
2016					1	3401.71		
2019					1	21519.94		
2020					1	44554.77		
No Link					1	1404.13		
Sub-Total	2	1065586.07	2	1065586.07	6	1136466.62	33.33%	93.76%

EXPENSES BUDGET	Irregularity		OLAF Notified		Total undue payments recovered		Total transactions in recovery context (incl. non-qualified)		% Qualified/Total RC	
	Nbr	Amount	Nbr	Amount	Nbr	Amount	Nbr	Amount	Nbr	Amount
INCOME LINES IN INVOICES										
NON ELIGIBLE IN COST CLAIMS	3	3206809.8			3	3206809.8	5	3 267 927.41	60.00%	98.13%
CREDIT NOTES	4	190845.35			4	190845.35	4	190 845.35	100.00%	100.00%
Sub-Total	7	3397655.15			7	3397655.15	9	3458772.76	77.78%	98.23%

GRAND TOTAL	9	4463241.22			9	4463241.22	15	4595239.38	60.00%	97.13%
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TABLE 9: AGEING BALANCE OF RECOVERY ORDERS AT 31/12/2021 for DG DEFIS

	Number at 01/01/2021	Number at 31/12/2021	Evolution	Open Amount (Eur) at 01/01/2021	Open Amount (Eur) at 31/12/2021	Evolution
2020	1		-100.00 %	13 110.46		-100.00 %
2021		1			21 519.94	
	1	1	0.00 %	13 110.46	21 519.94	64.14 %

TABLE 10 :Recovery Order Waivers >= 60 000 € in 2021 for DG DEFIS

Waiver Central Key	Linked RO Central Key	RO Accepted Amount (Eur)	LE Account Group	Commission Decision	Comments
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Total DG DEFIS

Number of RO waivers

TABLE 11 : Negotiated Procedures in 2021 for DG DEFIS

External Procedures > € 20,000

Negotiated Procedure Legal base	Number of Procedures	Amount (€)
Annex 1 - 39.1 (a) - Services entrusted to public-sector bodies or non-profit institutions or organisations	3	206 650
Total	3	206 650

External Procedures > € 60,000

Negotiated Procedure Legal base	Number of Procedures	Amount (€)
Annex 1 - 11.1 (b) – Artistic/technical reasons or exclusive rights or technical monopoly/captive market	1	1 492 140.00
Total	1	1 492 140.00

TABLE 12 : Summary of Procedures in 2021 for DG DEFIS

TABLE 12 : Summary of Procedures in 2021 for DG DEFIS			
External Procedures > € 20,000			
Procedure Legal base	Number of Procedures	Amount (€)	
Negotiated procedure with single tender (Annex 1 - 39.1)	3	206 650,00	
Total	1	206 650,00	
Internal Procedures > € 60,000			
Procedure Legal base	Number of Procedures	Amount (€)	
Negotiated procedure with single tender (Annex 1 - 11.1)	1	1.492.140,00	
Open procedure (FR 164 (1)(a))	16	26.797.575,55	
Total	17	28.289.715,55	
Additional Comments:			

TABLE 13 : BUILDING CONTRACTS in 2021 for DG DEFIS

Legal Base	Procedure subject	Contract Number	Contractor Name	Contract Subject	Contracted Amount (€)

TABLE 14 : CONTRACTS DECLARED SECRET in 2021 for DG DEFIS

Legal Base	LC Date	Contract Number	Contract Subject	Contracted Amount (€)

TABLE 15 : FPA duration exceeds 4 years - DG

None of your FPA (if any) exceeds 4 years

ANNEX 4: Financial Scorecard

Indicator	Objective		DEFIS Score	EC Score
1. CA Implementation	Ensure efficient use of commitment appropriations expiring at the end of Financial Year		100%	67%
2. CA Forecast Implementation	Ensure the cumulative alignment of the commitment implementation with the commitment forecast in a financial year		99%	88%
3. PA Implementation	Ensure efficient use of payment appropriations expiring at the end of Financial Year	*PA Implementation higher than 100% is a result of DG DEFIS consuming payment appropriations of a different DG under a co-delegation, which were not transferred to DG DEFIS.	100%	97%
4. PA Forecast Implementation	Ensure the cumulative alignment of the payment implementation with the payment forecast in a financial year		100%	98%
5. Global Commitment Absorption ³⁰	Ensure efficient use of already earmarked commitment appropriations (at L1 level)		99%	98%
6. Timely Payments	Ensure efficient processing of payments within the legal deadlines	DG DEFIS put in place efficient controls to ensure a timely payment of its transactions, maintaining in 2021 a score of 100% paid on time.	100%	98%

⁽³⁰⁾ Due to technical limitation, the indicator does not take into account the Com L1 Consumption between the FDC ILC date and the FA FDI allowed as an exception in the external actions for Com L1 of type GF, i.e. with Financing Agreement, under the FR2018 Article 114.2. As a result, the actual Indicator score may be slightly higher than the one reported for DGs using the GF commitments.

7. Timely Decommittments	Ensure efficient decommitment of outstanding RAL at the end of commitment life cycle	DG DEFIS will improve its checks on decommitments to reach a better performance in this domain. Considering the high workload in 2021, priority in terms of financial management was given to commitments and payments in order to reach full budget execution.	55%	76%
8. Invoice Registration Time	Monitor the accounting risk stemming from late registration of invoices in the central accounting system ABAC		99%	94%
9. Accounting Data Quality	Ensure the good data quality of ABAC transactions with the focus on fields having a primary impact on the accounts		99%	99%
10. Management Data Quality	Ensure the good data quality of ABAC transactions with the focus on fields having a primary impact on the management decisions		99%	96%

ANNEX 5: Materiality criteria

Without prejudice of maintaining a reservation for its reputational reasons if applicable.

The present document details the way DEFIS assesses the level of errors in its annual financial statements and the definition of the level of misstatement that is considered as quantitatively material. The overall control objective is to ensure that the residual error rate affecting the relevant expenditure of 2021 remains below 2%.

DEFIS's expenditure is composed of (in order of importance), indirectly managed grants (H2020, Horizon Europe), directly managed grants (EDIDP, EDF) and other direct spending mostly of an administrative nature. The error rate affecting payments is estimated yearly and per management system, following a methodology that takes into account the risk associated to the type of expenditure (in terms of probability and final financial impact).

DEFIS managed in 2021 financial operations under GNSS (Galileo, Egnos), Copernicus, H2020 and other programmes such as EDIDP. Considering that the biggest part of DEFIS's yearly expenditure is related to indirectly managed Space Delegation agreements, the following section focusses on this specific management system.

A. Space programmes (GNSS, Copernicus)

The assessment of the effectiveness of the different programmes' control system is based on ex-ante verification and on ex-post audits' results. The effectiveness is expressed in terms of detected and residual error rate, calculated from the best available estimates.

Assurance on the efficient use of delegated fund is obtained through the following elements:

- Before signing a Delegation agreement (Contribution agreement under current MFF), the entrusted entity undergoes a pillar assessment on its internal control environment
- Pre-financing payments are subject to ex-ante operational and financial verification of the quarterly/semestrial and annual implementation reports (respectively QIRs/SIRs and AIRs) provided by entrusted entities; assessing the reliability of budgetary data; keeping an up to date overview of commitments and payments forecasted and executed; ensuring that actual and forecasted expenses remain within the allocated budget; checking actual expenditure versus forecast, and updating cash needs and level of commitments; developing a long-term financial planning covering the full MFF; verifying consistency of figures and challenging costs reported based on information provided; justifying acceptance of costs and clearings, analysing the schedule, its credibility and challenging it, if needed; analysing the risks and the effectiveness of the mitigation actions proposed; analysing the KPIs and ensuring they are in the limits requested by the programme.
- In depth ex-ante controls of accounting data, ex-ante checks of reported costs on assets at year end (review of status of contracts)

- Ex-post audits performed by DG DEFIS on annual declared cost. For ESA and GSA, all Annual Implementation Reports under the different programmes are audited every year. The other entrusted entities are audited every two years.

The errors detected during the audit have no impact on the legality and regularity of the amounts paid to the entities, because final annual eligible costs, taking into account audit adjustments, are cleared from the total outstanding pre-financing amount.

The error rates used for the calculation of the amount at risk at payments for each programme are the detected error rates stemming from the finalized ex-post audits performed for the respective year. The detected error rate is calculated as a comparison between the errors and the amount of the audited sample of the AIR. As all errors are corrected through adjustments in the clearing, the detected error rate for Space programmes is equal to the residual error rate.

DG DEFIS considers that the error rates detected by its audits are a reliable indicator for the legality and regularity of the non-audited transactions. Furthermore, based on its monitoring and supervision, DG DEFIS considers that the level of error remains relatively stable over the years. Even if the error rate happens to be very low DG DEFIS decided to use an error rate of 0.5% as a conservative approach.

B. Research framework programme H2020

Assessment of the effectiveness of controls

The starting point to determine the effectiveness of the controls in place is the cumulative level of error expressed as the percentage of errors in favour of the EC, detected by ex-post audits, measured with respect to the amounts accepted after ex-ante controls.

However, to take into account the impact of the ex-post controls, this error level is to be adjusted by subtracting:

- Errors detected corrected as a result of the implementation of audit conclusions.
- Errors corrected as a result of the extension of audit results to non-audited contracts with the same beneficiary.

This results in a residual error rate, which is calculated in accordance with the following formula:

$$\text{Re } sER\% = \frac{(\text{Re } pER\% * (P - A)) - (\text{Re } pER_{sys}\% * E)}{P}$$

where:

ResER% residual error rate, expressed as a percentage.

- RepER%** representative error rate, or error rate detected in the common representative sample, expressed as a percentage. The RepER% is composed of complementary portions reflecting the proportion of negative systematic and non-systematic errors detected. This rate is the same for all implementing entities, without prejudice to possibly individual detected error rates.
- RepERsys%** portion of the RepER% representing negative systematic errors, (expressed as a percentage). The RepERsys% is the same for all entities and it is calculated from the same set of results as the RepER%
- P** total requested EC contribution (€) in the auditable population (i.e. all paid financial statements).
- A** total requested EC contribution (€) as approved by financial officers of all audited financial statements. This will be collected from audit results.
- E** total non-audited requested EC contribution (€) of all audited beneficiaries.

For H2020, the Common Representative Sample (CRS), handled by the Common Audit Service (CAS) of RTD, is the starting point for the calculation of the residual error rate. It is representative of the expenditure of each FP as a whole. Nevertheless, the Director-General (or Director for the Executive Agencies) must also take into account other information when considering if the overall residual error rate is a sufficient basis on which to draw a conclusion on assurance (or make a reservation) for specific segment(s) of the Seventh Framework Programme (FP7)/Horizon 2020. This may include the results of other ex-post audits, ex-ante controls, risk assessments, audit reports from external or internal auditors, etc. All this information may be used in assessing the overall impact of a weakness and considering whether to make a reservation or not.

If the CRS results are not used as the basis for calculating the residual error rate this must be clearly disclosed in the AAR, along with details of why and how the final judgement was made.

Should a calculation of the residual error rate based on a representative sample not be possible for a FP for reasons not involving control deficiencies,³¹ the consequences are to be assessed quantitatively by making a best estimate of the likely exposure for the reporting year based on all available information. The relative impact on the Declaration of Assurance would then be considered by analysing the available information on qualitative grounds and considering evidence from other sources and areas. This should be clearly explained in the AAR.

⁽³¹⁾ Such as, for instance, when the number of results from a statistically-representative sample collected at a given point in time is not sufficient to calculate a reliable error rate.

Multi-annual approach

The Commission's central services' guidance relating to the quantitative materiality threshold refers to a percentage of the authorised payments of the reporting year of the ABB expenditure. However, the Guidance on AARs also allows a multi-annual approach, especially for budget areas (e.g. programmes) for which a multi-annual control system is more effective. In such cases, the calculation of errors, corrections and materiality of the residual amount at risk should be done on a "cumulative basis" on the basis of the totals over the entire programme lifecycle.

Because of its multiannual nature, the effectiveness of the Research and Innovation family services' control strategy can only be fully measured and assessed at the final stages in the life of the framework programme, once the ex-post audit strategy has been fully implemented and systematic errors have been detected and corrected.

In addition, basing materiality solely on ABB expenditure for one year may not provide the most appropriate basis for judgements, as ABB expenditure often includes significant levels of pre-financing expenditure (e.g. during the initial years of a new generation of programmes), as well as reimbursements (interim and final payments) based on cost claims that 'clear' those pre-financings. Pre-financing expenditure is very low risk, being paid automatically after the signature of the contract.

Notwithstanding the multiannual span of their control strategy, the Directors-General of the Research DGs (and the Directors of the Executive Agencies implementing Research and Innovation Framework Programmes) are required to sign a statement of assurance for each financial reporting year. In order to determine whether to qualify this statement of assurance with a reservation, the effectiveness of the control systems in place needs to be assessed not only for the year of reference but also with a multiannual perspective, to determine whether it is possible to reasonably conclude that the control objectives will be met in the future as foreseen.

In view of the crucial role of ex-post audits defined in the respective common audit strategies, this assessment needs to check in particular whether the scope and results of the ex-post audits carried out until the end of the reporting period are sufficient and adequate to meet the multiannual control strategy goals.

The criteria for making a decision on whether there is material error in the expenditure of the DG or service, and thus, on whether to make a reservation in the AAR, will therefore be principally, though not necessarily exclusively, based on the level of error identified in ex-post audits of cost claims on a multi-annual basis.

Adequacy of the audit scope

The quantity of the (cumulative) audit effort carried out until the end of each year is measured by the actual volume of audits completed. The data is to be shown per year and cumulated, in line with the current AAR presentation of error rates. The multiannual

planning and results should be reported in sufficient detail to allow the reader to form an opinion on whether the strategy is on course as foreseen.

The Director-General (or Director for the Executive Agencies) should form a qualitative opinion to determine whether deviations from the multiannual plan are of such significance that they seriously endanger the achievement of the internal control objective. In such case, she or he would be expected to qualify his annual statement of assurance with a reservation.

Revised methodology for the calculation of the error rate for Horizon 2020

[European Court of Auditors observations](#)

The European Court of Auditors observed in its 2018 and 2019 Annual Reports that the error rate of Horizon 2020 was understated due to the fact that the “*ex-post audits aim for maximum coverage of the accepted costs, but rarely cover all the costs. The error rate is calculated as a share of all the accepted costs, instead of the amount actually audited. This means that the denominator in the error calculation is higher, so the error rate is understated. In case the errors found are of a systemic nature, the error is extrapolated which partially compensates for the above-mentioned understatement. However, since extrapolation is not performed for non-systemic errors, the overall error rate is nevertheless understated. The understatement of the error rate cannot be quantified. It is, then, impossible to determine whether the impact of this understatement is significant*”.

In response to this observation, in 2020 the Commission re-defined its methodology for calculating the Horizon 2020 error rate. In order to quantify any potential understatement mentioned by the Court, the Commission applied a new methodology for all audits closed as from 01 January 2020. The main change in the methodology is that, the denominator used in the error calculation is the sum of costs actually audited and not the sum of all accepted costs.

In this respect, an additional 0.37 % (calculated on 1 304 H2020 audit participations by difference with the previous methodology) has been used to top up the cumulative detected error rate for 2021.

[IAS limited review on the 2020 error rate calculation for H2020](#)

The IAS has carried out a limited review on the methodology for calculation of the error rates of Horizon 2020 in year 2020. The findings of this limited review confirmed that there is no weakness in the calculation of the detected error rate and that the impact of these findings on the accuracy of the calculation of the residual error rate is minor. The IAS recommended that:

1. The CIC should:
 - Calculate the corporate H2020 residual error rate based on the actual level of implementation of audit results and extension of audit findings stemming from data encoded by the Authorising Officers;;

- 1.2 Considering that there is no data on the sampled amounts for audits closed before 2020, estimate the amount actually audited by calculating the ratio of costs actually audited to the total amount of the related accepted cost claims for all the audits closed since 1 January 2020 ('A' parameter in the formula for calculating the residual error rate) and adapt parameter 'E' accordingly;
 - 1.3 Formalise the changes in the residual error rate calculation (e.g. in a written CAS procedure).
2. The CAS should:
- 2.1. Change the audit report template to include a line in the table of Annex 1 with the audited amounts (sampled);
 - 2.2. Include fields in AUDEX to encode the audited amounts per participation and cost category and any other IT tool used to register the ex post audits' data which feed the Microsoft Access database for the calculation of the representative detected error rate;
 - 2.3. Calculate the top-up automatically in the Microsoft Access database. For Horizon Europe, the calculation will be in line with the new methodology and no top up calculation will be required.

Recommendations 1.1 to 2.1 were implemented in 2021. Recommendations 2.2 and 2.3 will be implemented in time within 2022.

C. Other programmes

For Horizon Europe, the general control objective is to ensure that the risk at payment and at closure does not exceed 2%³².

For all other programmes implemented by DEFIS (EDIDP i.e.) the general objective is to ensure that the residual error rate, i.e. the level of errors which remain undetected and uncorrected, does not exceed 2% by the end of the programmes' management cycle.

D. De 'minimis' threshold for financial reservations

"Since 2019³³, a 'de minimis' threshold for financial reservations has been introduced. Quantified AAR reservations related to residual error rates above the 2% materiality threshold, are deemed not substantial for segments representing less than 5% of a DG's

⁽³²⁾ COM(2018) 436 final Proposal for a decision of the European Parliament and of the council on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation see section 2.2 page 26. states that the expected risk of error at payment for grants with a funding model based on the reimbursement of real costs is 2.5-3.5 %. The risk of error at closure (after the effect of controls and corrections) is around (but not necessarily below) 2 %. The expected risk of error for grants with a funding model based on lump sum funding is close to 0 % (at payment and at closure). The overall expectation for error rates will depend on the balance between the two methods of funding (reimbursement of eligible costs and lump sums).

⁽³³⁾ Agreement of the Corporate Management Board of 30/4/2019.

total payments and with a financial impact below EUR 5 million. In such cases, quantified reservations are no longer needed."

ANNEX 6: Relevant Control System(s) for budget implementation (RCSs)

RCS N°1: Budget entrusted to other entities

This RCS covers:

- (1) under indirect management, the agreements with **ESA** for the EGNSS, Galileo FOC, EGNOS, GMES, Copernicus, IOD/IOV (under Horizon 2020)
- (2) under indirect management, the EGNSS agreement with EUSPA and the Copernicus agreements with **EUMETSAT, ECMWF, EEA, EMSA, FRONTEX, SATCEN**;
- (3) under indirect management, the agreement with EDA and agreements with OCCAR for defence industry programmes;
- (4) cross sub-delegations to **other Commission services** (such as JRC).

Stage 1 – Establishment (or prolongation) of the mandate to the Entrusted Entity (EE)

Main control objectives: Ensure that the legal framework for the management of the relevant funds is fully compliant and regular (legality & regularity), that is delegated to the appropriate entity (best value for public money, economy, efficiency), without any conflicts of interests (anti-fraud strategy) and gives all the rules necessary for a smooth running by the EE.

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>Contributions Agreement (CA) does not clearly set out :</p> <ul style="list-style-type: none"> - delegated tasks, responsibilities of each involved actor - internal control and reporting requirements to be observed - arrangements for protection of EU financial interests and 	<p>Take the <i>lessons learned</i> from prior similar CAs</p> <p>Ex-ante review by the relevant staff within DG DEFIS</p> <p>Consultation of the central EU services (DG BUDG, Legal Service)</p> <p>Hierarchical validation within the authorising directorate</p> <p>Describe modalities of cooperation, supervision and</p>	<p>Coverage/Frequency: 100 %/once</p> <p>Depth: Checklist includes a list of the requirements of the regulatory provisions to be complied with.</p> <p><u>Factors</u> would be (i) whether it is an establishment or a prolongation, (ii) whether it involves selecting an entity and (iii) consistency with any other entities entrusted by the same DG or family.</p>	<p>Costs: estimation of FTEs involved in the preparation and adoption work</p> <p>Benefits:</p> <ul style="list-style-type: none"> - Total budget amount entrusted to the entity in case of detection of no significant (legal) errors - DG DEFIS reputation intact <p>Effectiveness:</p> <ul style="list-style-type: none"> - Quality of the legal

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>transparency of operations</p> <p>- right of the European Court of Auditors (ECA) and the European Anti-Fraud Office (OLAF) to comprehensively exert their competences to audit the entrusted funds</p> <p>Specific risks related to industrial procurement to be carried out by ESA on behalf of DG DEFIS in the complex oligopolistic space market</p> <p>Specific risks related to industrial procurement to be carried out by GSA in the complex oligopolistic space market</p>	<p>reporting in the CA</p> <p>Explicit allocation of supervision responsibility to individual officials (reflected in task assignment or function descriptions)</p> <p>Ex-ante verification of the procurements procedures carried out by the EE in their own name (for example: EC procurement board with ESA), or on behalf of the EU</p> <p>Scrutiny verification by DG DEFIS of industrial procurements procedures carried out by the EUSPA</p>		<p>work (Basic Act, Legal and Financial Statement and Contribution Agreements(CA))</p> <p>- no ECA or OLAF observations</p> <p>Efficiency:</p> <p>- Average cost of preparation, adoption work done compared with similar cases as benchmark</p> <p>Economy:</p> <p>- ratio FTEs/funds entrusted (economic when below 10-15 %)</p>

Stage 2 – Ex-ante (re)assessment of the entrusted entity’s financial and control framework

Main control objectives: Ensuring that the EE is fully prepared to start/continue implementing the delegated funds autonomously with respect of all 5 Internal Control Objectives (ICOs) (*legality and regularity, sound financial management, true and fair view reporting, safeguarding assets and information, anti-fraud strategy*).

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E’s)
<ul style="list-style-type: none"> - Before entrusting tasks of budget implementation to the EE, DG DEFIS has not obtained evidence that the financial and control framework deployed by the EE is sufficiently mature to guarantee achieving all 5 ICOs - The EE’s own financial framework differs from the EU FR and the two parallel systems coexist with the risk of the EE’s own system being applied to EU funds - The EE has not 	<ul style="list-style-type: none"> - DG DEFIS internal or independent external ex-ante assessment of the EE ensuring that there is the same level of protection of the financial interests of the Union equivalent to the one that is provided for when the Commission implements the EU budget (Article 62 FR³⁴) - Hierarchical validation within the authorising directorate - Require justification and prior consent for any deviation to financial rules (e.g. Riders or Contract Change Notices) 	<p>Coverage/frequency:</p> <ul style="list-style-type: none"> - <u>International organisations</u>: prior to the signature, assessment of internal control system of the EE followed if necessary by ad hoc targeted system controls - <u>Agencies</u>: targeted system controls/ad hoc - <u>AOXD</u>: reliance on other DG’s control system <p>Depth:</p> <ul style="list-style-type: none"> - 100 % 	<p>Costs:</p> <ul style="list-style-type: none"> - estimation of FTEs involved in the ex-ante assessment process (including missions) - cost of outsourced independent external “pillar” (re)assessment of the EE’s control system(s) <p>Benefits:</p> <ul style="list-style-type: none"> - Total budget amount entrusted to the EE if no significant system weaknesses are detected - DG’s reputation remains intact <p>Effectiveness:</p> <ul style="list-style-type: none"> - no ECA or IAS observations - n° of recommendations

⁽³⁴⁾ The future entrusted entities must meet requirements with regard to the following nine “pillars”: 1. the internal control system, 2. the accounting system, 3. an independent external audit, as well as rules and procedures for: 4. providing financing from EU funds through grants (optional), 5. procurement (optional), 6. financial instruments (optional), 7. exclusion from access to funding, 8. publication of information on recipients, 9. protection of personal data.

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
timely informed DG DEFIS about substantial changes made to its systems, rules and procedures that relate to the management of the EU funds entrusted	<ul style="list-style-type: none"> - Require timely notification by the EE of any changes to its financial or control systems subsequent to the signature of the CA - Statement obtained from another DG which also has a CA with the EE 		<p>proposed to EE as result of assessment (i.e. deviations from EU FR identified)</p> <ul style="list-style-type: none"> - quality of ex-ante assessment <p>Efficiency Indicators:</p> <ul style="list-style-type: none"> - Time-To-Implement recommendations (by the EE) - Time-To-(Re)Assess <p>Economy:</p> <p>Ratio FTEs/funds entrusted (economic when below 10-15 %)</p>

Stage 3 – Implementation: monitoring, supervision, reporting

Main control objectives: Ensure that the CA objectives are achieved and that DG DEFIS is fully and timely informed of any relevant management issues encountered by the EE, in order to possibly mitigate potential financial and/or reputational impacts (legality & regularity, sound financial management, true and fair view reporting, anti-fraud strategy).

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<ul style="list-style-type: none"> - Low quality programme results, delayed programme implementation, non-achievement of policy objectives / desired impact on society. - Due to weak modalities of cooperation, supervision and reporting, DG 	<p>Detailed reporting modalities included in CA (incl. regular programme evaluation).</p> <p>Reinforced monitoring:</p> <ul style="list-style-type: none"> - increased participation in EE's governance bodies and technical committees 	<p>Coverage: 100 % of the entities are monitored/supervised.</p> <p>Frequency:</p> <ul style="list-style-type: none"> - daily (operational/financial/ technical issues) - monthly (briefings and reports for high level governance meetings) - quarterly (report analysis) - annual (AOXD) 	<p>Costs: estimation of FTEs involved in monitoring and supervision (including missions).</p> <p>Benefits:</p> <ul style="list-style-type: none"> - Total budget amount entrusted to the EE if no significant (legal, management, accounting, fraud, reporting) errors are

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>DEFIS is not fully and timely informed of relevant financial and/or management issues encountered by the EE, and/or does not (timely) react upon notified issues by mitigating them or by making a reservation for them – which may reflect negatively on the DG's governance reputation and quality of accountability reporting.</p> <p>- EE's financial and control systems are not functioning as expected, even though the outcome of the system (re)assessment was satisfactory (e.g. assets not correctly registered in EEs accounts)</p> <p>- EE's procedures are changed during the mandate</p>	<ul style="list-style-type: none"> - detailed analysis of all reports submitted by the EE; if necessary, request additional ad hoc reports - outsourcing of technical assistance on general programme management and ad hoc topics (e.g. asset management, systems audits) - regular EE audits by DG DEFIS, IAS, ECA and close follow-up of implementation of audit recommendations - management review of the supervision results (e.g. regular DEFIS-ESA meeting at Director-General level) - monthly EC/ESA/GSA directors meetings to tackle specific issues - set up of ad hoc DEFIS - EE Task Forces to tackle problematic issues - if necessary, 	<p>reports, review of Annual Reports for reservations)</p> <p><u>In case of</u> operational / financial issues, measures are reinforced.</p> <p>The depth depends on the <u>mandate</u> given to the entity, and on the level of DG DEFIS access to the EE's internal control information.</p>	<p>detected</p> <ul style="list-style-type: none"> - DG's reputation remains intact <p>Effectiveness:</p> <ul style="list-style-type: none"> - CA objectives achieved on time - cut-off and closure exercise carried out within deadline - relevance, reliability and quality of control data reported back by EE - n° of serious IAS or ECA findings on control failures - n° of regular monitoring actions, n° of issues under reinforced monitoring, budget % value and amount of errors detected ex-post - Parent DG's AAR assurance on EEs budgets <p>Efficiency Indicators:</p> <ul style="list-style-type: none"> - no amendments to CA to extend programme implementation deadline - CA renewed

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
	referral to OLAF - DG DEFIS is informed in due time of changes in order to assess the impact on the implementation of EU funds and agree or not on changes		- Time-To-Implement audit recommendations Economy: - Ratio FTEs/funds entrusted (economic when below 10-15 %)

Stage 4 – Commission contribution: payment or suspension/interruption

Main control objectives: Ensure that the Commission fully assesses the management situation at the entrusted entity (EE), before either paying out the (next) financial contribution for the operational and/or operating budget of the entity, or deciding to suspend/interrupt the (next) contribution (legality & regularity, sound financial management, anti-fraud strategy).

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>The Commission pays out the (next) contribution to the entrusted entity:</p> <ul style="list-style-type: none"> - while not being aware of management issues that may lead to financial and/or reputational damage - despite being aware of such issues - with incorrect calculation of the cash needs of the entrusted entity - with no implementation of the audit results by the entrusted entity 	<ul style="list-style-type: none"> - Require EE to report back on management issues as soon as possible - Ex-ante operational and financial verifications leading to correction of errors and restatement of corrected contribution request - Management review of supervision results - Hierarchical validation of contribution payment and recovery of non-used funds - If necessary, suspension or interruption of payments 	<p>Coverage: 100 % of the contribution payments.</p> <p>Frequency: as per transfer agreement or transfer request</p> <p>The depth depends on the <u>mandate</u> of the (type of) entity, inter alia whether DG DEFIS has full access to the entity's internal control information.</p>	<p>Costs: estimation of FTEs involved in the ex-ante verifications</p> <p>Benefits:</p> <ul style="list-style-type: none"> - value of errors detected by ex-ante controls - Total budget amount entrusted to the entity if no significant (legal, management, accounting, fraud, reporting) errors are detected - DG's reputation remains intact <p>Effectiveness:</p> <ul style="list-style-type: none"> - amount of unused operating budget recovered (if any) - budget amount of the suspended/interrupted payments (if any). <p>Efficiency Indicators:</p> <ul style="list-style-type: none"> - Time-To-Pay /Recover <p>Economy:</p> <ul style="list-style-type: none"> - Ratio FTEs/funds entrusted (economic when below 10-15 %)

Stage 5 – Audit and evaluation

Main control objectives: Ensuring that assurance building information on the EE’s activities is being provided through independent sources as well, which may confirm or contradict the management reporting received from the entrusted entity itself (on the 5 ICOs).

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E’s)
<ul style="list-style-type: none"> - The Commission has insufficient information from independent sources on the EE’s management achievements, which prevents drawing conclusions on the assurance for the budget entrusted to the Entity – which may reflect negatively on the Commission’s governance reputation and quality of accountability reporting - Decentralised agencies do not fully cooperate with the Discharge authorities and do not provide, as appropriate, any necessary additional information - The entrusted AOXD’s control system is subject to AAR reservations 	<ul style="list-style-type: none"> - CA to specify independent audit function and cooperation with IAS and ECA - DG DEFIS own on-the-spot ex-post audits of the EE and/or its beneficiaries - potential escalation of any major governance-related issues - Interim evaluations by independent experts of achievement of policy objectives - if necessary, refer to OLAF 	<p>Coverage: All delegation agreements are checked through samples. Regarding the subsidy paid to GSA, the budget executed on behalf of DG DEFIS, is checked by the European Court of Auditors. DG DEFIS does not perform ex-post audits on this subsidy of this agency. The AOXD’s systems are presumed to be up to Commission standards.</p> <p>Frequency: once a year or every second year, depending on the entrusted entity</p> <p>The depth depends on the <u>mandate</u> of the (type of) entity, inter alia whether the Commission has full access to the entity’s internal control information.</p>	<p>Costs:</p> <ul style="list-style-type: none"> - estimation of FTEs involved in the coordination and execution of the own audits - Ex-post audit mission costs - Cost of outsourced audits <p>Benefits:</p> <ul style="list-style-type: none"> - Assurance of the AOD that the population audited is clean of error - % rate and value of errors detected by own audits (and subsequently corrected) <p>Effectiveness:</p> <ul style="list-style-type: none"> - unqualified opinion by the EE’s independent external auditor on the EE’s annual financial statements - detected error rate of own ex-post audits of EE below materiality threshold - n° of own audits - n° and amount of errors detected by own audits <p>Efficiency:</p> <ul style="list-style-type: none"> - value of total

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
and/or ECA criticism			payments audited - Number of audits launched in the year versus annual target - Number of audits closed in the year versus annual target Economy: - ratio: annual cost of own audits / amount of all errors detected - average cost per audit

RCS N°2: Assets

This RCS covers: the physical assets of the EGNSS and Copernicus space programmes

Stage 1 – Recognition: establishment of the Commission's rights on assets in the underlying agreements

Main control objectives: Negotiation of contractual terms. Ensure that the legal framework (agreements with entrusted entities) for the management of the EU assets is fully compliant and regular (legality & regularity) with an appropriate set-up of requirements related to the safeguarding of assets, inventory management and accounting information (true and fair view).

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>Contribution Agreement does not clearly set out :</p> <ul style="list-style-type: none"> - delegated tasks - the requirements related to the ownership, safeguarding and management of EU property - internal control and reporting requirements - arrangements for protection of EU financial interests and transparency of financial operations - right of the European Court of Auditors (ECA) and the European Anti- 	<p>1) Investment of adequate time and effort in drafting the new Contribution Agreement:</p> <ul style="list-style-type: none"> - Inter-service consultation of relevant Commission services - Detailed and unambiguous modalities of cooperation , supervision and reporting - Stipulations with regard to transfer of ownership and the detailed asset 	<p>Coverage/Frequency 100 %/once</p> <p>Depth: In-depth control, full investment of DG DEFIS operational, financial and legal units</p>	<p>Costs: estimation of FTEs involved in the preparation and adoption work</p> <p>Benefits:</p> <ul style="list-style-type: none"> - Proper safeguarding of the EU property - DG DEFIS reputation intact - Cost-efficient implementation of the Delegation Agreement <p>Effectiveness:</p> <ul style="list-style-type: none"> - Quality of the legal work (Basic Act, Legal and Financial Statement and DA) - Timely receipt of adequate reporting in line with requirements Delegation Agreements - no ECA, IAS or OLAF criticism <p>Efficiency:</p> <ul style="list-style-type: none"> - Time and average cost of preparation, adoption work done compared with similar cases as benchmark

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
Fraud Office (OLAF) to comprehensively exert their competences to audit the entrusted funds	management and reporting requirements		Economy: - Ratio FTEs/funds entrusted (economic when below 2 %)

Stage 2 – Protection: recording, ensuring correct asset valuation

Main control objectives: Ensuring that the Commission registers and protects its asset correctly, including the safeguarding of assets and reliable and accurate asset valuation and reporting (true and fair view)

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>The implementation of the Agreements entail weaknesses, which lead to the Commission's legal rights in terms of assets ownerships not being duly protected and/or registered and/or reliably reported</p> <p>Non respect of EU accounting rules regarding assets and inventories</p> <p>Inaccurate valuation of assets</p>	<p>Clear programme specific accounting guidelines, inspection, depreciation and de-commissioning rules</p> <p>Formal agreement of Accounting Officer asked for accounting decisions with a material impact</p> <p>Organisation of asset workshops with the entrusted entities</p> <p>Regular meetings of the asset working group with members</p>	<p>Coverage/Frequency: Full coverage/yearly</p> <p>Depth: In-depth control, full investment of DG DEFIS accounting team in co-operation with operational units</p>	<p>Costs: estimation of cost of staff involved. Cost of the contracted services (if applicable)</p> <p>Benefits: The (average annual) total value of the significant errors detected and thus prevented in terms of the Commission's rights</p> <p>Effectiveness: Number of material internal and external audit findings about incorrect valuation of assets</p> <p>The valuation of assets within the deadlines imposed by the Directorate-general for Budget</p> <p>Efficiency: Time spent on controls</p>

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
	<p>from the accounting team, DG for Budget and operational units</p> <p>In depth ex-ante controls of accounting data, including sample-wise ex-ante checks of underlying cost and regular checks of inventories</p>		<p>related to the asset value</p> <p>Economy: Cost of valuation and accounting of the Commission's assets and evolution over time</p>

Stage 3 – Overall monitoring of proper safeguarding of assets

Main control objectives: Ensuring that the Commission’s property is safeguarded properly

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E’s)
<p>Lack of complete and reliable assets register</p> <p>Lack of safeguarding of assets (for example assets lost, damaged or disposed without prior permission of the EU)</p>	<p>Physical inspection of assets under EU ownership</p> <p>Define formal procedure for disposal of assets</p> <p>Other monitoring measures adequate to the programme (i.e. monitoring of asset performance, signal provision)</p>	<p>Performance of physical inspections on the basis of the Multi-annual assets verification programme on a risk based approach.</p>	<p>Costs: estimation of cost of staff & missions involved.</p> <p>Benefits: assurance on the existence and safeguarding of the total value of EU assets</p> <p>Budget value of items lost detected</p> <p>Effectiveness:</p> <p>Value of assets inspected per three years as % of net asset (equipment) value</p> <p>Number of follow-up actions</p> <p>Efficiency:</p> <p>Time spent and cost of missions related to the value of assets inspected</p> <p>Economy: Cost of inspections of the EU assets and evolution over time</p>

Stage 4 - Ex-Post controls: supervision monitoring, reviews, audits – plus corrections

Main control objectives: Measuring the effectiveness of ex-ante controls; detect and correct any error with regard to the underlying cost remaining undetected after the implementation of ex-ante controls. Ensuring that the appropriate corrections are being made

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>The ex-ante controls fail to prevent, detect and correct errors in the valuation of the assets</p>	<p>Ex-post audits of cost reported by the entrusted entities that form the basis for the EU asset valuation</p>	<p>Coverage ex post audits:</p> <ul style="list-style-type: none"> • Representative sample: random or MUS sample sufficiently representative to draw valid management conclusions • Risk-based sample, determined in accordance with the selected risk criteria, aimed to maximise error correction (either higher amounts or expected error rate). 	<p>Costs: estimation of cost of staff involved in the supervision and audit strategy</p> <p>Benefits: budget value of the errors, detected by the auditors, which have actually been corrected.</p> <p>Effectiveness: Representative error rate below 2 %.</p> <p>Efficiency: total (average) annual cost of audits compared with benefits (ratio).</p> <p>Economy: Cost of ex-post audits of the underlying cost of asset valuation and evolution over time</p>

RCS N° 3: Procurement

This RCS covers: DG DEFIS own procurement under direct management, which is mostly for studies and technical assistance:

Stage 1 – Decision to launch a procurement procedure (call for tender)

A – Planning

Main control objectives: Effectiveness, efficiency and economy. Compliance (legality and regularity).

Main risks	Mitigating controls	Coverage frequency and depth	Cost-Effectiveness indicators (three E's)
<ul style="list-style-type: none"> - The procurement needs are not clearly defined or justified from an economic or operational point of view - Discontinuation of the services provided due to poor/late planning and organisation of the procurement process - Lack of expert knowledge and experience in the highly regulated field of procurement which may lead to the wrong choice of procedure/thresholds and the splitting of purchases - Conflict of interests 	<ul style="list-style-type: none"> - Publication of intended procurements - Detailed financial procedures - In-house technical trainings on procurement management - Regular information on ethics, integrity and fraud awareness to all staff involved in the procurement process 	<ul style="list-style-type: none"> - 100 % of forecast procurements are included in the DG DEFIS Monitoring Tool. 	<p>Costs:</p> <ul style="list-style-type: none"> - estimation of FTEs involved and the related contract values (if external expertise is used) <p>Quantified Benefits:</p> <ul style="list-style-type: none"> - Amount of rejection of unjustified purchases <p>Non Quantified Benefits:</p> <ul style="list-style-type: none"> - Avoidance of litigation - DG DEFIS reputation intact <p>Effectiveness:</p> <ul style="list-style-type: none"> - n° of ECA observations and % error rate on choice of procurement procedure - n° of successful legal on errors in the procurement procedures

B – Needs assessment & definition

Main control objectives: Effectiveness, efficiency and economy. Compliance (legality and regularity).

Main risks	Mitigating controls	Coverage frequency and depth	Cost-Effectiveness indicators (three E's)
<ul style="list-style-type: none"> - Risk of not obtaining value for money due to lack of market analysis and/or poor definition of selection criteria - Risk of unequal treatment resulting in litigation, due to selection criteria favouring one contractor - Risk of not receiving the best offers due to the poor definition of the tender specifications (disproportion between contract value and selection/award criteria, or specifications too vague) - Risk of non-compliance with legality and regularity and criticism on choice of procedure due to limited competition and high proportion of negotiated procedures in the very technical, complex and oligopolistic space market 	<ul style="list-style-type: none"> - Encourage use of open procedures, even in relatively closed markets - Technical specifications are prepared and validated by at least 2 staff members, and approved by the responsible operational HoU/ Director before call launch - Verification and validation of tender documents by a specialised team for Public Procurement and Grants Management in the Financial Resources and Internal Control unit before call launch 	<ul style="list-style-type: none"> - 100 % of the specifications are verified. Depth may be determined by the amount and/or the impact on the objectives of the DG if it goes wrong - 100 % of the tenders above a financial threshold (e.g. > EUR 15 000) are reviewed. Depth risk-based, depending on sensitivity 	<p>Costs:</p> <ul style="list-style-type: none"> - estimation of FTEs involved and the related contract values (if external expertise is used) <p>Quantified Benefits:</p> <ul style="list-style-type: none"> - Value of contracts for which the approval and supervisory control detected material error (negative opinion issued by the DG DEFIS legal team). <p>Non quantified Benefits:</p> <ul style="list-style-type: none"> - Limit the risk of litigation - Limit the risk of cancellation of a tender <p>Effectiveness:</p> <ul style="list-style-type: none"> - N° of negative Public Procurement and Grants Management opinions and n° of favourable opinions with reserves. - N° of 'open' procedures or procedures where only one or no offers were received

C – Evaluation & Award

Main control objectives: Effectiveness, efficiency and economy. Compliance (legality and regularity). Fraud prevention and detection.

Main risks	Mitigating controls	Coverage frequency and depth	Cost-Effectiveness indicators (three E's)
<ul style="list-style-type: none"> - The most economically advantageous offer is not selected due to a biased, inaccurate or 'unfair' evaluation process - Over-consumption of resources (human and financial) due to errors or mismanagement leading to award decisions being contested (resulting in Court and Ombudsman cases) - Damage to the DG's reputation if fraud or criminal behaviour is discovered (conflict of interest) 	<ul style="list-style-type: none"> - All 'call for tender' evaluations involve the use of opinions of more than one qualified official. The evaluation process is more regulated and formalised as the contract value increases. - Risk based approach: higher risk contracts have more in-depth checks - Review of and opinion on evaluation and award documents and process by a specialised legal team before contract award 	<ul style="list-style-type: none"> - Formal evaluation process: Opening and Evaluation committees for all tenders > EUR 139 000³⁵ including signature of declarations of absence of conflict of interests by the committee members - <u>Risk based approach:</u> <ul style="list-style-type: none"> 1) second review of evaluation and award documents and process (open and restricted procedure) by the Deputy Director General and Director General for procurements > EUR 10 million 2) validation of negotiated procedures > EUR 139 000 by the Director-General before call launch - 100 % of the offers of the call 	<p>Costs:</p> <ul style="list-style-type: none"> - estimation of FTEs involved and the related contract values (if external expertise is used) <p>Quantified Benefits:</p> <ul style="list-style-type: none"> - Difference between the most onerous offer and the selected one - N° or value of contracts subject to complaints / irregularities - N° of procurements successfully challenged during standstill period <p>Non quantified Benefits:</p> <ul style="list-style-type: none"> - Compliance with FR - Best value for money <p>Effectiveness:</p> <ul style="list-style-type: none"> - n° of ECA observations and % error rate concerning evaluation & award stage - n° of negative Public Procurement and Grants Management opinions

⁽³⁵⁾ Thresholds for procurement applicable for procurement procedures launched as of 1st January 2020. EUR 139 000 for procurement of supplies and services, EUR 5 350 000 for the procurement of works and concessions

Main risks	Mitigating controls	Coverage frequency and depth	Cost-Effectiveness indicators (three E's)
		for tenders are evaluated by more than one qualified official. - 100 % of evaluations are checked. - Depth: required documents provided are consistent	- n° of successful complaints or Ombudsman or Court cases resulting from non-compliant procurement process Efficiency: - Time-To-Contract - Contract value/cost of FTEs involved in control of contracts

Stage 2 – Contract Management and Financial transactions

Main control objectives: Ensuring that the implementation of the contract is in compliance with the signed contract

Main risks	Mitigating controls	Coverage frequency and depth	Cost-Effectiveness indicators (three E's)
<ul style="list-style-type: none"> - Bad or non-execution by the contractor, leading to serious problems if contractual deliveries are critical and no short term alternatives are available (risk of over-dependency on certain contractors) - The products/services foreseen are not, totally or partially, provided in accordance with the technical description and requirements foreseen in the 	<ul style="list-style-type: none"> - Checks on financial capacity and viability of contractors prior to awarding the contract - Close monitoring of contracts, with possible on-site verifications, particularly of high value contracts resulting from negotiated procedures - Checks on both operational and financial issues carried out at appropriate level using the most qualified staff. 	<ul style="list-style-type: none"> - 100 % of the contracts are controlled, including only value-adding checks - In case of reimbursement costs, in-depth ex-ante verification - High risk operations identified by risk criteria - For high risk operations, reinforced monitoring of the respect of the timely achievement of the contract's milestones by the 	Costs: <ul style="list-style-type: none"> - estimation of FTEs involved Quantified Benefits: <ul style="list-style-type: none"> - Amount of irregularities, errors and overpayments prevented by the controls Non quantified Benefits: <ul style="list-style-type: none"> - DG reputation intact Effectiveness: <ul style="list-style-type: none"> - n° of ECA observations and % error rate relating to contract management /payment stage - n° of court cases resulting from contract execution problems - % budget execution

Main risks	Mitigating controls	Coverage frequency and depth	Cost-Effectiveness indicators (three E's)
<p>contract and/or the amounts paid exceed that due in accordance with the applicable contractual and regulatory provisions</p> <ul style="list-style-type: none"> - Risk of bad execution due to undetected errors on uncorrected imprecisions in offers or tendering specifications - Business discontinues, because contractor fails to deliver - Plagiarism (studies, reports) - Fraud 	<p>As defined in the in accordance with the financial circuits</p> <ul style="list-style-type: none"> - Possibility to run a plagiarism check of reports submitted by contractor - Management of sensitive functions 	<p>contractor</p>	<p>rate – total amount committed/paid versus total budget envelope</p> <ul style="list-style-type: none"> - % of contracts implemented - n° of open critical and/or very important audit recommendations <p>Efficiency:</p> <ul style="list-style-type: none"> - Time-To-Pay - Late interest payment and damages paid (by the Commission) - Coverage of 1st and 2nd level ex-ante controls <p>Economy:</p> <ul style="list-style-type: none"> - Average n° of contracts per procurement control FTE - cost of control per running contract - % cost over annual amount disbursed

Stage 3 – Supervisory measures

Main control objectives: Ensuring that any weakness in the procedures (tender and financial transactions) is detected and corrected

Main risks	Mitigating controls	Coverage frequency and depth	Cost-Effectiveness indicators (three E's)
<ul style="list-style-type: none"> - An error or non-compliance with regulatory and contractual provisions, including technical 	<ul style="list-style-type: none"> - Supervisory desk review of procurement and financial transactions - Ex-post publication of 	<ul style="list-style-type: none"> - 100 % Depth: review any significant problem that occurred - legal team examines 	<p>Costs:</p> <ul style="list-style-type: none"> - estimation of FTEs involved in the controls <p>Non Quantified Benefits:</p> <ul style="list-style-type: none"> - Systematic weaknesses

Main risks	Mitigating controls	Coverage frequency and depth	Cost-Effectiveness indicators (three E's)
<p>specifications, or a fraud is not prevented, detected or corrected by ex-ante control, prior to payment</p>	<p>contracts awarded (and subsequent publication in the EU Financial Transparency System)</p> <ul style="list-style-type: none"> - Regular review of exceptions or non-compliance events reported - Regular review of the procurement process (self-assessment by DG legal team) - System and transaction audits by IAS, ECA) and subsequent monitoring of implementation of recommendations for improvement - indicators on procurement are regularly reported 	<p>procurement procedures</p> <ul style="list-style-type: none"> - 100 % of the sample at least once a year to determine any errors or systemic problems or weaknesses in the procedures (procurement and financial transactions) 	<p>corrected</p> <ul style="list-style-type: none"> - Deterrent effect <p>Effectiveness:</p> <ul style="list-style-type: none"> - Amounts associated with errors detected (related to fraud, irregularities and error) and in % over total checked. - N° system improvements made <p>Efficiency:</p> <ul style="list-style-type: none"> - Average time-to-contract <p>Economy:</p> <ul style="list-style-type: none"> - Proportion of overall cost of control over total expenditure (payments authorised) - Costs of the ex-post controls and supervisory measures with respect to the 'benefits'.

RCS N° 4: Grants

This RCS covers: DG DEFIS grants under direct management (action and operating grants)

Stage 1 – Programming, evaluation and selection of proposals

A - Preparation, adoption and publication of the Annual Work Programme (AWP) and Calls for proposals (Calls)

Main control objectives: Ensuring that the Commission receives and selects the proposals that contribute the most towards the achievement of the policy or programme objectives (effectiveness); Compliance (legality & regularity); Prevention of fraud (anti-fraud strategy)

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<ul style="list-style-type: none"> - Work Programmes and subsequent calls do not adequately reflect the policy objectives, priorities are incoherent and/or the essential eligibility, selection and award criteria are not adequate to ensure the evaluation of the proposals - Work Programmes are inconsistent within the other family DGs and with the 7 year framework - Work Programmes overlap with other programmes (by other DGs, e.g. Structural Funds) and could lead to 	<ul style="list-style-type: none"> - Hierarchical validation within the authorising department - Inter-service consultation, including all relevant DGs - Adoption by the Commission <p><u>Recommended:</u></p> <ul style="list-style-type: none"> - Centralised checklist-based verifications - Explicit allocation of responsibility to individual officials (reflected in task assignment or function descriptions) 	<p>If risk materialises, all grants awarded during the year under this WP or call would be irregular. Possible impact: 100 % of budget involved and significant reputational consequences.</p> <p>Coverage / Frequency: 100 %</p> <p>Depth: All Work Programmes are thoroughly reviewed at all levels, including for operational and legal aspects.</p>	<p>Costs:</p> <ul style="list-style-type: none"> - Estimation of cost of staff involved in the preparation and validation of the Work Programmes and calls. Cost of contracted services, if any. <p>Benefits:</p> <ul style="list-style-type: none"> - Only qualitative benefits. A good Work Programme and well publicised calls should generate a large number of good quality projects, from which the most excellent can be chosen. There will therefore be real competition for funds. - The (average annual) total budgetary amount of the Work

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
double-funding - Calls are tailored to the advantage of certain candidates due to undue influences from interest groups - Calls are not adequately published and do not reach all target groups			Programmes or calls with significant errors detected and corrected. Effectiveness: - % of n° of calls successfully concluded / number of calls planned in Management Plan/Work Programme - % budget execution rate grant commitments Economy: - average n° and value of running grants managed per control FTE - % cost of control for all stages over annual amount disbursed in grants - average cost of control per grant

B – Selecting and awarding: Evaluation, ranking and selection of proposals

Main control objectives: Ensuring that the most promising projects for meeting the policy objectives are among the proposals selected

(effectiveness); Compliance (legality & regularity); Prevention of fraud (anti-fraud strategy)

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
- Evaluation, ranking and	- Selection and appointment of	- 100 % vetting (including	Costs:

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>selection of proposals not carried out in accordance with the established procedures, policy objectives and priorities</p> <ul style="list-style-type: none"> - Eligibility, selection and award criteria too ambiguous or otherwise inadequate to ensure that grants are awarded to the actions which maximise the overall effectiveness of the EU programme - Unauthorised persons may have access to the electronic system for the management of the calls - Unequal treatment of applicants: inappropriate contacts and/or conflict of interests with certain applicants during the procedure - Monopoly of certain bodies insufficiently 	<p>expert evaluators</p> <ul style="list-style-type: none"> - Assessment of evaluation procedure by independent experts - Validation by the AO of ranked list of proposals. In addition, if applicable: opinion of advisory bodies; comitology; inter-service consultation, adoption by the Commission; publication 	<p>selecting) of expert evaluators for technical expertise and independence (e.g. conflicts of interests, nationality bias, ex-employer bias, collusion)</p> <ul style="list-style-type: none"> - 100 % of proposals are evaluated - 100 % of ranked list of proposals. Supervision of work of evaluators. - 100 % of contested decisions are analysed by redress committee 	<ul style="list-style-type: none"> - Estimation of cost of staff involved in the evaluation and selection of proposals - Cost of the appointment of experts and of the logistics of the evaluation <p>Benefits:</p> <ul style="list-style-type: none"> - 'quality allocation' assurance of the whole committed budget (as it will have been checked ex-ante and is considered reasonable in the interests of the programme) <p>Qualitative benefits:</p> <ul style="list-style-type: none"> - Expert evaluators from outside the Commission bring independence, state of the art knowledge in the field and a range of different opinions. This will have an impact on the whole project cycle : better planned, better executed projects <p>Effectiveness:</p> <ul style="list-style-type: none"> - % of proposals evaluated within the year/proposals received - % of n° of (successful) redress challenges / total n°

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
justified			<ul style="list-style-type: none"> - of proposals received - Ratio of proposals received to proposals selected (“oversubscription” rate) - No successful litigation cases <p>Efficiency:</p> <ul style="list-style-type: none"> - Average Time-To-Publication of selection results <p>Economy:</p> <ul style="list-style-type: none"> - Average evaluation cost per proposal (external experts paid only) - % cost of control over annual amount disbursed in grants

Stage 2 - Contracting

Main control objectives: Ensuring that the most promising projects for meeting the policy objectives are among the proposals contracted; Ensuring that the actions and funds allocation is optimal (Sound Financial Management: best value for public money; effectiveness, economy, efficiency); Compliance (legality & regularity); Prevention of fraud (anti-fraud strategy)

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
- After evaluation, the description of the action in the grant agreement remains unclear or still includes	- Systematic checks on operational and legal aspects performed before signature	<p>Coverage:</p> <ul style="list-style-type: none"> - 100 % of the selected proposals and beneficiaries are 	<p>Costs:</p> <ul style="list-style-type: none"> - Estimation of cost of staff involved in the contracting process

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>tasks which do not contribute to the achievement of the programme objectives</p> <ul style="list-style-type: none"> - Inconsistencies exist between the grant agreement and its annexes - Procedures do not comply with regulatory framework - The beneficiary : <ul style="list-style-type: none"> ▪ has overestimated the costs necessary to carry out the action ▪ has made false declarations ▪ lacks operational and/or financial capacity to carry out the action ▪ is awarded several grants for a single action (double-funding by different DGs or other donors) 	<p>of the grant agreement</p> <ul style="list-style-type: none"> - Project Officers implement evaluators' recommendations in discussion with selected applicants. Hierarchical validation of proposed adjustments. - Validation of beneficiaries (operational and financial viability) - Planning of (mid-term and final) evaluations. - Signature of the grant agreement by the AO. - In-depth financial verification and taking appropriate measures for high risk beneficiaries 	<p>scrutinised</p> <ul style="list-style-type: none"> - 100 % of draft grant agreements <p>Depth may be differentiated; determined after considering the type or nature of the beneficiary (e.g. SMEs, joint-ventures) and/or of the modalities (e.g. substantial subcontracting) and/or the total value of the grant</p>	<p>Efficiency:</p> <ul style="list-style-type: none"> - Average Time-To-Grant <p>Economy:</p> <ul style="list-style-type: none"> - % cost of control for all stages over annual amount disbursed in grants

Stage 3 - Monitoring the execution: Project management - operational, financial and reporting aspects

Main control objectives: ensuring that the operational results (deliverables) from the projects are of good value and meet the objectives and conditions (effectiveness & efficiency); ensuring that the related financial operations comply with regulatory and contractual provisions (legality & regularity); prevention of fraud (anti-fraud strategy);

ensuring appropriate accounting of the operations (reliability of reporting, safeguarding of assets and information)

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<ul style="list-style-type: none"> - The actions foreseen are not, totally or partially, carried out in accordance with the technical description and requirements foreseen in the grant agreement and/or the amounts paid exceed those due according to the applicable contractual and regulatory provisions. - Eligibility conditions of the beneficiary may change during the implementation (e.g. SME bought by a larger company or a company becoming controlled by a third state) - Reimbursement of ineligible costs by DG DEFIS (e.g. due to overinflated timesheets, subcontracting of core activities or without prior 	<ul style="list-style-type: none"> - Kick-off meetings and "launch events" involving the beneficiaries in order to avoid project management and reporting errors - Explain and clarify at front rules on eligibility criteria (most current cases) - Effective external communication about guidance to the beneficiaries - Operational and financial checks in accordance with the financial circuits. - Operation authorisation by the AO - For riskier operations more in-depth ex-ante controls. Scientific reviews if necessary. - When needed: application of suspension/interruption of payments, penalties or liquidated damages, earmark projects for risk-based ex-post audit, refer grant/beneficiary to OLAF - Desk check (ex-ante) by the financial 	<ul style="list-style-type: none"> - 100 % of the projects are controlled, including only value-adding checks - Riskier operations subject to more in-depth controls - The depth depends on risk criteria. However, as a deliberate policy to reduce administrative burden, and to ensure a good balance between trust and control, the level of control at this stage is reduced a to a minimum. - High risk operations identified by risk criteria. Red flags: suspicions raised by staff, delayed interim deliverables, suspicion of plagiarism, unstable consortium, requesting many amendments, EDES or anti-fraud flagging, etc. 	<p>Costs:</p> <ul style="list-style-type: none"> - estimation of cost of staff involved in the actual management of running projects <p>Benefits:</p> <ul style="list-style-type: none"> - part of budget value of the costs claimed by the beneficiary, but rejected by staff - Reductions in error rates identified by audit certificates - Budget value of penalties and liquidated damages. - Benefits due to operational review of projects and consequent corrective actions imposed on projects <p>Effectiveness:</p> <ul style="list-style-type: none"> - % and value of reductions made to EC contribution paid out through the ex-ante desk checks / total value of cost claims desk-checked - % of payments suspended - n° of cost claims desk-checked <p>Efficiency:</p> <ul style="list-style-type: none"> - % and value of reductions made to

Main risks	Mitigating controls	Coverage, frequency and depth	Cost-Effectiveness indicators (three E's)
<p>tendering procedure)</p> <ul style="list-style-type: none"> - Several authorising officers implement the same programme and do not treat the beneficiaries equally - Insufficient operational performance monitoring of beneficiaries by project officers 	<p>officers of the cost claims provided by the beneficiaries.</p>	<ul style="list-style-type: none"> - Audit certificates required for any beneficiary claiming significant EU contribution. 	<p>EU contribution paid through ex-ante desk checks/total value of cost claims checked</p> <ul style="list-style-type: none"> - Average n° & value of projects managed 'per' staff FTE - Average Time-To-Pay - Average payment suspension time (days) <p>Economy:</p> <ul style="list-style-type: none"> - % cost of ex-ante control (cost/total amount of grant payments) - Average project management cost (staff FTE * standard staff cost) per running project

ANNEX 7: Specific annexes related to "Financial Management"

1) Effectiveness: control results

A. International Organisations

European Space Agency (ESA)

In 2021, the second biggest part of DG DEFIS expenditure was delegated to the European Space Agency (ESA) for the implementation of the GNSS (Galileo and EGNOS), the Copernicus space programmes as well as the Horizon 2020 programme, totalling EUR 686.1 million (23,43 % of the total DG DEFIS 2021 payments).

The assurance on the effectiveness of the internal control systems with regard to the legality and regularity of the costs reported is built on:

- **ESA's control results and/or assurance:**
 - Opinion of the external auditor – unqualified audit opinion
 - Statement of Internal Control of the Director-General - clean
 - Reporting quality control at ESA - considered sufficiently reliable to draw conclusions on assurance.
- **Authorising Officers by Delegation's own control results on the ESA's operations:**
 - Results of the audits of the 2020 reports and implementation of corrections – no error was found on the costs claimed (see further details in Annex 6).

The DG DEFIS ex-post audit team continued to audit all the Annual Implementation Reports (AIRs) and Annual financial reports (AFRs) submitted by ESA in 2021. The results of the previous financial audits have been implemented. These corrections have been made at the time of the annual clearing of pre-financing payments to ESA. The overall residual error rate is below the 2% materiality threshold.

During the monitoring, errors detected ex-ante in the AIRs and the AFRs, have no impact on the legality and regularity of the amounts paid to ESA, because the amounts paid depend both on costs declared and on cash-flows forecasts. There still remains the possibility to rectify them via future clearings of the pre-financings until the end of the delegated programmes.

In the framework of the regular working arrangement and top-level meetings between DG DEFIS and ESA, the Directorate-General closely monitors ESA's progress with the implementation of the programmes and the related reporting. Ensuring business continuity

is a priority and in case of service incidents³⁶, intense efforts are deployed and measures put in place to prevent such critical situations in the future.

The Relevant Control System Template (RCS) for indirect management in [Annex 6](#) demonstrates how the control system put in place in the Directorate-General, addresses the risks related to this type of expenditure.

Result indicators: Indicators of annual error – ESA/GNSS GALILEO

GALILEO FOC & FOC-DC						
<i>(Amounts in €)</i>	Reported by ESA	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
Financial Report for 2010	440 797 905	440 428 411	369 494	0,08 %	369 494	0
Financial Report for 2011	379 188 767	378 652 378	536 389	0,14 %	536 389	0
Financial Report for 2012	342 192 607	340 360 802	1 831 805	0,54 %	1 831 805	0
Financial Report for 2013	398 992 495	397 591 998	1 400 497	0,35 %	1 400 497	0
Financial Report for 2014	365 152 925	365 065 529	87 396	0,02 %	87 396	0
Financial Report for 2015	462 861 925	462 861 925	0	0,00 %	0	0
Financial Report for 2016	712 858 582	710 752 128	2 106 454	1,32%	2 106 454	0
Financial Report for 2017	389 193 535	389 193 535	0	0,00 %	0	0
Financial Report for 2018	404 303 175	404 303 175	0	0,00 %	0	0
Financial report for 2019	287 968 592	287 968 592	0	0,00 %	0	0
Financial report for 2020	151279719,3	151279719,3	0	0,00 %	0	0

Result indicators: Indicators of annual error – ESA/H 2020

H 2020						
<i>(Amounts in €)</i>	Reported by ESA	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
Financial Report for 2019	34 845 680	34 845 680	0	0 %	0	0

ESA was not audited this year, so no detected error rate available.

⁽³⁶⁾ For example, the incident occurred in July 2019 when the provision of Galileo Initial Services was impacted by a technical incident in the Galileo ground infrastructure, cfr. supra point 1.1 p.11.

Result indicators: Indicators of error – ESA/COPERNICUS

DG DEFIS ex-post controls covered all Annual Financial Reports (AFR) submitted by ESA. The audit of the 2020 financial report did not reveal any error. Regular Audits and corresponding corrections ensure that, on a multi-annual basis, the total amount paid under the Delegation Agreement will be compliant with the eligibility rules and will not exceed the limits defined in the Delegation Agreement. No audits were performed on IOV/IOD as only prefinancing so far.

(Amounts in €)	Reported by ESA (EC accepted costs)	Commission Audit report (eligible costs)	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
AIR 2010	137 657 344	113 959 263	23 698 081	17,22 %	23 698 081	0
AIR 2011	171 487 659	171 029 224	458 435	0,27 %	458 435	0
AIR 2012	104 124 840	102 058 630	2 066 210	1,98 %	2 066 210	0
AIR 2013	78 518 254	78 524 613	-6 359	0,00 %	-6 359	0
AIR 2014	136 135 061	136 133 236	1 825	0,00%	1 825	0
AIR 2015	183 930 223	183 930 223	0	0,00%	0	0
AIR 2016	651 537 638	651 527 254	3 431	0,00%	3 431	0
AIR 2017	556 348 956	556 348 956	0	0,00%	0	0
AIR 2018	478 467 614	478 467 614	0	0,00%	0	0
AIR 2019	429 300 236	429 300 236	0	0,00%	0	0
AIR 2020	339 037 555	340 037 555	0	0,00%	0	0

Other international organisations, e.g. MERCATOR, ECMWF, EUMETSAT and OCCAR

The elements that provide assurance on the effectiveness of the internal control system with regard to the legality and regularity are mostly the same as explained under ESA.

In 2021, an audit on the 2020 Annual Implementation Report of **MERCATOR** was carried out by DG DEFIS. An error amounting to 0.02% over a total cost claimed of EUR 43.3 million occurred. No audit was performed in 2021 on **EUMETSAT**, although foreseen but due to the lack of staff turned into a negative priority. **ECMWF**, nor **OCCAR** (first pre-financing paid in 2020) were subject to an audit. These entrusted entities are audited every two years, according to the audit guidelines established at DG DEFIS, unless risks are identified.

Result indicators: Indicators of error – EUMETSAT/COPERNICUS

(Amounts in €)	Reported by Eumetsat	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
AIR 2014	339 061	341 708	- 2 647	0	- 2 647	0
AIR 2015	5 788 694	5 815 842	- 27 148	0	- 27 148	0
AIR 2016	20 494 837	Not audited				
AIR 2017	27 779 921	27 085 987	693 933	2.5%	693 933	0
AIR 2018	Not audited					
AIR 2019	43 353 898	44 353 898	3 889.81	0,00%	3 889.81	0
AIR 2020	Not audited due to lack of staff					

Result indicators: Indicators of error – MERCATOR/COPERNICUS

(Amounts in €)	Reported by MERCATOR	Commission Audit report	Adjustment	Detected error rate
AIR 2014	181.128	180.341	-787	0.43%
AIR 2015	11.323.190	11.310.953	-12.237	0.11%
AIR 2016	19.328.239	19.319.822	-8.417	0.11%
AIR 2017	Not audited			
AIR 2018	24.587.119	24.579.863	-7.256	0
AIR 2019	Not audited			
AIR 2020	25.782.437	25.777.749	-4.688	-0,03%

Result indicators: Indicators of error – ECMWF/COPERNICUS

(Amounts in €)	Reported by ECMWF	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
AIR 2017	41 836 912	41 836 912	0	0%	0	0
AIR 2018	Not audited					
AIR 2019	54 714 886	54 714 886	0	0%	0	0
AIR 2020	Not audited					

B. EU Agencies

Decentralised Agencies, e.g. GSA, EEA, FRONTEX, SATCEN, EMSA, EDA

Besides the above mentioned contribution agreements, similar agreements have been concluded with the **European GNSS Agency (GSA)** in the area of GNSS exploitation activities. In 2021, GSA constituted the biggest part of DG DEFIS expenditure, totalling EUR 1.796 billion (61,341% of the total DG DEFIS 2021 payments). Although DG DEFIS remains ultimately accountable for the legality and regularity of these expenditures, it is the responsibility of GSA to set up the appropriate controls to provide the necessary

assurance to its parent Directorate-General. The Commission exercises the supervisory tasks provided for in the existing delegation agreements through ex-ante controls over the regular implementation reports and procurement documentation submitted by the Agency. GSA is audited annually by the European Court of Auditors (ECA) and the submitted annual financial/implementation reports (AFRs/AIRs) are also audited by external independent auditors. DG DEFIS ex-post control team audited all annual financial/implementation reports (AFRs/AIRs) submitted by GSA/EUSPA. The overall detected error rate for 2021 following the DG DEFIS audits is 0.11 % (respectively 0.01 % for GALILEO and 0.57% for EGNOS). Given that the grants provided by GSA under the H2020 delegation agreement are audited by the Common Audit Service (CAS) of the Research family, DG DEFIS used the related error rates (Representative error rate of 2.29% and cumulative residual error rate of 1.60 % for GSA).

Result indicators: Indicators of annual error – GALILEO and EGNOS programmes

GALILEO						
(Amounts in €)	Reported by GSA	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
Air 2016	19.488.475	18.628.058	-860.417	4.42 %	860 417	0
Air 2017	432.571.139	432.518.462	-52.677	0.01 %	-52 677	0
Air 2018	480.850.890	480.903.567	52.677	-0,01%	52.677	0
Air 2019	478.214.483	477.916.815	297.668	0.1%	297.668	0
Air 2020	650.661.073	650.704.929	43.857	0,01%	43.857	0

EGNOS						
(Amounts in €)	Reported by GSA	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
AIR 2016	98.028.677	95.625.748	-2.402.929	2.45 %	2 402 929	0
AIR 2017	103.969.092	103.464.571	-504.521	0.49 %	504 521	0
AIR 2018	159.776.396	160.169.764	393.368	-0.24%	393.368	0
AIR 2019	192.642.229	190.916.126	-1.726.102	1.29%	-1.726.102	0
AIR 2020	121.735.489	122.144.522	409.034	0,57%	409.034	0

According to the DG DEFIS audit guidelines and the 2021 audit Work Programme, the entities other than ESA and GSA are audited every two years. However, the **EEA** has been audited again in 2021 since risks and errors were identified during the 2018 and 2019 audits. The audit, carried out on the 2020 Annual Implementation Report, revealed a positive error of 2.41% over a total cost claimed of 20.659.705,00 €.

Result indicators: Indicators of annual error – EEA

(Amounts in €)	Reported by EEA	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
AIR 2016	4.871.854	4.691.072	-180.782	3,71%		
AIR 2017	not audited					
AIR 2018	18.407.180	16.912.013	-1.495.167	11.99%		
AIR 2019	12.118.540	12.251.048	132.508	1.23%		
AIR 2020	20.659.705	20.991.511	331.806	2,41%	331.806	0

FRONTEX

Since an audit was carried out in 2020 on the 2019 Annual Implementation Report with good result and no specific risks were reported, no audit, in line with the Control Strategy, was performed in 2021. Considering that DG DEFIS is not the parent DG of FRONTEX, its supervision activities are focused on the implementation of the tasks delegated to the Agency under the signed Delegation Agreement (DA). The DA ensures that the Commission, the European Anti-fraud Office and the Court of Auditors or their authorised representatives, may at any time during the implementation of the entrusted tasks and up to five years after the payment of the balance carry out checks and audits on the implementation of the entrusted tasks.

Result indicators: Indicators of annual error – FRONTEX

(Amounts in €)	Reported by FRONTEX	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
Air 2017	6.505.198	7.875.846	1.370.648	0,00%		
Air 2018	9.723.273	9.746.664	23.391	-0,25%		
Air 2019	8.369.994	8.364.342	5.652	0.07%		
Air 2020	not audited					

In 2021, no audits were performed in line with the bi-annual control foreseen for both EMSA and SatCen in the DG DEFIS Control Strategy.

EMSA						
(Amounts in €)	Reported by EMSA	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
AIR 2017	6.421.992	6.076.446	-345.546	0	345.546	
AIR 2018	not audited					
AIR 2019	9.378.446	9.382.383	3.937	-0.05%		
AIR 2020	not audited					

SATCEN						
(Amounts in €)	Reported by SatCen	Commission Audit report	Adjustment	Detected error rate	Implemented amount via clearing of pre-financing	Amount to be implemented
AIR 2017	1.969.701	1.985.199	15.498	0,00%		
AIR 2018	Not audited					
AIR 2019	6.078.214	6.078.214	0	0,00%		
AIR 2020	Not audited					

No audits have been carried out in 2021 on **EDA** as only pre-financing were paid in 2021.

Although the detected error rates during the ex-post control in 2021 is very low, all decentralised agencies were given a “theoretical” error rate of 0.5%, following the conservative approach mentioned above. It is to be mentioned that according to DG DEFIS audit guidelines, these Agencies are audited every 2nd year, unless a specific risk is raised. Ex-ante checks and regular monitoring is performed on these entities over the year to ensure legality and regularity of the transactions.

Based on the declarations of assurance provided by the Executive Directors of these decentralised agencies and the results of the performed ex-post audits, DG DEFIS considers the implementation of the delegated funds to be legal and regular.

Executive Agencies

In its capacity of parent DG, DG DEFIS supervises the control systems³⁷ of REA in the context of their direct delegation as Authorising Officer by Delegation (AOD). REA performed its ex-post audits in the context of a common audit strategy. REA produces its own AARs. The preparation of the Annual Activity Report of REA was supervised by DG DEFIS and by the Steering Committee of the Agency.

Overall, DG DEFIS considers that its supervision of REA is effective and appropriate.

C. Procurement

Procurement under direct management only represents 0.75 % of the total 2021 DG DEFIS expenditure. The payments made in 2021 on own procurement amount to EUR 22 million.

The Relevant Control System template (RCS) n°3 for procurement in [Annex 6](#) demonstrates how the control system in place in the Directorate-General addresses the risks related to this type of expenditure.

(³⁷) The control systems of the Executive Agencies are similar to those of their parent DGs.

In 2021, 16 contracts with a value exceeding EUR 60,000 were awarded directly by DG DEFIS, representing a total contract value of EUR 26.8 million. The reader is referred to [Annex 3](#), table 12 (5.27 % of this amount was awarded following a negotiated procedure without prior publication). These contracts do not include, however, contracts signed by the ESA in the name and on behalf of the Commission under ESA Delegation Agreements.

The procurement procedures applied in DG DEFIS involve a number of specific controls, which are fully in line with the applicable regulatory requirements. The benefit of these specific controls provides assurance on legality and regularity, transparency, equal treatment and proportionality of the public procurement and mitigates the risk of reputational damage. Given the low error rate, there are no indication that a higher level of checks and controls would produce any supplementary benefits.

D. Grants directly managed by DG DEFIS

DG DEFIS has set up internal control processes aimed to ensure the adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the specificities of the programmes, as well as the nature of the payments concerned.

The major part of the expenditure implemented in 2021 in direct management relates to the European Defence Industrial Development Programme (EDIDP). In particular, most grant payments made in 2021 correspond to pre-financing of the projects funded under the 2020 EDIDP call for proposals. No ex-post audits have yet been carried out over these grants, as the first EDIDP projects only started at the end of 2020 and have an average duration of 3 years.

Table Y Cost of control

Relevant Control System	Ex ante controls			Ex post controls			Total	
	a	b	c	d	e	f	g	h
	EC total costs	funds managed (in EUR)*	Ratio (%)* a/b	EC total costs	total value verified and/or audited (in EUR)	Ratio (%) d/e	EC total estimated cost of controls (in EUR)	Ratio (%) g/b
RCS 1 : Budget entrusted to other entities	4.050.366	2.786.338.705	0,15%	203.850	728.345.009	0,03%	4.254.216	0,15%
RCS 3: Procurement	1.000.524	25.586.921	3,91%	0	0		1.000.524	3,91%
RCS 4: Grants	3.824.637	115.958.957	3,30%		0		3.824.637	3,30%
OVERALL estimated cost of control at	8.875.527	2.927.884.583	0,30%	203.850	728.345.009	0,03%	9.079.377	0,31%

EC level								
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Cost of control heading 1

Relevant Control System	Ex ante controls			Ex post controls			Total	
	a	b	c	d	e	f	g	h
	EC total costs	funds managed (in EUR)*	Ratio (%)* a/b	EC total costs	total value verified and/or audited (in EUR)	Ratio (%) d/e	EC total estimated cost of controls (in EUR)	Ratio (%) g/b
RCS 1 : Budget entrusted to other entities	3.859.236	2.686.628.819	0,14%	203.850	728.345.009	0,03%	4.063.086	0,15%
RCS 3: Procurement	928.644	24.726.110	3,76%	0	0		928.644	3,76%
RCS 4: Grants	398.940	18.313.066	2,18%	0	0		398.940	2,18%
OVERALL estimated cost of control at EC level	5.186.820	2.729.667.995	0,19%	203.850	728.345.009	0,03%	5.390.670	0,20%

Cost of control heading 5

Relevant Control System	Ex ante controls			Ex post controls			Total	
	a	b	c	d	e	f	g	h
	EC total costs	funds managed (in EUR)*	Ratio (%)* a/b	EC total costs	total value verified and/or audited (in EUR)	Ratio (%) d/e	EC total estimated cost of controls (in EUR)	Ratio (%) g/b
RCS 1 : Budget entrusted to other entities	191.130	99.709.886	0,19%	0	0		191.130	0,19%
RCS 3: Procurement	71.880	860.811	8,35%	0	0		71.880	8,35%
RCS 4: Grants	3.425.697	97.645.891	3,51%	0	0		3.425.697	3,51%
OVERALL estimated cost of control at	3.688.707	198.216.588	1,86%	0	0		3.688.707	1,86%

EC level								
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Horizon 2020 (H2020)

By the end of 2021, **the Research and Innovation Family** audited 3 424 participations, covering 55.6 % of total H2020 expenditure to date.

The percentage of H2020 expenditure covered by the audits (55.6 %) refers to the value of the participations of the audited beneficiaries. It includes both the fully audited participations (3.7 %), also referred to as the 'direct' coverage, and the non-audited participations which nevertheless, after the full treatment of audit results, are clean from systematic errors (51.9 %), also referred to as the 'indirect' coverage.

DG Research and Innovation: In 2021 a large number of actions, formerly managed by DG Research and Innovation, were transferred to other stakeholders of the Research and Innovation Family. As a result, the number of audited actions managed by DG RTD has decreased significantly, which does not allow a realistic analysis of the coverage.

Completion rate of H2020 ex-post audits in 2021

The overall target (most probable scenario) in the H2020 Audit Strategy for 2021 is 493 audited participations. By 31 December 2021, the audits of 514 participations were closed, (completion rate 104,3%).

Results of the Horizon 2020 ex-post audits

In 2020, the Commission refined its methodology for calculating the Horizon 2020 error rates in line with the European Court of Auditors' observations in its 2018 and 2019 Annual Reports³⁸. The methodology applied is described in Annex 5 'Materiality criteria'. As of January 2020, DG R&I applied the revised methodology on a sample of 1 304 audit conclusions. This results in the following error rates for Horizon 2020³⁹ on 31 December 2021:

- Representative detected error rate: **2.29%**⁴⁰

⁽³⁸⁾ When calculating the multi-annual error rate, the Commission took into account the results of the audit re-performed by the ECA as part of Module 2 of the DAS 2018-2019.

⁽³⁹⁾ The Horizon 2020 audit campaign started in 2016. At this stage, four Common Representative Samples with a total of 629 expected results have been selected. By the end of 2021, cost claims amounting to EUR 31.8 billion have been submitted by the beneficiaries to the services. The audit coverage for Horizon 2020 is presented in annex 7. In addition to the Common Representative Samples, Common Risk Samples and Additional Samples have also been selected. The audits of 3 424 participations were finalised by 31/12/2021 (of which 514 in 2021).

⁽⁴⁰⁾ Based on the 418 representative results out of the 629 expected in the four common representative samples.

- Cumulative residual error rate for the Research and Innovation Family DGs: **1.60%** (1.67 % for DG Research and Innovation⁴¹).

In line with the Financial Statement⁴² accompanying the Commission's proposal for the Horizon 2020 regulation, a reservation is not necessary for the related expenditure if the cumulative residual error rate for the programme falls within the target range of 2-5%. In 2021, and despite the above-mentioned caveats, the cumulative residual error rate for Horizon 2020, calculated at 1.67%, more than fulfils this condition and is below the materiality threshold. Despite the absence of reservation, the root causes of errors have been identified and targeted actions taken to address any identified weaknesses.

Since Horizon 2020 is a multi-annual programme, the error rates, and the residual error rate in particular, should be considered within a time perspective. Specifically, the cleaning effect of audits will tend to increase the difference between the representative detected error rate and the cumulative residual error rate, with the latter finishing at a lower value.

These error rates are calculated on the basis of the audit results available when drafting the Annual Activity Report. They should be treated with caution as they may change subject to the availability of additional data from audit results.

The decrease of the error rates in year 2021 could be due, among other reasons, to the beneficiaries' increased knowledge of the eligibility rules and its inherent learning curve, as well as to the results of the communication campaigns, targeted webinars and trainings, addressed in particular to newcomers and SMEs.

Given the results of the audit campaign up until 2020, and the observations made by the European Court of Auditors in its Annual Reports, the Common Implementation Centre, in close cooperation with central Commission services, is defining actions aimed at significantly simplifying the rules, and paving the way for a significant reduction of the error rate in Horizon Europe. Actions including further simplification, increased use of simplified forms of funding (including lump sums and unit costs), focused communication campaigns to more "error-prone" types of beneficiaries with higher than average error rates, such as SMEs and newcomers, and enhanced training to external audit firms performing audits on behalf of the Commission (the last three measures also target H2020 grants and beneficiaries). Focusing on the most common errors, these events will be short and simple, reaching more participants and achieving higher impact.

⁽⁴¹⁾ It should be noted that in 2021 most H2020 grants managed by DG R&I were transferred to Executive Agencies. Hence, this figure is based only on the actions that remained with DG R&I at the end of 2021.

⁽⁴²⁾ The legislative financial statement accompanying the Commission's proposal for the Horizon 2020 regulation states: "The Commission considers therefore that, for research spending under Horizon 2020, a risk of error, on an annual basis, within a range between 2-5% is a realistic objective taking into account the costs of controls, the simplification measures proposed to reduce the complexity of rules and the related inherent risk associated to the reimbursement of costs of the research projects. The ultimate aim for the residual level of error at the closure of the programmes after the financial impact of all audits, corrections and recovery measures will have been taken into account is to achieve a level as close as possible to 2%."

In the context of further reducing the error rates, the Common Implementation Centre will revisit the existing tools for ex-ante controls. It will consult the stakeholders in order to collect their views on possible improvements in the grant management risk module.

Horizon Europe

2021 was the first year of implementation of the Horizon Europe framework programme. The adoption of its Regulation later than initially planned, delayed the starting of its implementation⁴³. By the end of 2021, only a very limited number of payments was executed (only pre-financings in DG R&I).

Consequently, taking into account the absence of relevant expenditure, the low-risk nature of the implemented transactions and the absence of ex-post audit results for grants, no detected error rate can be reported for Horizon Europe in 2021.

⁽⁴³⁾ End 2021, for the R&I family 64 calls for proposal had been fully evaluated and only 19 grant agreements had been signed (3 for DG R&I)

ANNEX 8: Specific annexes related to "Assessment of the effectiveness of the internal control systems"

"Not applicable"

ANNEX 9: Specific annexes related to "Control results" and "Assurance: Reservations"

1) Annex related to "Control results" - Table X: Estimated risk at payment and at closure

Table X : Estimated risk at payment and at closure

DG DEFIS	'payments made' (2021,MEUR)	minus new prefinancing [plus retentions made] (in 2021,MEUR)	plus cleared prefinancing [minus retentions released and deductions of expenditure made by MS] (in 2021,MEUR)	'relevant expenditure' (for 2021,MEUR)	Detected error rate or equivalent estimates	estimated risk at payment (2021,MEUR)	Adjusted Average Recoveries and Corrections (adjusted ARC, %)	estimated future corrections [and deductions] (for 2021,MEUR)	estimated risk at Closure (2021,MEUR)
-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
Administrative credits	3,54	0,00	0,00	3,54	0,50% - 0,50%	0,02 - 0,02	0,07% - 0,07%	0,00 - 0,00	0,02 - 0,02
Heading 1 -Own Procurement	21,18	- 5,57	7,79	23,41	0,50% - 0,50%	0,12 - 0,12	0,07% - 0,07%	0,02 - 0,02	0,10 - 0,10
Heading 1 -Prize	10,00	0,00	0,00	10,00	0,50% - 0,50%	0,05 - 0,05	0,07% - 0,07%	0,01 - 0,01	0,04 - 0,04
Heading 5 -Grants - EDIDP	97,65	- 97,65	0,00	0,00	0,50% - 0,50%	0,00 - 0,00	0,07% - 0,07%	0,00 - 0,00	0,00 - 0,00
Heading 1 -Grants - Others (1)	8,31	- 1,39	0,78	7,71	0,50% - 0,50%	0,04 - 0,04	0,07% - 0,07%	0,01 - 0,01	0,03 - 0,03
Heading 1 -International organisations - ESA Copernicus	265,87	- 265,87	340,10	340,10	0,50% - 0,50%	1,70 - 1,70	0,00% - 0,00%	0,00 - 0,00	1,70 - 1,70
Heading 1 -International organisations - ESA IOV/IOD	24,50	- 24,50	11,10	11,10	0,50% - 0,50%	0,06 - 0,06	0,00% - 0,00%	0,00 - 0,00	0,06 - 0,06
Heading 1 -International organisations - ESA GNSS Galileo	354,59	- 354,59	151,28	151,28	0,50% - 0,50%	0,76 - 0,76	0,00% - 0,00%	0,00 - 0,00	0,76 - 0,76
Heading 1 -International organisations - ESA Govsatcom/SSA	6,00	- 6,00	0,00	0,00	0,50% - 0,50%	0,00 - 0,00	0,00% - 0,00%	0,00 - 0,00	0,00 - 0,00
Heading 1 -International organisations - ESA Horizon	35,15	- 35,15	35,09	35,09	0,50% - 0,50%	0,18 - 0,18	0,00% - 0,00%	0,00 - 0,00	0,18 - 0,18
Heading 1 -International organisations - MERCATOR (Copernicus)	26,30	- 26,30	25,78	25,78	0,50% - 0,50%	0,13 - 0,13	0,00% - 0,00%	0,00 - 0,00	0,13 - 0,13
Heading 1 -International organisations - ECMWF (Copernicus)	62,16	- 62,16	59,12	59,12	0,50% - 0,50%	0,30 - 0,30	0,00% - 0,00%	0,00 - 0,00	0,30 - 0,30
Heading 1 -International organisations - EUMETSAT (Copernicus)	72,67	- 72,67	51,21	51,21	0,50% - 0,50%	0,26 - 0,26	0,00% - 0,00%	0,00 - 0,00	0,26 - 0,26
Heading 5 -International organisations - OCCAR	99,71	- 99,71	0,00	0,00	0,50% - 0,50%	0,00 - 0,00	0,00% - 0,00%	0,00 - 0,00	0,00 - 0,00
Heading 1 -Agencies - EUSPA Subsidy	44,14	- 44,14	35,45	35,45	0,50% - 0,50%	0,18 - 0,18	0,00% - 0,00%	0,00 - 0,00	0,18 - 0,18
Heading 1 -Agencies - EUSPA EGNOS	384,87	- 384,87	163,76	163,76	1,29% - 1,29%	2,11 - 2,11	0,00% - 0,00%	0,00 - 0,00	2,11 - 2,11
Heading 1 -Agencies - EUSPA GALILEO	1 326,07	-1 326,07	592,45	592,45	0,50% - 0,50%	2,96 - 2,96	0,00% - 0,00%	0,00 - 0,00	2,96 - 2,96
Heading 1 -Agencies - EUSPA Govsatcom/SSA	1,80	- 1,80	0,03	0,03	0,50% - 0,50%	0,00 - 0,00	0,00% - 0,00%	0,00 - 0,00	0,00 - 0,00
Heading 1 -Agencies - EUSPA H2020/Europe	38,95	- 38,95	22,91	22,91	2,95% - 2,95%	0,68 - 0,68	0,60% - 0,60%	0,14 - 0,14	0,54 - 0,54
Heading 1 -Agencies - FRONTEX	9,92	- 9,92	7,18	7,18	0,50% - 0,50%	0,04 - 0,04	0,00% - 0,00%	0,00 - 0,00	0,04 - 0,04
Heading 1 -Agencies - EMSA	8,20	- 8,20	11,04	11,04	0,50% - 0,50%	0,06 - 0,06	0,00% - 0,00%	0,00 - 0,00	0,06 - 0,06
Heading 5 -Agencies - EDA	4,84	- 4,84	12,96	12,96	0,50% - 0,50%	0,06 - 0,06	0,00% - 0,00%	0,00 - 0,00	0,06 - 0,06
Heading 1 -Agencies - EEA	14,93	- 14,93	20,99	20,99	0,50% - 0,50%	0,10 - 0,10	0,00% - 0,00%	0,00 - 0,00	0,10 - 0,10
Heading 1 -Agencies - SATCEN -EAS	5,66	- 5,66	4,66	4,66	0,50% - 0,50%	0,02 - 0,02	0,00% - 0,00%	0,00 - 0,00	0,02 - 0,02
Heading 5 -Procurement	0,86	- 0,04	0,00	0,82	0,50% - 0,50%	0,00 - 0,00	0,07% - 0,07%	0,00 - 0,00	0,00 - 0,00
DG total	2 927,88	-2 890,98	1 553,67	1 590,57		9,81 - 9,81	0,01% - 0,01%	0,17 - 0,17	9,64 - 9,64
					Overall risk at payment in %	0,62% - 0,62%		Overall risk at closure in %	0,61% - 0,61%
						(7) / (5)			(10) / (5)

Notes to the table X

(1) Relevant Control Systems differentiated per relevant portfolio segments and at a level which is lower than the DG total

(2) Payments made or equivalent, e.g. expenditure registered in the Commission's accounting system, accepted expenditure or cleared pre-financing. In any case, this means after the preventive (ex-ante) control measures have already been implemented earlier in the cycle.

In all cases of Co-Delegations (Internal Rules Article 3), "payments made" are reported by the Delegated DGs. For Cross-SubDelegations (Internal Rules Article 12), the reporting remains with the Delegating DGs. In the amount of 0,78 MEUR for other grants, an amount of 26.878,52 has been included, although this comes from cross-sub-delegated funds from DG GROW.

(3) New pre-financing actually paid by out by the department itself during the financial year (i.e. excluding any pre-financing received as a transfer from another department). as per note 2.5.1 to the Commission annual accounts thus excluding "Other advances to Member States" which are covered on a purely payment-made basis (note 2.5.2). Pre-financing paid/cleared" are always covered by the Delegated DGs, even for Cross-SubDelegations.

Retentions: in Cohesion, the 10% retention applied during the year.

(4) Pre-financing actually cleared during the financial year (i.e. their 'delta' in the Financial Year 'actuals', not their 'cut-off' based estimated 'consumption').

Retentions: in Cohesion, the retentions released during the year by the Commission.

(5) For the purpose of equivalence with the ECA's scope of the EC funds with potential exposure to legality & regularity errors (see the ECA's Annual Report methodological Annex 1.1), our concept of "relevant expenditure" includes the payments made, subtracts the new pre-financing paid out [& adds the retentions made], and adds the pre-financing actually cleared [& subtracts the retentions released; and any deductions of *expenditure made by MS*] during the FY. This is a separate and 'hybrid' concept, intentionally combining elements from the budgetary accounting and from the general ledger accounting.

(6) In this column, we disclose the detected error rates or equivalent estimates. [*Equivalentents might be e.g. the "adjusted error rates", AGRI, or the "residual total error rates", REGIO, EMPL, MARE. In other cases, e.g. DEVCO and NEAR, they are derived by a backwards calculation based on results from the residual error rate studies; i.e. by adding the estimated future corrections (if not assumed to be zero) to the risk at closure.*]

For low-risk types of expenditure, where there are indications that the equivalent error rate might be close to 'zero' (e.g. *administrative expenditure, operating contributions to agencies*), the rate which should be used is 0.5% as a conservative estimate, unless the DG has a more precise estimate based on evidence.

(8) The adjusted average recovery and corrections percentage is [mostly / to some extent] based on the 7 years historic Average of Recoveries and financial Corrections (ARC), which is the best available indication of the corrective capacity of the ex-post control systems implemented by the DG over the past years. The AOD [*has adjusted or replaced*] this historic average [*from ... to ...*] to take into account any ex-ante elements, one-off events, (partially) cancelled or waived Recovery Orders, and other factors from the past years that would no longer be relevant for the current programmes (e.g. higher ex-post corrections of previously higher errors in earlier generations of grant programmes, current programmes with entirely ex-ante control systems) or that corresponded to exceptional situations in order to come to the best and most conservative estimate of the ex-post future corrections to be applied to the reporting year's relevant expenditure for the current programmes. [+ *summarize here the approach taken by the DG*]. [*This may include considering less and more recent years than the full 7-years-period [e.g. AGRI, MARE, DEVCO, NEAR], using an alternative estimation basis [e.g. AGRI, REGIO, EMPL, Research family], or even assuming that the ex-post future corrections would be 0.0% [e.g. DGs with entirely ex-ante control systems].*]

(9) For some programmes with no set *closure* point (e.g. EAGF) and for some multiannual programmes for which corrections are still possible afterwards (e.g. EAFRD and ESIF), all corrections that remain possible are considered for this estimate.

2) Reservations

Not applicable

A. Reservation fiche (template to be adhered to)

Not applicable

B. Operational Programmes / Paying Agencies under reservation and targeted actions

Not applicable

C. Reservations issued for Operational Programme or Paying Agency in the last year's AAR and lifted in 2021

Not applicable

ANNEX 10: Reporting – Human resources, digital transformation and information management and sound environmental management

Human Resources management

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

Indicator 1: Number and percentage of first female appointments to middle management positions

Source of data: Commission Decision SEC(2020)146 of 1 April 2020 and SYSPER

Baseline (2020)	Target ⁴⁴ (2022) + (2024) N	Latest known results (2021)
Female representation in management: 56%, 5 out of 9 on 1 February 2020	1 female Head of Unit appointment	1 female Head of Unit appointment out of 3 in total in 2021 (33%). 2 female appointments since target set.

Indicator 2: DG DEFIS Staff engagement index

Source of data: Commission staff survey

Baseline (2020)	Target (2024)	Latest known results (2021)
60% ⁴⁵	70%	66%

Main outputs in 2021:

Human resources management

Description	Indicator	Target	Latest known results (31/12/2021)
Reaching quantitative DG-specific targets for first female appointments to middle management functions.	Female first appointment to middle management positions	At least 1 by 2022	1 female Head of Unit appointed out of 3 in 2021

⁽⁴⁴⁾ The target will be reviewed for the period 2023-2024 by January 2023.

⁽⁴⁵⁾ 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.

Description	Indicator	Target	Latest known results (31/12/2021)
Promote virtual and e-learning opportunities for colleagues (i.e. webinars, e-learning modules)	Number of virtual and e-learning trainings followed by DEFIS staff	10 % of trainings followed by virtual means	All training and coaching sessions in 2021 were done via virtual means
Staff's emotional, cognitive and physical connection to the job, organisation and the people within it	Staff Engagement Index ⁴⁶	62,5% in 2021	Survey's results from the 2021 annual staff survey not known.

Internal communication actions			
Description	Indicator	Target	Latest known results (31/12/2021)
Maintenance and animation of DG DEFIS intracomm website	- Number of visits	- 5.000 visits	29.808 visits
Publication of weekly internal newsletters 'DEFIS BUZZ'	- Number of recipients and readers	- 200 readers per edition	289 recipients
Biweekly "Management Meeting Debrief" video	- Number of videos - Number of views		- 18 video debriefs - 70 to 90 views
Biweekly DEFIS "Question Box" video	- Number of videos - Number of views		- 18 video episodes - 125 views on average
Publication of DEFIS Policy Briefs	- Number of editions - Number of recipients and readers	- 6 editions - 200 readers	Replaced in 2021 by DEFIS Lab sessions - 5 webinars - 300 participants
Organisation of a DG DEFIS Away-day	- Number of participants and satisfaction survey	- At least 60% of participants	The Away-day did not occur due to the sanitary circumstances. Half day onboarding / welcome sessions were organised for DEFIS newcomers.

⁽⁴⁶⁾ 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.

Description	Indicator	Target	Latest known results (31/12/2021)
Organisation of regular meeting(s) of the Director-General with the staff	<ul style="list-style-type: none"> - Number of meetings - Number of participants and quality of interactions 	<ul style="list-style-type: none"> - 4 meetings - 175 participants each 	<ul style="list-style-type: none"> - 5 all-staff meetings. - 165 to 180 participants on average for each event - 1 meeting with DG and Blue Book trainees
Promotion of EMAS and organisation of EMAS events to promote corporate campaigns	<ul style="list-style-type: none"> - Number of events 	<ul style="list-style-type: none"> - At least 1 	promotion of five EMAS online trainings, conferences and new initiatives.

Digital Transformation and information management

Objective: 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

Indicator 1: Degree of implementation of the digital solutions modernisation plan⁴⁷

Source of data: Commission Decision SEC(2020)146 of 1 April 2020 and SYSPER

Baseline (2020)	Target (2024)	Latest known results (2021)
DG DEFIS created on 1/1/2020		

Indicator 2: Percentage of DG DEFIS key data assets for which corporate principles for data governance have been implemented

Source of data: DG DEFIS

Baseline (2020)	Interim milestone (2022)	Target (2024)	Latest known results (2021)
DG DEFIS created on 1/1/2020			
0% ⁴⁸	25%	50%	15%

⁽⁴⁷⁾ 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.

⁽⁴⁸⁾ DG DEFIS did not complete a statistics and data inventory in 2020, as it has just been created on 1 January 2020

Indicator 3: Percentage of staff attending awareness raising activities on data protection compliance

Source of data: DG DEFIS

Baseline (2020) DG DEFIS created on 1/1/2020)	Target (2024)	Latest known results (2021)
0 %	100% of staff	31% overall staff awareness level reached in DEFIS on the basis of DPC-led activities since 2020. 4 out of 13 entities/units trained (3 in 2021).

Main outputs in 2021:

Digital transformation and information management

Description	Indicator	Target	Latest known results (31/12/2021)
Issue a joint DEFIS/GROW modernisation plan	Work on the modernisation plan is ongoing	2021	Under progress
Appoint an Information Resource Manager (IRM)	The staff to whom this task is appointed.	2021	New DEFIS IRM was appointed as from 13 September 2021
Establish a DG DEFIS key data assets inventory	Percentage of DG DEFIS key data assets	25%	Update of GOVIS database under progress

Data protection

Description	Indicator	Target	Latest known results (31/12/2021)
Increase staff awareness in DG DEFIS on personal data protection rules.	<ul style="list-style-type: none"> - Percentage management attending awareness raising activities. - Percentage of staff attending awareness raising activities. 	<ul style="list-style-type: none"> - Management: 40%. - Staff: 40%. 	<ul style="list-style-type: none"> - 25% (1 out of 4) of senior management reached during dedicated training session. - +-10% (25 out 239) of DEFIS staff was reached during the data protection day. - 19 % of staff (45 out 239) reached by internal trainings by the DPC. - 30% of all staff (71 of 239)
Map degree of implementation of data protection procedures	<ul style="list-style-type: none"> - Number of records due. - Number of privacy statements due. 	<ul style="list-style-type: none"> - Percentage of records prepared. - Percentage of privacy statements prepared. 	<ul style="list-style-type: none"> - 25 % (2 out of 8) with 2 published records and 6 records initiated (in draft) during 2021 which are pending for finalisation in 2022. - 100% with 31 privacy statements validated by the DPC.
DEFIS IT systems complying with data protection rules.	<ul style="list-style-type: none"> - Number of DEFIS IT systems. 	<ul style="list-style-type: none"> - Percentage of DEFIS IT systems complying with data protection rules. 	80 % (8 out of 10)

Sound environmental management and example(s) of initiatives to improve economy and efficiency of financial and non-financial activities

Objective: DG DEFIS takes full account of its environmental impact in all its actions and actively promotes measures to reduce the related day-to-day impact of the administration and its work

Main outputs in 2021:

Description	Indicator	Target	Latest known results (31/12/2021)
Paperless working methods at DG/service level (such as paperless working: e-signatories, financial circuits, collaborative working tools) and staff awareness actions to reduce office paper use.	% of staff informed % of Ares e-signed documents	Address all DG staff Establish a baseline for the first year of operation 1 action per year	EMAS general guidelines provided to all staff (100%) on regular basis 98% paperless e-signed ARES in 2021 2% e-signed ARES with paper signed in 2021
Analysis of DG/service's missions trends /patterns. Develop a mission policy that promotes videoconferencing/virtual events.	Yearly CO ₂ (t) emissions from DG/service's missions Mission policy and process document	Establish a baseline for DG DEFIS Address all DG staff	Total 2021 emissions : 48.8 TCo ₂ eq However the close to normal missions situation was only in fall 2021, which would rather suggest that the "baseline" emissions would be rather around 15 to 20 TCo ₂ eq per month (so 180 to 240 TCo ₂ eq annually)
Implementation of the <i>EC Guidelines for sustainable meetings and events</i> , e.g. reduce/eliminate single-use plastics, gadgets/gifts	Number of events	At least 1 event	
Gradual introduction of GPP criteria in contracts and monitoring of the process	Impact of GPP-relevant contracts with green criteria (relevant value in EUR, where possible, enabled footprint reduction)	Establish a baseline for the first year of operation	

Description	Indicator	Target	Latest known results (31/12/2021)
Encourage the use of actions underpinning the use of space data, services and applications in support of the EU Green Deal.	Number of calls Number of projects funded Overall amount in EUR	Establish a baseline for the first year of operation	

Security and Information

Objective: DG DEFIS is ensuring a high level of protection of the sensitive and classified information it manages

Indicator 1: Percentage of staff holding a Personal Security Clearance

Source of data: LSO database

Baseline (2020) DG DEFIS created on 1/1/2020	Target (2024)	Latest known results (2021)
95%	100%	82% holding a Personal Security Clearance; 13% under vetting procedure

Indicator 2: Number of security incidents detected versus number of transfers of EUCI (on a yearly basis)

Source of data: LSO database, RCO database

Baseline (2020) DG DEFIS created on 1/1/2020	Target (2024)	Latest known results (2021)
Less than 1 per 1000	Less than 1 per 2000	No incident reported in 2021

Indicator 3: Percentage of staff completing awareness and training plan for security

Source of data: European Commission

Baseline (2020) DG DEFIS created on 1/1/2020	Target (2024)	Latest known results (2021)
0	100%	38%

Main outputs in 2021:

Description	Indicator	Target	Latest known results (2021)
Establish a DG DEFIS Classification Guide	All Directorates and Units classifying documents according to the same guide.	DEFIS Management staff	Under progress
Organise comprehensive security training	<ul style="list-style-type: none"> - Percentage of management attending awareness raising activities. - Percentage of staff attending awareness raising activities. 	<ul style="list-style-type: none"> - Management: 40%. - Staff: 90%. 	Since 2019 only 40% of DEFIS staff attended to a security training
Staff security clearance	Percentage of staff with personal security clearance or in the process of being security cleared	all DEFIS staff: 95 %	95%
Installation of electronic door handles in all directorate office spaces (compliant with HR.DS requirements) that can ensure full audit of entries.	Percentage of equipped doors	75%	<p>33%</p> <p>Installation of electronic doors, to be completed in Q1 2022</p> <p>New objective: 95%</p>

ANNEX 11: Implementation through national or international public-sector bodies and bodies governed by private law with a public sector mission (if applicable)

Not applicable

ANNEX 12: EAMR of the Union Delegations (if applicable)

Not applicable

ANNEX 13: Decentralised agencies and/or EU Trust Funds

Not applicable