

2018

Annual Activity Report

Annexes

**Directorate-General
for Research
And Innovation**

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

I declare that in accordance with the Commission's communication on the internal control framework¹, I have reported my advice and recommendations on the overall state of internal control in the DG to the Director-General.

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.

Date: 26/03/2019

[Signed in ARES]

Fernández-Cañadas Priscila

Director RTD.R (Resources)

¹ C(2017)2373 of 19.04.2017.

ANNEX 2: Reporting – Human Resources, Better Regulation, Information Management and External Communication

1. Human resource management

Objective: The DG deploys effectively its resources in support of the priority of the Commission priorities and core business, has a competent engaged workforce, which is driven by an effective and gendered management and which can deploy its full potential within attractive and healthy working conditions.

Main outputs in 2018:

Output	Indicator/Deliverables	Target	Results
Percentage of female representation in middle management (Source: Sysper)	Baseline : 28% at end 2015	40% of female middle managers, conforming with decision SEC (2015) 336.	In 2018 RTD had exceeded the target (43% female middle managers by 31/12/2018)
Number of first female appointments to middle management functions (Source : Sysper)	Baseline: 24 female middle managers on 1/05/2017	first appointment of 8 female middle between 01/05/2017 and 01/11/2019 in accordance	By 31/12/2018 RTD had reached 50% of the target, having appointed +4 new female middle managers.

		with the specific quantitative targets specified in decision SEC(2017)359	
Percentage of staff who feel that the Commission cares about their well-being (Source: Commission staff survey)	Baseline: 29% in 2014 Staff survey	Increase to reach Commission average in subsequent staff surveys	44% in the 2018 Staff Survey, against the Commission average of 52%
Staff engagement index (Source: Commission staff survey)	Baseline: 60.3% in 2014 Staff survey	Improve to at least Commission average staff engagement	62% in the 2018 Staff survey, against the Commission average of 70%
Annual workload assessment and benchmarking exercise in 2018 in order to rebalance the workload of staff according to	The HR Planning and Reporting exercise will ensure that the DGs staff concentrate on priority work areas while the reductions will meet the DG's obligations vis-à-vis the Commission.	Launched in early January 2018	Annual Human Resources Planning exercise was undertaken in May-June to continuously enhance allocation of resources in line with the Commission and DG priorities, while rebalancing the workload of staff and meeting the staff reduction targets established centrally for DG RTD by January 2019 (i.e. 38

priorities and with the ultimate goal of achieving an even workload balance among staff.	The Staff reduction targets <u>for the DG</u> for years 2018-2020 have been decided in 2017: As follows: <i>(1) Reduction by 88 Establishment Posts</i> <i>(2) Reduction by 28 Contractual Agent Posts</i> The HR Planning and reporting exercise of 2018 will look at the progress of the reductions and depending on the new priorities as well as the fluctuation of Programme management work, it will possibly redistribute the above target among its directorates.	Defined by Mid-2018. Proposal in March/April 2018	establishment plan posts and 21 contract staff).
Fit@work and well-being actions	Communication actions following the Commission's Action Plan for 2018	Implemented by the end 2018	DG RTD created a wellbeing space in Orban building and a well-being programme was developed in parallel and is running. Staff were timely and properly informed on relevant HR matters, including Fit@work and well-being actions organised centrally or at DG

			RTD's level.
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2. Financial management: internal control and risk management

Objective 1: Effective and reliable internal control system giving the necessary guarantees concerning the legality and the regularity of the underlying transactions.

Main outputs in 2018:

Output	Indicator/Deliverables	Target	Results
Ex ante controls	Number of transactions	Not relevant	8065
Ex post audit plan for grants	Implementation of the CAS Audit Plan 2018 (number of audited participations)	95% of audits closed by the end 2018	115% closed in 2018 (763 participations audited)
Implementation of FP7 audits results	Cumulative implementation rate of FP7 audit results	80% by the end 2018	88.6%
Implementation of FP7 extrapolations	Cumulative implementation rate of FP7 extrapolations	75% by the end 2018	58%
Residual error rate (DG RTD)	Cumulative results for FP7 (legacy)	Under 2 %	3,36% (as of 31 December 2018)
	Cumulative results for H2020	Between 2 and 5 %	Residual Error Rate for the Research and Innovation Family expected to rise to around 2.45% when taking into account the draft audit reports.

Objective 2: Effective and reliable internal control system in line with sound financial management.			
Main outputs in 2018:			
Output	Indicator/Deliverables	Target	Results
Training on business processes	Number of participants	6000 by the end 2018	9787 participants in 2018 (3584 internal users, 6203 external users).
Enhancement and review of the H2020 common ex-ante controls on interim and final payments	1. Define the H2020 most recurrent financial errors based on the analysis of the findings of ex-post financial audits concluded until January 2018. 2. Review and possible revision of the common 'Guidance for H2020 ex-ante controls on interim and final payments' and the common baseline checks and controls before payments.	1. April 2018 2. July 2018	1. Completed. 2. Ongoing. The revised guidance is expected in March 2019, pending completion of the IAS audits on ex-ante controls and project management in different services.
Harmonised implementation of audit results	1. Audit implementation in closed projects 2. Bulking of workflows for global recoveries	1. It will be deployed in Q1 2018 • • 2. Analysis in 2018 and deployment in 2019	1. Completed in Q4 2018. 2. Semi-automated processing deployed in Q4 2018. Further analysis and deployment of the fully automated process in 2019.
	Total value of transactions	Not relevant	2.765,9 M
	Time To Pay	95% compliant by the end 2018	98 % Source : BFMR December 2018
	Time To Grant	95% compliant by the end 2018	96.4% compliance at family level, 91% for RTD.
Conclusion on the Cost-effectiveness of	Conclusion reached in the	yes	YES

controls	AAR on the Cost-effectiveness of controls		
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Objective 3: Minimisation of the risk of fraud through application of effective anti-fraud measures, integrated in all activities of the DG, based on the DG's anti-fraud strategy (AFS) aimed at the prevention, detection and reparation of fraud.

Main outputs in 2018:

Output	Indicator/Deliverables	Target	Results
Put in place a 2 nd Common anti-fraud Action Plan in the Research family	A 2 nd anti-fraud Action Plan is adopted by the CSC Steering Committee	End of June 2018	Adoption of the action plan by the CSC Executive Committee planned in Q1/2019
Increased level of anti-fraud awareness in DG RTD	Number of participants from DG RTD [target population] in training sessions on anti-fraud over the year	20	None due to the number of newcomers in DG RTD has decreased significantly due to the general staff cuts. Also, there are special workshops for Project and Financial Officers in RTD covering a number of the areas covered by anti-fraud training, especially the use of the Reinforced Monitoring process, EDES and the Risk Management suite. It is proposed to terminate the Anti-Fraud trainings given by DG RTD. Instead, RTD staff will be directed to similar trainings offered by other bodies in the research family
Cases DG RTD referred to OLAF	Number of cases	No target (all relevant cases will be transmitted to OLAF)	3
Cases relevant to DG RTD coming from other sources	Number of cases	No target (does not depend on DG RTD)	27
FAIR Committee	Number of meetings	2 by 31/12/2018	3 meetings held in 2018

3. Information management aspects

Objective: Information and knowledge in your DG is shared and reusable by other DGs. Important documents are registered, filed and retrievable.

Main outputs in 2018:

Output	Indicator	Target	Results
Percentage of registered documents that are not filed (ratio). Source data: Hermes-Ares-NomCom (NOT filed Ares registered documents)	Percentage of not filed Ares registered documents	Below 5%	3.6 %
Percentage of HAN files readable/accessible by all units in the DG (HAN files readable by all units in the DG)	Percentage of HAN files readable by all units in the DG	Year 2017: 42%	58% (this result is 8% for 2018 by taking into account only manually created RTD files, and by excluding the files created by the eGrants IT applications - 96% of the files in the Filing Plan of DG RTD are created automatically by the eGrants IT applications, not only for DG RTD, but also for other DGs, agencies and JTIs in the context of H2020 call and grant management. Consequently, the statistics not separating manually created files from HRS automatically created files do not represent the actual status of RTD file readability.
Percentage of HAN files shared with other DGs (DG RTD did not participate in the pilot exercise)	Percentage of HAN files shared with other DGs	0	0

(1) *The two external web-services are running successfully: Elsevier Scopus and Cordis. Other sources proved to be difficult due to technology and support issues on the supplier side.*

- (2) *In response to business-needs, the efforts in SharePoint have focussed on providing document collaboration support, where more than four administrative processes are successfully supported. The demand for business intelligence has been less articulated than expected.*

4. External communication activities

Objective: Citizens perceive that the EU is working to improve their lives and engage with the EU. They feel that their concerns are taken into consideration in European decision making and they know about their rights in the EU.

Main outputs in 2018:

Output	Indicator/Deliverables	Target	Results
i) Infographics, audio visual material and success stories aimed at general audience	Potential reach	18m	20.5M
ii) Futuris multimedia broadcast of EU funded R&I activities broadcast	Number of broadcasts	1,700	1.788
	Audience reach	5.9M	6.1

Annual communication spending:

Baseline (2018)	Estimated commitments (2019)	Results
EURO 4.9 million	EURO 5.5 million	4.977.391

ANNEX 3: Draft annual accounts and financial reports

AAR 2018 Version 1

Annex 3 Financial Reports - DG RTD - Financial Year 2018

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 (excluding Building Contracts)

Table 12 : Summary of Procedures (excluding Building Contracts)

Table 13 : Building Contracts

Table 14 : Contracts declared Secret

Table 15 : FPA duration exceeds 4 years

Additional comments

TABLE 1: OUTTURN ON COMMITMENT APPROPRIATIONS IN 2018 (in Mio €)					
			Commitment appropriations authorised	Commitments made	%
			1	2	3=2/1
Title 05 Agriculture and rural development					
05	05 09	Horizon 2020 - Research and innovation related to agriculture	25	25	100,00 %
Total Title 05			25	25	100,00%
Title 08 Research and innovation					
08	08 01	Administrative expenditure of the 'Research and innovation' policy area	287,7772889	287,436003	99,88 %
	08 02	Horizon 2020 - Research	3561,347397	2930,03809	82,27 %
	08 03	Euratom Programme - Indirect actions	302,0103489	259,299052	85,86 %
	08 05	Research programme of the Research Fund for Coal and Steel	45,74079818	39,6538158	86,69 %
Total Title 08			4196,875833	3516,42696	83,79%
Title 09 Communications networks, content and technology					
09	09 01	Administrative expenditure of the 'Communications networks, content and technology' policy area	0,362825	0,362825	100,00 %
Total Title 09			0,362825	0,362825	100,00%
Total DG RTD			4222,238658	3541,78979	83,88 %

* 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.

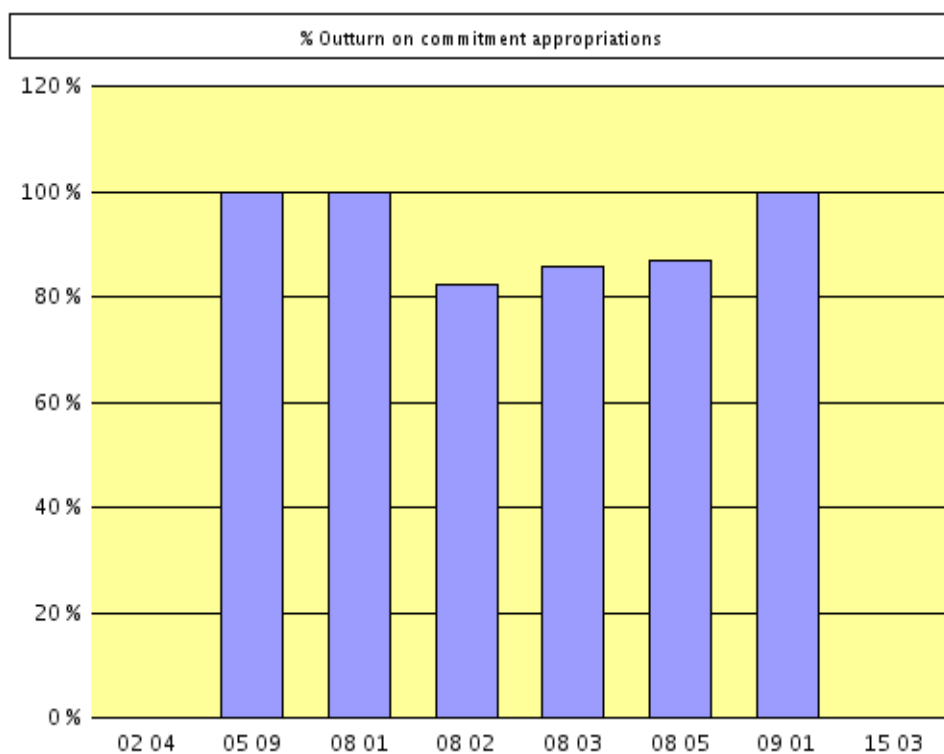


TABLE 2: OUTTURN ON PAYMENT APPROPRIATIONS IN 2018 (in Mio €)					
Chapter			Payment appropriations authorised	Payments made	%
			1	2	3=2/1
Title 02 Internal market, industry, entrepreneurship and SMEs					
02	02 04	Horizon 2020 - Research relating to enterprises	3	3	100,00 %
Total Title 02			3	3	100,00%
Title 05 Agriculture and rural development					
05	05 09	Horizon 2020 - Research and innovation related to agriculture	5	5	100,00 %
Total Title 05			5	5	100,00%
Title 08 Research and innovation					
08	08 01	Administrative expenditure of the 'Research and innovation' policy area	172,415518	146,3442562	84,88 %
	08 02	Horizon 2020 - Research	3688,037018	2768,862141	75,08 %
	08 03	Euratom Programme - Indirect actions	255,8661816	175,3597504	68,54 %
	08 05	Research programme of the Research Fund for Coal and Steel	52,43170624	44,08864272	84,09 %
Total Title 08			4168,750424	3134,65479	75,19%
Title 09 Communications networks, content and technology					
09	09 01	Administrative expenditure of the 'Communications networks, content and technology' policy area	0,68734175	0,32451675	47,21 %
Total Title 09			0,68734175	0,32451675	47,21%
	Total DG RTD		4177,437765	3142,979307	75,24 %

* Payment 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 payment appropriations for the period (e.g. internal and external assigned revenue).

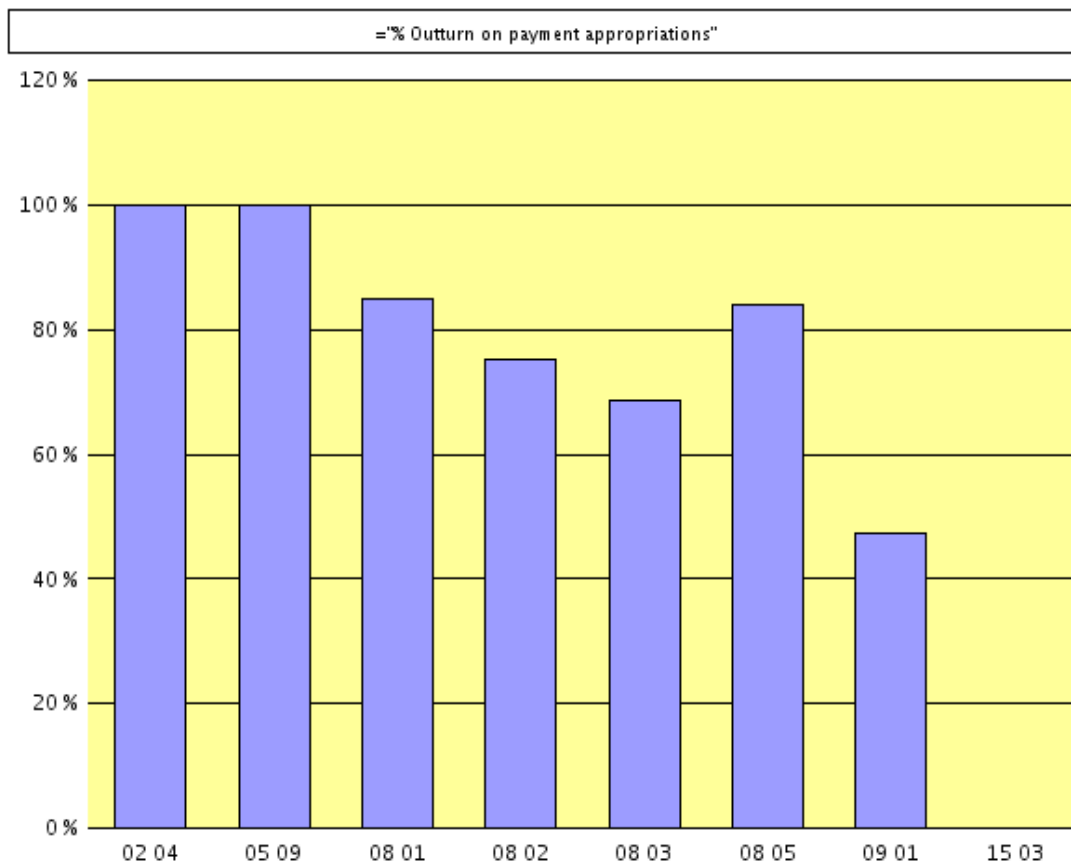


TABLE 3 : BREAKDOWN OF COMMITMENTS TO BE SETTLED AT 31/12/2018 (in Mio €)									
Chapter			2018 Commitments to be settled				Commitments to be settled from financial years previous to 2018	Total of commitments to be settled at end of financial year 2018	Total of commitments to be settled at end of financial year 2017
			Commitments 2018	Payments 2018	RAL 2018	% to be settled			
			1	2	3=12	4=12/1	5	6=3+5	7
Title 02 : Internal market, industry, entrepreneurship and SMEs									
02	02 04	Horizon 2020 - Research relating to enterprises	0	0,00	0	0,00 %	0,00	0,00	3,00
Total Title 02			0	0,00	0	0,00%	0	0	3
Title 05 : Agriculture and rural development									
05	05 09	Horizon 2020 - Research and innovation related to agriculture	25	5,00	20	80,00 %	0,00	20,00	0,00
Total Title 05			25	5,00	20	80,00%	0	20	0
Title 08 : Research and innovation									
08	08 01	Administrative expenditure of the 'Research and innovation' policy area	285,4854742	259,13	26,35622245	9,23 %	0,00	26,36	21,28
	08 02	Horizon 2020 - Research	2930,038091	930,47	1999,567647	68,24 %	3.140,62	5.140,18	5037,34
	08 03	Euratom Programme - Indirect actions	259,2990519	140,26	119,0380826	45,91 %	117,44	236,47	152,66
	08 05	Research programme of the Research Fund for Coal and Steel	39,65381584	15,59	24,06643217	60,69 %	71,03	95,09	103,72
Total Title 08			3514,476433	1345,45	2169,028384	61,72%	3329,079118	5498,107502	5314,99221
Title 09 : Communications networks, content and technology									
09	09 01	Administrative expenditure of the 'Communications networks, content and technology' policy area	0,362825	0,00	0,362825	100,00 %	0,00	0,36	0,32
Total Title 09			0,362825	0,00	0,362825	100,00%	0	0,362825	0,32451675
Title 15 : Education and culture									
15	15 03	Horizon 2020	0	0,00	0	0,00 %	0,00	0,00	0,03
Total Title 15			0	0,00	0	0,00%	0	0	0,02871919
Total DG RTD			3539,839258	1350,45	2189,391209	61,85 %	3329,079118	5518,470327	5318,34545

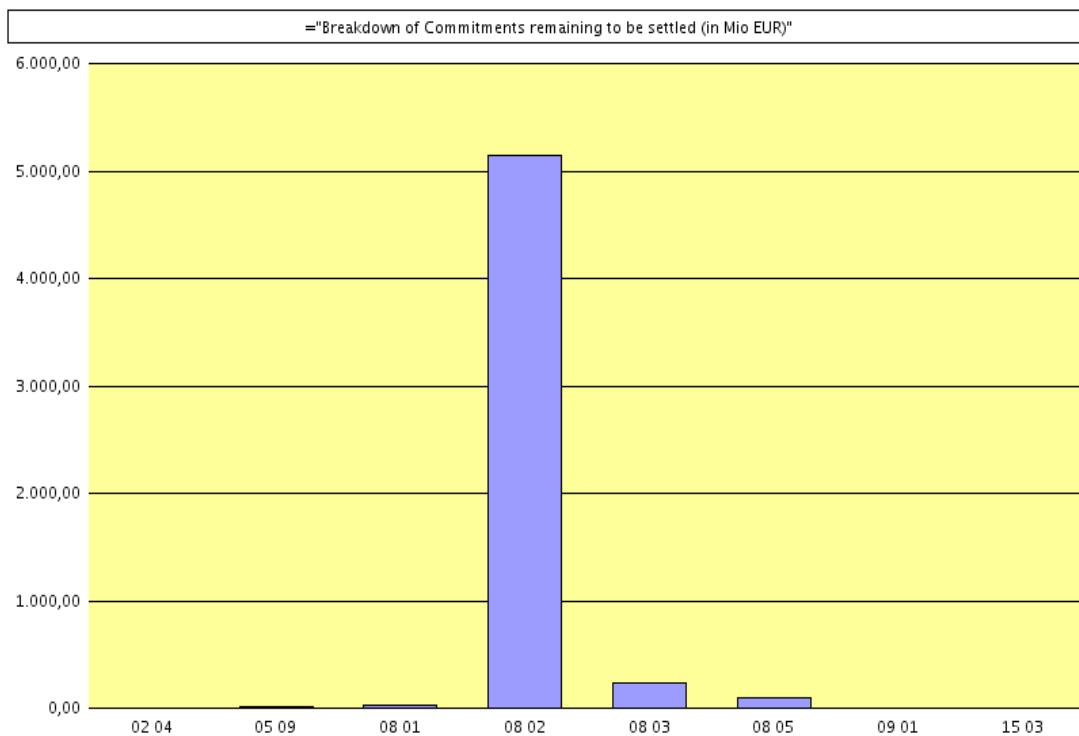


TABLE 4 : BALANCE SHEET RTD

BALANCE SHEET	2018	2017
A.I. NON CURRENT ASSETS	2649798687	2262443260
A.I.1. Intangible Assets	25.052.672,43	16.511.233,17
A.I.3. Invstmnts Acctnd For Using Equity Meth	0,00	0,00
A.I.4. Non-Current Financial Assets	2.327.615.380,14	1.942.227.677,14
A.I.5. Non-Current Pre-Financing	284.680.634,79	281.804.349,19
A.I.6. Non-Cur Exch Receiv & Non-Ex Recoverab	12.450.000,00	21.900.000,00
A.II. CURRENT ASSETS	1929721369	1799526324
A.II.1. Current Financial Assets	383.315.151,93	452.768.271,93
A.II.2. Current Pre-Financing	962.166.837,92	888.765.853,73
A.II.3. Curr Exch Receiv & Non-Ex Recoverables	202.917.644,10	168.137.995,68
A.II.6. Cash and Cash Equivalents	381.321.734,61	289.854.202,61
ASSETS	4579520056	4061969583
P.I. NON CURRENT LIABILITIES	-161520160	-106866451
P.I.2. Non-Current Provisions	-154.652.668,00	-106.866.451,00
P.I.3. Non-Current Financial Liabilities	-6.867.492,00	
P.III. NET ASSETS/LIABILITIES	-1563513,54	-13023082,54
P.III.1. Reserves	-1.563.513,54	-13.023.082,54
P.II. CURRENT LIABILITIES	-717494661,3	-613977162,4
P.II.2. Current Provisions	-311.067.138,30	-185.550.159,52
P.II.3. Current Financial Liabilities	-14.510.117,00	
P.II.4. Current Payables	-131.988.440,41	-118.136.903,72
P.II.5. Current Accrued Charges & Defrd Income	-259.928.965,60	-310.290.099,12
LIABILITIES	-880578334,9	-733866695,9
NET ASSETS (ASSETS less LIABILITIES)	3698941721	3.328.102.887,55

P.III.2. Accumulated Surplus/Deficit	13.863.193.444,44	12056196400
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Non-allocated central (surplus)/deficit*	-17.562.135.165,51	-15384299287
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TOTAL	0,00	0,00
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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 RTD

STATEMENT OF FINANCIAL PERFORMANCE	2018	2017
II.1 REVENUES	-940330297,2	-812219676,1
II.1.1. NON-EXCHANGE REVENUES	-878227196,5	-720951893,3
II.1.1.5. RECOVERY OF EXPENSES	-6.366.691,38	-13.779.729,09
II.1.1.6. OTHER NON-EXCHANGE REVENUES	-871.860.505,14	-707.172.164,17
II.1.2. EXCHANGE REVENUES	-62103100,65	-91267782,8
II.1.2.1. FINANCIAL INCOME	-18.131.359,31	-11.496.109,39
II.1.2.2. OTHER EXCHANGE REVENUE	-43.971.741,34	-79.771.673,41
II.2. EXPENSES	2829317963	2619216721
II.2. EXPENSES	2829317963	2619216721
II.2.10. OTHER EXPENSES	398.529.618,23	333.681.356,51
II.2.2. EXP IMPL BY COMMISS&EX.AGENC. (DM)	1.565.899.639,70	1.585.210.153,22
II.2.3. EXP IMPL BY OTH EU AGENC&BODIES (IM)	718.463.569,38	594.831.379,22
II.2.5. EXP IMPL BY OTHER ENTITIES (IM)	121.663.470,96	96.612.827,39
II.2.6. STAFF AND PENSION COSTS	-972.708,00	-1.058.800,13
II.2.8. FINANCE COSTS	25.734.372,30	9.939.804,48
STATEMENT OF FINANCIAL PERFORMANCE	1.888.987.665,40	1.806.997.044,63

Explanatory Notes (facultative):

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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.

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TABLE 5bis : OFF BALANCE SHEET RTD

OFF BALANCE	2018	2017
OB.1. Contingent Assets	28292966,8	32710351,97
GR for pre-financing	28.292.966,80	32.710.351,97
OB.2. Contingent Liabilities	-2111420153	-1953426152
OB.2.1. Guarantees given for EU FI	-2.109.086.060,00	-1.951.092.059,00
OB.2.7. CL Legal cases OTHER	-2.334.093,17	-2.334.093,17
OB.3. Other Significant Disclosures	-5131925732	-4890690602
OB.3.2. Comm against app. not yet consumed	-5.131.925.732,29	-4.890.690.601,59
OB.4. Balancing Accounts	7215052919	6811406402
OB.4. Balancing Accounts	7.215.052.918,66	6.811.406.401,79
OFF BALANCE	0,00	0,00

Explanatory Notes (facultative):

Please enter the text directly (no copy/paste of formatted text which would then disappear when saving the document in pdf), use \\\"ctrl+enter\\\" to go to the next line and \\\"enter\\\" to validate your typing.

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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 6: AVERAGE PAYMENT TIMES FOR 2018 - DG RTD

Legal Times							
Maximum Payment Time (Days)	Total Number of Payments	Nbr of Payments within Time Limit	Percentage	Average Payment Times (Days)	Nbr of Late Payments	Percentage	Average Payment Times (Days)
30	3414	3253	95,28 %	14,39870888	161	4,72 %	44,70807453
45	76	74	97,37 %	27,44594595	2	2,63 %	72
60	189	184	97,35 %	25,71195652	5	2,65 %	68
90	1141	1120	98,16 %	59,53482143	21	1,84 %	101,2380952
105	2	2	100,00 %	100,5			

Total Number of Payments	4822	4633	96,08 %		189	3,92 %	
Average Net Payment Time	27,01970137			26,00496439			51,89417989
Average Gross Payment Time	47,51824969			46,81156918			64,84126984

Suspensions							
Average Report Approval Suspension	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
2	81	1219	25,28 %	4822	691.899.742,93	24,07 %	2.874.643.638,89

Late Interest paid in 2018			
DG	GL Account	Description	Amount (Eur)
RTD	65010100	Interest on late payment of charges New FR	1 874,36
			1 874,36

TABLE 7 : SITUATION ON REVENUE AND INCOME IN 2018

Chapter		Revenue and income recognized			Revenue and income cashed from			Outstanding balance
		Current year RO	Carried over RO	Total	Current Year RO	Carried over RO	Total	
		1	2	3=1+2	4	5	6=4+5	7=3-6
52	REVENUE FROM INVESTMENTS OR LOANS GRANTED, BANK AND OTHER INTEREST	-4107,59	44485,16	40377,57	-4107,59	0	-4107,59	44485,16
59	OTHER REVENUE ARISING FROM ADMINISTRATIVE MANAGEMENT	822578,62	0	822578,62	822578,62	0	822578,62	0
60	CONTRIBUTIONS TO UNION PROGRAMMES	806354832,5	227645,16	806582477,6	790477302,6	227645,16	790704947,8	15877529,83
61	REPAYMENT OF MISCELLANEOUS EXPENDITURE	44589759,79	1688240,31	46278000,1	44339268,42	1253854,11	45593122,53	684877,57
64	CONTRIBUTIONS FROM FINANCIAL INSTRUMENTS	34157633,21	0	34157633,21	34157633,21	0	34157633,21	0
66	OTHER CONTRIBUTIONS AND REFUNDS	16503803,81	15677999	32181802,81	12815746,23	4464126,96	17279873,19	14901929,62
90	MISCELLANEOUS REVENUE	251344,09	856249,03	1107593,12	218066,47	195106,45	413172,92	694420,2
Total DG RTD		902675844,4	18494618,66	921170463,1	882826488	6140732,68	888967220,7	32203242,38

TABLE 8 : RECOVERY OF PAYMENTS
(Number of Recovery Contexts and corresponding Transaction Amount)

INCOME BUDGET RECOVERY ORDERS ISSUED IN 2018 Year of Origin (commitment)	Irregularity		OLAF notified		Total undue payments recovered		Total transactions in recovery context(incl. non-qualified)		% Qualified/Total RC	
	Nbr	RO Amount	Nbr	RO Amount	Nbr	RO Amount	Nbr	RO Amount	Nbr	RO Amount
2004	3	72923,67			3	72923,67	3	72923,67	100,00%	100,00%
2005	3	36436,51	1	8721,68	4	45158,19	4	45158,19	100,00%	100,00%
2006	2	54673,58	2	14725,85	4	69399,43	4	69399,43	100,00%	100,00%
2007	3	48799,46			3	48799,46	6	74351,31	50,00%	65,63%
2008	31	119355,62			31	119355,62	33	1269867,07	93,94%	93,99%
2009	55	2400823,73			55	2400823,73	55	2400823,73	100,00%	100,00%
2010	37	615649,67			37	615649,67	42	1044864,81	88,10%	58,92%
2011	42	824299,27			42	824299,27	53	1426571,58	79,25%	57,78%
2012	26	296008,09			26	296008,09	50	3855926,57	52,00%	7,68%
2013	14	210251,75			14	210251,75	68	5107173,07	20,59%	4,12%
2014	2	17990,59			2	17990,59	19	2060773,78	10,53%	0,87%
2015							4	119009,03		
2016							2	18949,69		
2017							4	845435,02		
2018							2	22000		
No Link	7	101601,26	3	2344,75	10	103946,01	73	43572471,59	13,70%	0,24%
Sub-Total	225	5873013,2	6	25792,28	231	5898805,48	422	62005698,54	54,74%	9,51%

EXPENSES BUDGET	Error		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	Nbr	Amount
INCOME LINES IN INVOICES			23	384494,29			23	384494,29	25	449.404,68	92,00%	85,56%
NON ELIGIBLE IN COST CLAIMS	5	1322,82	530	23653311,11	1	7062	536	23661695,93	927	86.058.550,83	57,82%	27,49%
CREDIT NOTES			30	384273,07			30	384273,07	91	2.463.808,34	32,97%	15,60%
Sub-Total	5	1322,82	583	24422078,47	1	7062	589	24430463,29	1043	88971763,85	56,47%	27,46%
GRAND TOTAL	5	1322,82	808	30295091,67	7	32854,28	820	30329268,77	1465	150977462,4	55,97%	20,09%

TABLE 9: AGEING BALANCE OF RECOVERY ORDERS AT 31/12/2018 FOR RTD

	Number at 1/01/2018	Number at 31/12/2018	Evolution	Open Amount (Eur) at 1/01/2018	Open Amount (Eur) at 31/12/2018	Evolution
1993	2	2	0,00 %	281.333,80	281.333,80	0,00 %
1994	1	1	0,00 %	46.307,00	46.307,00	0,00 %
2001	3	3	0,00 %	254.436,64	254.436,64	0,00 %
2002	2	2	0,00 %	133.999,24	133.999,24	0,00 %
2003	1	1	0,00 %	159.578,00	159.578,00	0,00 %
2004	1	1	0,00 %	13.827,22	13.827,22	0,00 %
2005	1	1	0,00 %	147.075,61	147.075,61	0,00 %
2007	1	1	0,00 %	24.820,00	24.820,00	0,00 %
2008	2	2	0,00 %	199.683,08	199.683,08	0,00 %
2009	7	7	0,00 %	601.020,40	601.020,40	0,00 %
2010	5	5	0,00 %	209.869,49	209.869,49	0,00 %
2011	4	4	0,00 %	370.479,75	370.479,75	0,00 %
2012	9	9	0,00 %	2.930.711,25	2.930.711,25	0,00 %
2013	9	9	0,00 %	661.025,90	661.025,90	0,00 %
2014	10	8	-20,00 %	1.253.935,08	1.212.048,52	-3,34 %
2015	8	7	-12,50 %	1.541.679,11	1.503.936,59	-2,45 %
2016	15	9	-40,00 %	995.009,98	695.966,93	-30,05 %
2017	67	19	-71,64 %	8.987.676,65	3.225.616,10	-64,11 %
2018		34			19.849.356,40	
	148	125	-15,54 %	18.812.468,20	32.521.091,92	72,87 %

TABLE 10 : RECOVERY ORDER WAIVERS IN 2018 >= EUR 60.000						
	Waiver Central Key	Linked RO Central Key	RO Accepted Amount (Eur)	LE Account Group	Commission Decision	Comments
1	3233180174	3241708945	-208.629,50	Private Companies		

Total DG RTD	-208.629,50
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Number of RO waivers	1
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There are no waivers below 60 000 €

**TABLE 11 : CENSUS OF NEGOTIATED PROCEDURES - DG
RTD - 2018**

Internal 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	231.435,00
Total	1	231.435,00

TABLE 12 : SUMMARY OF PROCEDURES OF DG RTD EXCLUDING BUILDING CONTRACTS**Internal Procedures > € 60,000**

Procedure Legal base	Number of Procedures	Amount (€)
Negotiated procedure without prior publication (Annex 1 - 11.1)	1	231.435,00
Open Procedure (Art. 104(1) (a) FR)	2	124.000.000,00
Open procedure (FR 164 (1)(a))	3	5.166.718,00
Total	6	129.398.153,00

Additional Comments:

TABLE 13 : BUILDING CONTRACTS

Legal base	Contract Number	Contractor Name	Description	Amount (€)

TABLE 14 : CONTRACTS DECLARED SECRET

LC Responsible Orga	LC Contract/Grant Ty	LC Date	Legal base	Contract Number	Contractor Name	Description	Amount (€)

**TABLE 15 : FPA duration exceeds 4 years -
RTD**

FPA Central Identifier	FPA In Force From Date	FPA Expiry Date	FPA Duration	Duration in Days	FPA Local Identifier	FPA User Reference	FPA Version Type	FPA Status Code	FPA Status Desc
CE-0657735	12-06-2014	11-06-2021		2556	TECHNICAL AND FINANCIAL ADVISORY SERVICE FOR RISK FINANCE IN F	TECHNICAL AND FINANCIAL AD	CURRENT	VLF	In Force
CE-0733946	27-04-2015	31-12-2024		3536	EUROPEAN METROLOGY PROGRAMME FOR INNOVATION AND RESEARC	EUROPEAN METROLOGY PROC	CURRENT	VLF	In Force
2									

Justifications:

FPA CE-0657735: The FPA and SGAs related to the technical and financial advisory service for risk finance in R&I implemented by the EIB have a duration of 9 years because EIB provides support to innovative companies and engage in studies throughout the whole duration of Horizon 2020. The initial duration of 7.5 years has been extended in order to cater for the implementation of a significant additional contribution from NER300 unused funds.

FPA CE-0733946 is a Public-public partnerships Decision No 555/2014/EU of the European parliament and the Council of 15 May 2014

ANNEX 4: Materiality criteria

DG RTD's expenditure is composed of, in order of importance, directly managed grants, indirectly managed grants and financial instruments and, for less than 7% other direct spending, mostly administrative. The error rate affecting the payments is estimated yearly and per management system, following a relevant methodology that takes into account the risk associated to the type of expenditure (in terms of probability and final financial impact).

Considering that around 80% of the yearly expenditure is related to directly or indirectly managed research grants, and the fact that the research framework programmes' implementing bodies are sharing a common ex-post audit approach, the following section focusses on this specific management system.

1. Research framework programmes – common aspects

The assessment of the effectiveness of the different programmes' control system is based mainly, but not exclusively, on ex-post audits' results. The effectiveness is expressed in terms of detected and residual error rate, calculated on a representative sample.

1.1. 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 extrapolation 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:

$$\text{ResER}\% = \frac{(\text{RepER}\% * (P - A)) - (\text{RepERSys}\% * E)}{P}$$

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. For FP 7 this rate is the same for all Research services. |
| RepERSys% | portion of the RepER% representing (negative) systematic errors, expressed as a percentage. The RepER% is composed of two complementary portions reflecting the proportion of negative systematic and non-systematic errors detected. |
| P | total aggregated amount in euros of EC share of funding in the auditable population. In FP7, the population is that of all received cost |

statements, and the euros amounts those that reflect the EC share included in the costs claimed in each cost statement.

- A** total EC share of all audited amounts, expressed in euro. This will be collected from audit results.
- E** total non-audited amounts of all audited beneficiaries. In FP7, this consists of the total EC share, expressed in euro, excluding those beneficiaries for which an extrapolation is ongoing).

The Common Representative Audit Sample (CRAS) 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 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 CRAS 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.

In case a calculation of the residual error rate based on a representative sample is not possible for a FP for reasons not involving control deficiencies,² 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 be then 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.

1.2. Multiannual 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 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 signing of the contract with the beneficiary.

² 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.

Notwithstanding the multiannual span of their control strategy, the Director-Generals of the Research DGs (and the Directors of ERCEA, REA, and, for Horizon 2020, EASME and INEA) 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 so 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.

1.3. Adequacy of the audit scope

The quantity of the (cumulative) audit effort carried out until the end of each year is to be 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.

2. Research Framework programmes – specific aspects

The control system of each framework programme is designed in order to achieve the operational and financial control objectives set in their respective legislative base and legal framework. If the effectiveness of those control systems does not reach the expected level, a reservation must be issued in the annual activity report and corrective measures should be taken.

Each programme having a different control system, the following section details the considerations leading to the establishment of their respective materiality threshold and the conclusions to draw with regard to the declaration of assurance.

2.1. Seventh Framework programme and the Coal and Steel Research Fund

For the Seventh Framework programme and the Coal and Steel Research Fund, the general control objective, following the standard quantitative materiality threshold proposed in the Standing Instructions for AAR, 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.

The question of being on track towards this objective is to be (re)assessed annually, in view of the results of the implementation of the ex-post audit strategy and taking into account both the frequency and importance of the errors found as well as a cost-benefit analysis of the effort needed to detect and correct them.

2.2. Horizon 2020 Framework Programme

The Commission's proposal for the Regulation establishing H2020 framework programme³ states that

It remains the ultimate objective of the Commission to achieve a residual error rate of less than 2% of total expenditure over the lifetime of the programme, and to that end, it has introduced a number of simplification measures. However, other objectives such as the attractiveness and the success of the EU research policy, international competitiveness, scientific excellence and in particular the costs of controls need to be considered.

Taking these elements in balance, it is proposed that the Directorates General charged with the implementation of the research and innovation budget will establish a cost-effective internal control system that will give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the ultimate aim to achieve a residual level of error as close as possible to 2 % at the closure of the multi-annual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

Further, it explains also that

Horizon 2020 introduces a significant number of important simplification measures that will lower the error rate in all the categories of error. However, [...] the continuation of a funding model based on the reimbursement of actual costs is the favoured option. A systematic resort to output based funding, flat rates or lump sums appears premature at this stage [...]. Retaining a system based on the reimbursement of actual costs does however mean that errors will continue to occur.

An analysis of errors identified during audits of FP7 suggests that around 25-35 % of them would be avoided by the simplification measures proposed. The error rate can then be expected to fall by 1.5 %, i.e. from close to 5 % to around 3.5 %, a figure that is referred to in the Commission Communication striking the right balance between the administrative costs of control and the risk of error.

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 project. The ultimate aim for the residual level of error at the closure of the programmes after the financial impact of all audits, correction and recovery measures will have been taken into account is to achieve a level as close as possible to 2 %.

In summary, the control system established for Horizon 2020 is designed to achieve a control result in a range of 2-5% detected error rate, which should be as close as possible to 2%, after corrections. Consequently, this range has been considered in the legislation as the control objective set for the framework programme.

The question of being on track towards this objective is to be (re)assessed annually, in view of the results of the implementation of the ex-post audit strategy and taking into

³ COM(2011) 809/3 Proposal for a Regulation of the European Parliament and of the Council establishing Horizon 2020 – the Framework programme for Research and Innovation (2014-2020), see point 2.2, pp 98-102.

account both the frequency and importance of the errors found as well as a cost-benefit analysis of the effort needed to detect and correct them.

ANNEX 5: Relevant Control System(s) for budget implementation (RCSs)

ANNEX 5a: Grants direct management – FP7 and Horizon 2020

1. Ex-ante controls

Effectiveness, efficiency are detailed per stages A to D.

Economy is calculated overall for the ex-ante controls and detailed at the end of paragraph 1.

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

Main control objectives: Ensuring that the Commission 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 It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The work programme and the subsequent calls for proposals 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. The annual work programmes are not consistent within the Research and Innovation family and with the 7 years' framework The programme Horizon 2020 implementation (procedures, monitoring arrangements, communication with beneficiaries, budget planning, etc) is not consistent within the Research and	Hierarchical validation within the authorising department Inter-service consultation, including all relevant services Adoption by the Commission Explicit allocation of responsibility. The Common Support Centre in RTD provides all the members of the Family with harmonised procedures, guidance and IT tools. DG RTD centralises the budget planning and the monitoring of the Horizon 2020's budget	Coverage / Frequency: 100% Depth: All work programmes are thoroughly reviewed at all levels, including for operational and legal aspects. Coverage/ Frequency: 100% Depth All the underlying implementation tools are defined et developed at family level.	Effectiveness: The work programme is adopted by the Commission. Success ratios in terms of "over-subscription": number of proposals retained for funding compared to number of eligible proposals received. 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. Optimised procedures, common approach on multiple issues (audits, fraud, legal aspects, reporting...); better reporting on the whole programme – better management of the programme.⁴

⁴ The mutualisation of the support services represents a quantitative benefit which is certain but not accurately quantifiable in the context of reorganisations, new programme's setting up, general HR offsetting through the Commission...

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
Innovation family and with the 7 years' framework	implementation		

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; Compliance; Prevention of fraud

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The evaluation, ranking and selection of proposals is not carried out in accordance with the established procedures, the policy objectives, priorities and/or the essential eligibility, or with the selection and award criteria defined in the annual work programme and subsequent calls for proposals. Conflict of interest regarding the expert evaluators	Selection and appointment of expert evaluators Conflict of interest checks Assessment by independent experts Comprehensive IT system supporting the stage and allowing better monitoring of the process Validation by the AOSD of ranked list of proposals. In addition, if applicable: Opinion of advisory bodies; comitology; inter-service consultation and adoption by the Commission; publication Systematic checks on operational and legal aspects performed before signature of the GA Redress procedure	100% vetting (including selecting) of experts for technical expertise and independence (e.g. conflicts of interests, nationality bias, ex-employer bias, collusion) 100% of proposals are evaluated. Coverage: 100% of ranked list of proposals. Supervision of work of evaluators. 100% of contested decisions are analysed by redress committee	Effectiveness: Number of proposals evaluated Efficiency Indicators: % of Time-To-Inform on time. % of number of (successful) redress challenges upheld / total number of proposals evaluated Qualitative benefits: 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 implemented projects

C - Contracting

Main control objectives: : Ensuring that the most promising projects for meeting the policy objectives are among the proposals contracted; SFM (optimal allocation of the budget available); Compliance; Prevention of fraud

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
. The beneficiary lacks operational and/or financial capacity to carry out the actions. Procedures do not comply with regulatory framework. The evaluation stage hasn't detected a potentially fraudulent proposal/beneficiary.	Validation of beneficiaries (financial capacity checks on demand). Systematic checks on operational and legal aspects performed before signature of the GA Risk assessment and risk based checks before the grant agreement signature and reinforced monitoring flagging if necessary Ad hoc anti-fraud checks for riskier beneficiaries Signature of the grant agreement by the AO. Financial verification where necessary Participant Guarantee Fund.	100% of the selected proposals and beneficiaries are scrutinised. Coverage: 100% of draft grant agreements. 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. Note that, given the constraints on the time to grant set out in the Horizon 2020 legislation, "negotiation" of projects is kept to a minimum, as far as possible the positively evaluated projects are accepted without modification.	Effectiveness: Number of grants signed Efficiency Indicators: Average time to grant % of Time-to-grant on time

D - Monitoring the implementation

Main control objectives: ensuring that the operational results (deliverables) from the projects are of good value and meet the objectives and conditions; ensuring that the related financial operations comply with regulatory and contractual provisions; prevention of fraud; ensuring appropriate accounting of the operations

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The actions foreseen are not, totally or partially, carried out in accordance with the technical description and requirements foreseen in the grant agreement	Kick-off meetings and "launch events" involving the beneficiaries in order to avoid project management and reporting errors Effective external communication about	100% of the projects are controlled, including only value-adding checks. Riskier operations subject to more in-depth controls.	Effectiveness: Number of payments (interim and final)

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
(for exemples deliverables, open access to results and publications,...) The amounts paid exceed what is due in accordance with the applicable contractual and regulatory provisions. The cost claims are irregular or fraudulent. Lack of harmonised approach within the family with the consequence of unequal treatment of the beneficiaries Ethics requirements are not fulfilled.	guidance to the beneficiaries Anti-fraud awareness raising training for the project officers Enhanced family approach (anti-fraud cooperation; common legal and audit service; comprehensive and common IT system for all the family) Operational and financial checks in accordance with the financial circuits. Operation authorisation by the AO For riskier operations, reinforced monitoring Selection and appointment of expert for scientific reviews of intermediate and/or final reporting If needed: application of Suspension/interruption of payments, Referring grant/beneficiary to OLAF	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 to a minimum High risk operations identified by risk criteria. Red flags: suspicions raised by staff, audit results, EDES, individual or "population" risk assessment Audit certificates required for any beneficiary claiming more than EUR 375000 (FP7)/EUR 325 000 (Horizon 2020).	Efficiency: Time-to-pay: % of payments made on time Time-to pay: Average nb days net/gross + suspension days Qualitative Benefits: Projects are executed and produce benefits for the community

Overall quantitative benefit for ex-ante control

			Economy <u>a.Estimation of cost of staff involved in the ex-ante checks</u> Programme management and monitoring Financial management Budget and accounting General Coordination incl. Strategic Programming and Planning, internal control, assurance and quality management Anti-fraud Development and support of IT systems linked to managing funding programmes <u>b.Estimation of other costs linked to ex-ante checks</u>
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			Cost of experts Costs of IT external contracts of CSC
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2. Ex-post controls

Effectiveness, efficiency and qualitative benefits are detailed per stages A to D.
Economy is calculated overall for the ex-post controls and detailed at the end of paragraph 2.

A - Reviews, audits and monitoring

Main control objectives: Measuring the level of error in the population after ex-ante controls have been undertaken; detect and correct any error or fraud remaining undetected after the implementation ex-ante controls; identifying possible systemic weaknesses in the ex-ante controls, or weaknesses in the rules

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The ex-ante controls (as such) do not prevent, detect and correct erroneous payments or attempted fraud to an extent going beyond a tolerable rate of error. Lack of consistency in the audit strategy within the family. Lack of efficiency for absence of coordination: multiple audits on the same beneficiary, same programme: reputational risk and high administrative burden on the beneficiaries' side.	Common Ex-post control strategy for the entire Research and Innovation family (Horizon 2020), implemented by a central service (Common Support Centre, DG RTD): - At intervals carry out audits of a representative sample of operations to measure the level of error in the population after ex-ante controls have been performed - Additional sample to address specific risks - when relevant, joint audits with the Court of Auditors Multi-annual basis (programme's lifecycle) and coordination with other AOs concerned Validate audit results with beneficiary In case of systemic error detected, extrapolation to all the projects run by the audited beneficiary	- Common Representative audit Sample (CRaS): MUS sample across the programme to draw valid management conclusions on the error rate in the population. - RTD risk-based sample, determined in accordance with the selected risk criteria, aimed to maximise deterrent effect and prevention of fraud or serious error	Effectiveness: Representative and residual error rate identified Number of audits finalised % of beneficiaries & value coverage Efficiency: Percentage of implementation of CAS audit plan

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
	If needed: referring the beneficiary or grant to OLAF		

B - Implementing results from ex-post audits/controls

Main control objectives: Ensuring that the (audit) results from the ex-post controls lead to effective recoveries; Ensuring appropriate accounting of the recoveries made

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The errors, irregularities and cases of fraud detected are not addressed or not addressed in a timely manner	Systematic registration of audit / control results to be implemented and actual implementation. Validation of recovery in accordance with financial circuits. Authorisation by AO Notification to OLAF and regular follow up of detected fraud.	Coverage: 100% of final audit results <i>with a financial impact</i> . Depth: All audit results are examined in-depth in making the final recoveries. Systemic errors are extrapolated to all the non-audited projects of the same beneficiary	Effectiveness: Amounts being recovered and offset Efficiency: Number/value/% of audit results pending implementation, Number/value/% of audit results implemented

Overall economy for ex-post control

			Economy <u>Estimation of cost of staff involved in the coordination and execution of the ex-post audit strategy and in the implementation of audits</u> Costs of the appointment of audit firms and missions
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ANNEX 5b: Executive agencies and indirect entrusted management DG RTD - FP7 and Horizon 2020

The ICT covers: (1) the executive agencies REA, ERCEA, INEA and EASME (the two later for Horizon 2020⁵) (2) cross delegations to other Commission services (3) the joint undertakings (4) the Article 185 entities.

Overall economy/efficiency for control of entrusted entities is detailed at the end of stage 5

Stage 1: Establishment (or prolongation) of the mandate to the entrusted entity ("delegation act"/ "contribution agreement" / etc).

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

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The establishment (or prolongation) act of the mandate of the entrusted entity lacks clear references regarding the responsibilities of each involved actor. For PPPs: the evaluation method of the in-kind contributions provided by the industry partners is not clear.	Ex-ante evaluation Widespread consultation, internally and with external stakeholders. Hierarchical validation within the authorising department Inter-service consultation, including all relevant DG. Adoption by the Commission	Coverage/Frequency: 100%/once for the establishment and partial for amendments or extensions.	Effectiveness: No major ECA criticism. Costs: This stage implies several DGs, doesn't happen regularly and can be very different for each entity. A systematic cost calculation wouldn't give exploitable data

Stage 2: Assessment and supervision of the entrusted entity's financial and control framework (towards "budget autonomy"; "financial rules").

⁵ In fact only the operating administrative budget of the executive agencies is actually paid by DG RTD. The operational budget is directly allocated to the Agency – in this case DG RTD does not strictly have a financial responsibility, but does still have a responsibility to supervise the agency in terms of the achievement of results.

Main control objectives: Ensuring that the entrusted entity is fully prepared to start/continue implementing the delegated funds autonomously with respect of all 5 ICOs.

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The financial and control framework deployed by the entrusted entity is not fully mature to guarantee achieving all 5 ICOs	Ex-ante assessment, conditional to granting budget autonomy Hierarchical validation within the authorising department Use of Model- or Framework- financial rules (MFR or FFR) Standard business processes and IT tools (EAs and JTIs) Secondment or selection of key staff Continuous cooperation within the Research and Innovation family (IC network, FAIR...) in order to harmonize the IC framework Review of audit reports (IAS, ECA)	Coverage/frequency: 100% of entrusted entities/once at the beginning and partial (problem focussed) for amendments or work arrangements Depth is determined after considering the type or nature of the entrusted entity, its form and/or the value of the budget concerned.	Effectiveness: The entrusted entity is granted budget autonomy, without too significant delays

Stage 3: Operations: monitoring, supervision, reporting.

Main control objectives: Ensuring that the Commission is fully and timely informed of any relevant management issues encountered by the entrusted entity, in order to possibly mitigate any potential financial and/or reputational impacts (legality & regularity, achievement of scientific objectives, sound financial management, true and fair view reporting, anti- fraud strategy).

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The Commission is not informed of relevant management issues encountered by the entrusted entity in a timely manner The Commission does not react upon and mitigate notified issues in a timely manner which may reflect negatively on the Commission's governance	Delegation Act/ Contribution agreement/etc specifying the control, accounting, audit, publication, etc related requirements – incl. the modalities on reporting back relevant and reliable control results Membership of the Governing Boards (JTIs – 50% voting rights) or the Steering Committee (EAs) Monitoring or supervision of the entrusted entity e.g. 'regular' monitoring meetings at operational level to review progress in achieving operational results; review of reported control results and any underlying management/audit reports; scrutiny of annual report, etc.	Coverage: 100% of the entities are monitored/supervised. Frequency: key KPI's reported on a monthly basis, regular steering committee or Governing Board meetings), annual reports (AAR and operational reporting), evaluation reports. In case of operational and/or financial issues, appropriate	Effectiveness: number of critical IAS/ECA findings

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
reputation and quality of accountability reporting. The programme Horizon 2020 implementation (procedures, monitoring arrangements, communication with beneficiaries, budget planning, etc) is not consistent within the Research and Innovation family and with the 7 years' framework	Management review of the supervision results. If appropriate/needed: - reinforced monitoring of operational and/or financial aspects of the entity - potential escalation of any major governance-related issues with entrusted entities The Common Support Centre in RTD provides all the members of the Family with harmonised procedures, guidance and IT tools. DG RTD centralises the budget planning and the monitoring of the Horizon 2020's budget implementation.	mitigating measures are available and should be used Coverage/ Frequency: 100% Depth: All the underlying implementation tools are defined et developed at family level.	

Stage 4: Commission contribution: payment or suspension/interruption.

Main control objectives: Ensuring that the Commission adequately assesses the management situation at the entrusted entity, before either paying out the (next) contribution for the operational and/or operating budget of the entity, or deciding to suspend/interrupt the (next) contribution. This is very closely linked to stage 3 above

Main risks It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The Commission pays out the (next) contribution to the entrusted entity, while not being aware of the management issues that may lead to financial and/or reputational damage. Bad cash forecast leading to the Commission paying too much compared to the EE's needs In times of shortage of credits, the budget appropriations are not optimised with the current needs within the family	Delegation Act/ Contribution agreement/etc specifying the control, accounting, audit, publication, etc related requirements – including reporting Management review of the supervision results. Standard procedures for the validation of all payments and recovery of non-used operating budget subsidy Good internal communication to ensure that issues are known and dealt with (see stage 3) Family level budget coordination in DG RTD	Coverage: 100% of the contribution payments. Frequency: following the rhythm of the payments There is a review before each payment is made. However, the depth will depend on identified issues and on the body involved.	

Stage 5: Audit and evaluation, Discharge for Joint Undertakings

Main control objectives: Ensuring that assurance building information on the entrusted entity'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 It may happen (again) that...	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
The Commission has not sufficient information from independent sources on the entrusted entity'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.	Delegation Act/Contribution agreement/etc specifying the control, accounting, audit, publication, etc related requirements – including independent audit function (where appropriate) and cooperation with IAS and ECA. The IAS is the internal auditor for all EAs and JTIs. The ECA has access to all the bodies for which recourse to new management modes has been done and gives a separate opinion (leading to separate discharge) for JUs and EAs for their administrative budget. Harmonised ex-post audits (common audit strategy for Horizon 2020), common audit service- potential escalation of any major governance-related issues with entrusted entities - Exchange of relevant anti-fraud information about shared beneficiaries within the Research and Innovation family Interim evaluations by independent experts of achievement of policy objectives	Coverage: sample as needed (e.g. random/representative, value-targeted, risk-based). Frequency: whenever necessary. The depth depends on the type of entity and the level of risks assessed., Annual report of the ECA on all JUs.	Effectiveness: Statements received from entrusted entities are included in DG RTD's assurance building (exceptions are noted at least in the AAR) IAS,ECA reports are analysed for major issues

Overall benefit and economy/efficiency for control of entrusted entities

			Overall Economy/efficiency Estimation of cost of staff involved the supervision (in stages 2 to 4) per (type of) entrusted entity under the annual budget amount entrusted to the entity (%)
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ANNEX 5c: ICT for InnovFin (the H2020 financial instrument)

IFI = (entrusted) International Financial Institution (eg EIB/EIF, etc); **FI** = (further entrusted) Financial Intermediaries; **"sub"-FI** = (further) sub-delegated FI; **FR** = Final Recipient

Stage 1 – Set-up/design of the Financial Instrument and designation of International Financial Institution (IFI)

Main control objectives:

- Ensuring that the Financial Instrument is adequate for meeting the policy or programme objectives (effectiveness); Compliance (legality & regularity); Prevention of fraud (anti-fraud strategy)
- Ensuring that the most promising International Financial Institution (IFI) is pre-determined or selected to ensure that the Financial Instrument is implemented effectively and efficiently; Sound financial management; Legality and regularity; Fraud prevention and detection

Main risks <i>It may happen (again) that...</i>	Mitigating controls	How to determine coverage frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
a) The actions supported through the Financial Instrument do not adequately reflect the policy objectives	a) Hierarchical validation (incl. at DG level) of the: Regulation (approved by the Legislative Authority); Delegation agreement, including notably an ex-ante evaluation (required by RAP art. 224); Annual work programme for "Access to risk finance" (part of the H2020 WP) with an annual budget Inter-service consultation of relevant DGs (horizontal and operational) Consultation of the H2020 Advisory Group on Access to Risk Finance Formal adoption by the Legislative Authority (for the Regulation), by Commission decision (for the DA), by the Member States in a Comitology procedure (for the AWP) and by the Budgetary Authority (for the annual budget). Regular evaluations (see Stage 3)	If risk materialises, the Financial Instrument would be irregular. Theoretical impact 100% of the funds involved and significant reputational consequences. <u>Coverage /frequency:</u> 100%	<u>Effectiveness:</u> Where applicable, opinions by advisory bodies (recommendations, actions taken)

Main risks <i>It may happen (again) that...</i>	Mitigating controls	How to determine coverage frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
b) The Delegation Agreement is inadequate in coverage of operational and management provisions (RAP art. 217 & 222-225)	b) The main principles were agreed with the IFI in the FAFAs (managed by ECFIN)		
c) The selection of the IFI is not in line with FR & RAP criteria, especially re: 'alignment of interests' (FR art 140.2e)	c) EIB and EIF were pre-determined in accordance with FR art. 58.1c. They were also chosen in order to ensure continuity between FP7 and H2020.	(see above)	Effectiveness : IAS and ECA reports are analysed for major issues
d) The IFI (and the (sub)FI) does not have the experience and financial capacity / administrative & control capacity to ensure an effective & sound implementation of the Financial Instrument (FR art 60.2)	d) The Council asked the Commission to continue working with the EIB and EIF, since these had managed RSFF/RSI well and therefore had demonstrated that they had the experience required. The negotiations with EIB/EIF for InnovFin focussed on the market gaps to be addressed, but also ensured that the necessary administrative capacity existed.		
e) The RSM (Risk-Sharing Mechanism) is too generous to the IFI (risk of unbalanced risks)	e) <i>Same controls as for a) above</i> The EU's risk share is defined in the Delegation agreement. The risk sharing model was agreed in line with horizontal guidance for Financial instruments from DG BUDG and ECFIN. It was also subject to a formal Commission decision.		

Stage 2 – Implementation of the Financial Instr't by the International Financial Institution (IFI), via Financial Intermediaries (FIs)

Main control objectives:

- Ensuring that the funds allocation is optimal (best value for public money; effectiveness, economy, efficiency); ensuring that the most promising Financial Intermediaries (FI), Final Recipients (FR) are selected to meet the policy objectives (effectiveness)
- Ensuring that the remuneration paid to the IFI is adequate (cost-effectiveness)
- Compliance (legality & regularity); Prevention of fraud (anti-fraud strategy); Safeguarding of assets and information; Reliable reporting (true and fair view)

Main risks <i>It may happen (again) that...</i>	Mitigating controls	How to determine coverage frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
a) The call for and selection of the <u>contracted FIs and FRs</u> is not in line with FR & RAP criteria for eligibility or exclusion, especially '<u>alignment of interests</u>' and '<u>no relations with offshore banking and tax havens</u>'	a) Responsibility for the call, for evaluating, proposing and selecting FIs, lies with the IFI (the FIs do not perform calls). Due diligence by the IFI, which checks as part of the evaluation that banks are not registered in tax havens etc. Redress procedure for FIs not selected (part of EIF's and EIB's evaluation procedure) Implementation of various controls by the IFI/FIs in accordance with the FAFA and Delegation agreement EIB's control strategy is presented to the Commission Ex-ante controls by IFIs at "contracting" stage – EIB has a large department with experts in specific technology areas who check ex-ante that the proposed projects for direct loans are eligible, excellent science and financially viable. An Eligibility Committee, managed by the RTD "Designated Service" (DS), is consulted on compliance with the <u>eligibility criteria</u>, before attribution of every direct EIB loan. On-the-spot verifications by IFIs – a "monitoring team" visits FRs on a needs basis during project implementation. A monitoring visit may also be made to an FI, if	<u>Coverage / frequency:</u> determined by the IFI/FIs in accordance with the Delegation agreement <u>Depth:</u> determined by the IFI/FIs in accordance with the Delegation agreement <u>On-the-spot verifications:</u> On a risk basis (during project)	<u>Effectiveness:</u> Number of appeals to the selection decision (redress procedure) Number of cases obtaining redress <u>Efficiency:</u> Time to publication of selection results Time to contract <u>Effectiveness:</u> On-the-spot monitoring visits <u>Effectiveness:</u> Percent of loans called in

Main risks <i>It may happen (again) that...</i>	Mitigating controls	How to determine coverage frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
b) The design of the accounting and reporting arrangements would not provide a True & Fair View c) the remuneration (structure and/or level) of the IFI⁶, the reimbursement of any exceptional costs and costs for technical assistance or additional tasks would not be in line with the SFM objective (e.g. admin fees unjustifiably high)	necessary. Ex-post controls⁷ by IFI of project implementation: 100% checks of deliverables plus aggregated financial reporting to the Commission, including on loans called in. The results are reported to the Commission in the annual <i>"Summary report on audit and controls"</i>. Internal audits by IFI's IA department. Evaluation (interim and ex-post) of compliance with the policy objectives (impact of projects etc.) performed by independent experts. The interim evaluation for InnovFin was finalised and published in 2017. b) Separate records per Financial Instrument are to be kept by the IFI; and harmonised reporting has been required by the Commission. c) Fees and incentives are defined in the FAFA and the Delegation agreement, including an overall cap.	c) Assessment of the statement of expenses	c) Economy: Remuneration and costs for actually managed funds (compared to benchmark)

Stage 3 - Monitoring and supervision of the Financial Instrument by the Commission, incl. ex-post control and assurance building

Main control objectives:

⁶ Remuneration may include administrative fees, treasury management fees and incentives as well as exceptional and unforeseen expenses.

⁷ i.e. after loan signature.

- Ensuring that the operational results (deliverables) from the Financial Instrument 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)
- Ensuring appropriate accounting of the repayments and assigned revenue made (reliability of reporting)
- Ensuring that the (audit) results from the ex-post controls lead to assurance for the accountable AOD (5 ICOs)

Main risks <i>It may happen (again) that...</i>	Mitigating controls	How to determine coverage, frequency and depth	Cost-Effectiveness indicators (effectiveness, efficiency, economy)
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a) The IFI (and the (sub)FI) provide support to activities which are not contributing to achieving the policy objectives and the implementation is not in compliance with applicable regulations and is not in accordance with the principle of sound financial management b) Internal control weaknesses, irregularities, errors and fraud are not detected and corrected by the IFI (and the (sub)FI), resulting in the EU funds not achieving the policy objectives and not complying with applicable regulations c) The IFI does not report information that RTD considers crucial d) The Financial Instrument transactions lead to contingent liabilities for the EU budget e) The governance chain between the responsible service and the accountable parties involved is unclear (Commission, IFI, FIs, sub-FIs and FRs)	a,b) Monitoring and supervision of the IFI/FIs is organised formally through the InnovFin Debt Steering Committee. Regular reporting (mid-year, annually and ad hoc) by the IFI to the Commission "Designated Service" on operational and financial performance and administrative costs. <u>Annual reporting: Financial statements; Management declaration; Summary report of audits and controls; independent (external) audit opinion.</u> <u>In case of a key issue (weak reporting, negative audit opinion, high risk operations, etc): Reinforced monitoring and supervision, case/risk-based audits.</u> <u>If needed:</u> The Commission has the right to suspend or interrupt payments, or even apply the exit strategy (winding-up) Referring IFI/FI to OLAF c) Annual report has to be audited by an independent auditor, who also reports on the control system d) The H2020 legal base stipulates that the EU's liability (i.e. financial risk) is limited to the contribution it has paid, so there can be no contingent or off-balance sheet liabilities over this amount. e) The reporting and accountability "chain" builds up from the sub-FI, to the FI, to the IFI, to the Designated Service in the accountable DG. Overall it is organised by DG BUDG for the whole Commission, in line with the Financial Regulation.	<u>Coverage:</u> 100% of the funding payments to the entrusted entity are controlled	<u>Effectiveness:</u> Success ratios and KPIs for policy objectives (e.g. "leverage", "co-risk taking", number of FRs supported by the Financial Instrument, disbursement rate) Major issues and potential weaknesses in the RTD Directors' report brought to the attention of the Director General. critical audit findings Number of cases submitted to OLAF <u>Efficiency</u> Timely reporting by the International Financial Institution <u>Cost-Effectiveness:</u> Total cost of monitoring and supervision by RTD over value delegated Management fees over value delegated The sum of the total cost of monitoring/supervision by RTD and management fees, over value delegated <u>Benefits:</u> value of the funding provided and leverage, as well as scientific excellence (innovation) <u>Losses:</u> e.g. write-offs of equity/loans, loan guarantees called
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ANNEX 6: Implementation through national or international public-sector bodies and bodies governed by private law with a public sector mission (if applicable)

Innovative Medicines Initiative (IMI)

1. Programmes concerned

Specific Programme Cooperation implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013): Thematic area "Health".

2. Annual budgetary amount entrusted.

The following budgetary amounts have been entrusted to IMI:

- Commitment appropriations operational under 2018 credits: EUR 0
- Commitment appropriations administrative under 2018 credits: EUR 0
- Payment appropriations operational in 2018: EUR 88 873 369
- Payment appropriations administrative in 2018: EUR 0

3. Duration of the delegation.

Until 31 December 2017

4. Justification of recourse to indirect centralised management.

An indirect centralised management by a JU within the meaning of Art. 187 TFEU is the most flexible, effective and efficient mean to implement such a joint technology initiative, aiming at increasing the research investment in the biopharmaceutical sector in the Member States and associated countries to FP7 by pooling resources and fostering collaboration between the public and private sectors.

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis, etc).

Not applicable.

6. Synthetic description of the implementing tasks entrusted to these bodies.

See Art. 2 of the Council Regulation (EC) No 73/2008 of 20 December 2007 setting up the Joint Undertaking for the implementation of the Joint Technology Initiative on Innovative Medicines (OJ L 30, 4.2.2008, p. 38) and Art. 1 of the annexed Statutes.

Innovative Medicines Initiative 2 Joint Undertaking (IMI 2)

1. Programmes concerned;

Specific Programme Cooperation implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013): Thematic area "Health".

The specific programme implementing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)

2. Annual budgetary amount entrusted;

The following budgetary amounts were entrusted to this body in 2018 (includes EFTA contributions and transfers):

Commitment appropriations operational in 2018: EUR 265 331 457

Commitment appropriations running costs in 2018: EUR 5 156 500

Payment appropriations operational in 2018: EUR 79 390 536

Payment appropriations running costs in 2018: EUR 5 156 500

3. Duration of the delegation;

Until 31 December 2024.

4. Justification of the recourse to indirect centralised management;

Council Regulation (EU) N0557/2014 of 6 May 2014 establishing the Innovative Medicines Initiatives 2 Joint Undertaking (OJ L169, 7.6.2014, p.54).

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Not applicable

6. Summary description of the implementing tasks entrusted to these bodies;

See Art.2 of the Council Regulation (EU) N0 557/2014.

Clean Sky 2 Joint Undertaking (Clean SKY 2)

1. Programmes concerned;

Contribute to the specific programme implementing Horizon 2020 – the Framework programme for Research and Innovation (2014-2020)

2. Annual budgetary amount entrusted;

The following budgetary amounts were entrusted to (includes EFTA contributions and transfers):

Commitment appropriations operational in 2018: EUR 285 480 831.00

Commitment appropriations running costs in 2018: EUR 4 554 181.00

Payment appropriations operational in 2018: EUR 327 309 728.00

Payment appropriations running costs in 2018: EUR 4 554 181.00

3. Duration of the delegation;

Until 31 December 2024

4. Justification of the recourse to indirect centralised management;

For the implementation of the Joint Technology Initiative in aeronautics, a joint undertaking within the meaning of Article 187 of the Treaty on the Functioning of the European Union ('Clean Sky 2 Joint Undertaking'), has been established for a period until 31 December 2024, to stimulate new research within the framework of a public-private partnership which enables long-term cooperation to take place among European aeronautical stakeholders.

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Not applicable

6. Summary description of the implementing tasks entrusted to these bodies;

See Art.2 of Council Regulation (EU) No 558/2014 of 6 May 2014 establishing the Clean Sky 2 Joint Undertaking (OJ L169,7.6.2014,p.77) and Art. 2 of the annexed Statutes.

Bio-based Industries Joint Undertaking (BBI)

1. Programme concerned;

Specific programme implementing Horizon 2020- the Framework programme for Research and innovation (2014-2020) – societal Challenge 2

2. Annual budgetary amount entrusted;

The following budgetary amounts were entrusted to this body in 2018 (includes EFTA and transfers):

Commitment appropriations operational in 2018: EUR 112 832 447

Commitment appropriations running costs in 2018: EUR 1 702 349,38

Payment appropriations operational in 2018: EUR 111 452 445

Payment appropriations running costs in 2018: EUR 1 702 349,38

3. Duration of the delegation;

Until 31 December 2024

4. Justification of the recourse to indirect centralised management;

Council Regulation (EU) No 560/2014 of 6 May 2014 establishing the Bio-based Industries Joint Undertaking (OJ L169,7.6.2014,p.130)

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Not applicable

6. Summary description of the implementing tasks entrusted to these bodies;

See Art.2 of Council Regulation (EU) No 560/2014

Fuel Cells and Hydrogen Joint Undertaking (FCH)

1. Programmes concerned

Specific Programme Cooperation implementing the Seventh Framework of the European Community for research, technological development and demonstration activities (2007-2013) – Nanosciences, nanotechnologies, Materials and New Production Technologies, Energy, Environment (including climate change) and Transport (including aeronautics).

2. Annual budgetary amount entrusted

The following budgetary amounts have been entrusted to FCH JU:

- Commitment appropriations operational in 2018: EUR 0
- Commitment appropriations administrative in 2018: EUR 0
- Payment appropriations operational in 2018: EUR 15 588 390
- Payment appropriations running costs in 2018: EUR 0

3. Duration of the delegation

Until 31 December 2017

4. Justification of recourse to indirect centralised management

Indirect centralised management by a JU in line with Art. 187 TFEU was selected with a view to increase the overall efficiency of research efforts and accelerate the development and deployment of fuel cells and hydrogen technologies, in the Members States and countries associated to FP7.

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis, etc)

Not applicable.

6. Synthetic description of the implementing tasks entrusted to these bodies

See Art. 2 of Council Regulation (EC) No 521/2008 of 30 May 2008 setting up the Fuel Cells and Hydrogen Joint Undertaking (OJ L 153, 12.6.2008, p. 1) and Art. 1 of its Annex.

Fuel Cells and Hydrogen 2 Joint Undertaking (FCH2)

1. Programmes concerned;

Specific Programme Cooperation implementing the Seventh Framework of the European Community for research, technological development and demonstration activities (2007-2013) – Nanosciences, nanotechnologies, Materials and New Production Technologies, Energy, Environment (including climate change) and Transport (including aeronautics).

The specific programme implementing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)

2. Annual budgetary amount entrusted;

The following budgetary amounts were entrusted to this body in 2018 (includes EFTA and transfers):

Commitment appropriations operational in 2018: EUR 75 099 696

Commitment appropriations running costs in 2018: EUR 2 341 923

Payment appropriations operational in 2018: EUR 82 096 147

Payment appropriations running costs in 2018: EUR 2 341 923

3. Duration of the delegation;

Until 31 December 2024

4. Justification of the recourse to indirect centralised management;

Council Regulation (EU) No 559/2014 of 6 May 2014 establishing the Fuel Cells and Hydrogen 2 Joint Undertaking (OJ L169, 7.6.2014, p.108)

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Not applicable

6. Summary description of the implementing tasks entrusted to these bodies;

See Art.1 of Council Regulation (EU) No 559/2014

EUROSTARS

1. Programmes concerned;

Specific Programme Capacities implementing the Seventh Framework of the European Community for research, technological development and demonstration activities (2007-2013) – Research for the benefit of SMEs

2. Annual budgetary amount entrusted;

The following budgetary amounts were entrusted to this body in 2018 (EU contribution only) (a maximum of 4.5% of the EU contribution shall be used by the dedicated implementation structure to contribute to the overall operational costs of the partnership):

Commitment appropriations operational in 2018: EUR 0

Payment appropriations operational in 2018: EUR 5.861.956, 40

3. Duration of the delegation;

Until 31 December 2017

4. Justification of the recourse to indirect centralised management;

Decision No 743/2008/EC of the European parliament and the Council of 9 July 2008 on

the Community's participation in a research and development programme undertaken by several Member States aimed at supporting research and development performing small and medium-sized enterprises. (OJ L201/58, 30.7.2008,p.58-67)

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Annex II of Decision No 743/2008/EC

6. Summary description of the implementing tasks entrusted to these bodies;

The ESE shall act as the dedicated implementation structure of the Eurostars Joint Programme and is in charge of the execution of the Programme. A more detailed list of tasks can be found in section 4 of Annex II to Decision 743/2008/EC of the European Parliament and the Council.

EUROSTARS 2

1. Programmes concerned;

The specific programme implementing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)

2. Annual budgetary amount entrusted;

The following budgetary amounts were entrusted to this body in 2018 (EU contribution only) (a maximum of 4% of the EU contribution shall be used by the dedicated implementation structure to contribute to the administrative costs of Eurostars-2):

Commitment appropriations operational in 2018: EUR 39.858.173

Commitment appropriations running costs in 2018: EUR 1.660.757

Payment appropriations operational in 2018: EUR 60.647.515,42

Payment appropriations running costs in 2018: EUR 1.506.427,62

3. Duration of the delegation;

Until 31 December 2025 (Article 3, Delegation agreement)

4. Justification of the recourse to indirect centralised management;

Decision No 553/2014/EU of the European parliament and the Council of 15 May 2014 on the participation of the Union in a Research and Development Programme jointly undertaken by several Member States aimed at supporting research and development performing small and medium-sized enterprises (OJ L169, 7.6.2014,p.1)

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Recital (19) of Decision No 553/2014/EU

6. Summary description of the implementing tasks entrusted to these bodies;

The ESE shall act as the dedicated implementation structure of the Eurostars 2 Joint Programme and is in charge of the execution of the Programme. A more detailed list of

tasks can be found in Annex I (Implementation of Eurostars-2) and Annex II (Governance of Eurostars-2) of Decision 553/2014/EU of the European Parliament and the Council.

European Metrology Programme for Innovative and Research (EMPIR)

1. Programmes concerned;

The specific programme implementing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)

2. Annual budgetary amount entrusted;

The following budgetary amounts were entrusted to this body in 2018 (EU contribution only):

Commitment appropriations operational in 2018: EUR 47 500 000

Commitment appropriations running costs in 2018: EUR 0

Payment appropriations operational in 2018: EUR 46 750 000

Payment appropriations running costs in 2018: EUR 0

3. Duration of the delegation;

Until 31 December 2024

4. Justification of the recourse to indirect centralised management;

Decision No 555/2014/EU of the European parliament and the Council of 15 May 2014 on the participation of the Union in a European Metrology Programme for Innovation and Research (EMPIR) jointly undertaken by several Member States (OJ L169, 7.6.2014,p.27)

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Recital (13) of Decision No 555/2014/EU

6. Summary description of the implementing tasks entrusted to these bodies;

See Annex III of the Decision No 555/2014/EU.

Joint Baltic Sea Research and Development Programme (BONUS)

1. Programmes concerned;

Specific Programme Cooperation implementing the Seventh Framework of the European Community for research, technological development and demonstration activities (2007-2013)

2. Annual budgetary amount entrusted;

The following budgetary amounts were entrusted to this body in 2018 (EU contribution

only):

- Commitment appropriations operational in 2018: : EUR 10.993.752,54
- Payment appropriations operational in 2018: EUR 7.125.771,95

3. Duration of the delegation;

The duration of the delegation covers the remaining implementation phase (minimum period of 5 years until the full lifecycle of all BONUS-funded projects has ended). The Implementation Agreement signed by the Commission and the Dedicated Implementation Structure entered into force on 18 October 2012. This means that the implementation phase (and duration of delegation) will last, at least, until October 2017.

4. Justification of the recourse to indirect centralised management;

The use of indirect centralised management is foreseen in the Decision 862/2010/EU of the European Parliament and the Council of 22 September 2010 on the participation of the Union in a Joint Baltic Research and Development Programme (BONUS) undertaken by several Member States (OJ L256, 30.09.2010, p.1).

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Recital (19) of Decision 862/2010/EU sets out the Baltic Organisations' Network for funding Science BONUS EEIG as Dedicated Implementation Structure of the BONUS programme.

6. Summary description of the implementing tasks entrusted to these bodies;

BONUS EEIG shall act as the Dedicated Implementation Structure of the BONUS Joint Programme and is in charge of the execution of the Programme. A detailed list of tasks can be found in Article 2, 5 and in Annex I of Decision 862/2010/EU of the European Parliament and the Council.

European and Developing countries Clinical Trial Partnership (EDCTP2)

1. Programme concerned;

The specific programme implementing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)

2. Annual budgetary amount entrusted;

The following budgetary amounts were entrusted to this body in 2018 (includes EFTA and transfers):

Commitment appropriations operational in 2018: EUR 109.664.200

Commitment appropriations running costs in 2018: EUR 5.334.020

Payment appropriations operational in 2018: EUR 57.418.793

Payment appropriations running costs in 2018: EUR 5.334.020

The actual administrative expenditure for the year 2017
from the audited EC statement of expenditure)

4,916,325 (this is

3. Duration of the delegation;

Until 31 December 2026 for the action EDCTP2 under the specific programme implementing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)

4. Justification of the recourse to indirect centralised management;

Decision No 556/2014/EU of the European Parliament and of the Council of 15 May 2014 on the participation of the Union in a second European and Developing Countries Clinical Partnership Programme (EDCTP2) jointly undertaken by several Member States (OJ L169, 7.6.2014, p.38)

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Recital (23) of Decision No 556/2014/EU

6. Summary description of the implementing tasks entrusted to these bodies;

See Annex I of the Decision No 556/2014/EU

PRIMA

1. Programmes concerned;

The specific programme implementing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)

2. Annual amount entrusted

The following amounts were entrusted to this body in 2018 (EU contribution only):

Commitment appropriations operational in 2018: EUR 18 800 000

Commitment appropriations administrative in 2018: EUR 1 200 000

Payment appropriations operational in 2018: EUR 500 000

Payment appropriations administrative in 2018: EUR 962 000

3. Duration of the delegation;

PRIMA programme will run over a period from 7 August 2017 to 31 December 2028.

4. Justification of the recourse to indirect centralised management;

The use of indirect centralised management is foreseen in Decision (EU) 2017/1324 of the European Parliament and of the Council of 4 July on the participation of the Union in the Partnership for Research and Innovation in the Mediterranean Area (PRIMA) jointly undertaken by several Member States (OJ L 185, 18.7.2017, page 1).

5. Justification of the selection of the bodies (identity, selection criteria, possible indication in the legal basis etc.);

Recital (16) of Decision 2017/1324 /EU specify that in order to ensure the joint implementation of PRIMA, an implementation structure ('PRIMA-IS') should be set up. PRIMA-IS should be the recipient of the Union financial contribution and it should ensure the efficient and transparent implementation of PRIMA.

6. Summary description of the implementing tasks entrusted to these bodies;

PRIMA-IS shall act as the Dedicated Implementation Structure of the PRIMA Programme and is in charge of the execution of the Programme. A detailed list of tasks can be found in Article 12 governance of PRIMA of Decision 2017/1324 /EU of the European Parliament and the Council.

ANNEX 7: EAMR of the Union Delegations (if applicable)

Not relevant

ANNEX 8: Decentralised agencies (if applicable)

Not relevant

ANNEX 9: Evaluations and other studies finalised or cancelled during the year

Data is included and updated in the Studies database. Here is an excel file with the information for DG RTD.



Microsoft Excel
97-2003 Worksheet

ANNEX 10: Specific annexes related to "Financial Management"

Table Overview of the estimated cost of controls at Commission (EC) level (euros):

Grants direct management RTD							
Ex ante controls			Ex post controls			Total**	
EC total costs (in EUR)	funds managed (in EUR)*	Ratio (%)*: <i>Total ex ante control cost in EUR ÷ funds managed in EUR</i>	EC total costs (in EUR)	total value verified and/or audited (in EUR)	Ratio (%): <i>Total ex post control cost in EUR ÷ total value verified and/or audited in EUR</i>	EC total estimated cost of controls (in EUR)	Ratio (%)*: <i>Total cost of controls ÷ funds managed</i>
22.529.639 €	1.533.532.346	1,59 %	10.089.035 for the research and innovation family	227.359.462 for the research and innovation family	4% for the research and innovation family	22.529.639 (RTD)	1.59% RTD +0.84% ex-ante costs of experts evaluator costs provided by REA ⁸ +0.58% common support center costs of control (ex ante 0.46% and ex post 0.12% ⁹ Total: 3,01% (including 0.12% for expost)

⁸ The detailed calculation of the percentage ex-ante costs of experts evaluator costs provided by REA is presented in paragraph 2.1.1. part c on economy

⁹ The detailed calculation common support center costs of control (ex ante 0.46% and ex post 0.12%)⁹ are presented in paragraph 2.1.1. part c on economy

Indirect entrusted management (Art 185, JU's) and Executive agencies							
Ex ante controls			Ex post controls			Total**	
EC total costs (in EUR)	funds managed (in EUR)*	Ratio (%)*: <i>Total ex ante control cost in EUR ÷ funds managed in EUR</i>	EC total costs (in EUR)	total value verified and/or audited (in EUR)	Ratio (%)*: <i>Total ex post control cost in EUR ÷ total value verified and/or audited in EUR</i>	EC total estimated cost of controls (in EUR)	Ratio (%)*: <i>Total cost of controls ÷ funds managed</i>
3.540.959	1.027.529.336	0,34%				3.540.959	0,34%
Financial Instruments							
Ex ante controls			Ex post controls			Total**	
EC total cost (in EUR)	funds managed (in EUR)*	Ratio (%)*: <i>Total ex ante control cost in EUR ÷ funds managed in EUR</i>	EC total costs (in EUR)	total value verified and/or audited (in EUR)	Ratio (%)*: <i>Total ex post control cost in EUR ÷ total value verified and/or audited in EUR</i>	EC total estimated cost of controls (in EUR)	Ratio (%)*: <i>Total cost of controls ÷ funds managed</i>
97 090	472.910.337	0,02%				97 090	0,02%
OVERALL estimated cost of control at EC level							
Ex ante controls			Ex post controls			Total**	
EC total cost (in EUR)	funds managed (in EUR)*	Ratio (%)*: <i>Total ex ante control cost in EUR ÷ funds managed in EUR</i>	EC total costs (in EUR)	total value verified and/or audited (in EUR)	Ratio (%)*: <i>Total ex post control cost in EUR ÷ total value verified and/or audited in EUR</i>	EC total estimated cost of controls (in EUR)	Ratio (%)*: <i>Total cost of controls ÷ funds managed</i>

26.264.778 €	3.033.972.019 €	0,87%	10.089.035 for the research and innovation family	227.359.462 for the research and innovation family	4% for the research and innovation family	26.264.778 (RTD)	0,87% RTD ex-ante +0.84% ex-ante costs of experts evaluator costs provided by REA +0.58% common support center costs of control (ex ante 0.46% and ex post 0.12%)
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ANNEX 11: Specific annexes related to "Assessment of the effectiveness of the internal control systems"

Not relevant

ANNEX 12: Performance tables

Impact Indicators

General objective: A New Boost for Jobs, Growth and Investment		
Impact indicator: Percentage of EU GDP invested in R&D (combined public and private investment)		
Source of the data: Eurostat ¹⁰		
Baseline (2012)	Latest known value (2017)	Target (2020) Europe 2020 target
2.00% [Baseline adjusted: before: 2.01%]	2.07% (provisional)	3%
General objective: A Connected Digital Single Market		
Impact indicator: Aggregate score in Digital Economy and Society Index (DESI) EU-28		
Explanation: DESI is a composite index that summarises relevant indicators on Europe's digital performance and tracks the evolution of EU Member States in digital competitiveness. The closer the value is to 1, the better. The DESI index is calculated as the weighted average of the five main DESI dimensions: 1 Connectivity (25%), 2 Human Capital (25%), 3 Use of Internet (15%), 4 Integration of Digital Technology (20%) and 5 Digital Public Services (15%). The DESI index is updated once a year.		
Source of the data: DESI		
Baseline (DESI 2015)	Latest known value (DESI-2018)	Target (2020)
45 [Baseline adjusted: before: 46 acc. to new scale]	54	Increase

¹⁰ Please note that Eurostat periodically revises its published data to reflect new or improved information, also for previous years. The latest published data is available by clicking on "bookmark". The "latest known value" column reflects the data that was available at the time of the preparation of the AARs 2017 and it is the reference point for the AARs of Commission services.

General objective: A Resilient Energy Union with a Forward-Looking Climate Change Policy

Impact indicator: Greenhouse gas emissions
(index 1990=100)

Source of the data: European Environmental Agency

Baseline (2013)	Latest known value (2017 prox estimates by EEA)	Target (2020) Europe 2020 target
80.4% [Baseline adjusted: before: 80.2 %]	78.1%	At least 20% reduction (index ≤80)

Impact indicator: Share of renewable energy in gross final energy consumption

Source of the data: Eurostat

Baseline (2013)	Interim Milestone		Latest known value (2016)	Target (2020) Europe 2020 target
	(2013/2014)	(2015/2016)		
15.2% [Baseline adjusted: before: 15 %]	15.6% Baseline adjusted: before: 13.6 %]	16.9% Baseline adjusted: before: 15.9 %]	17.0%	20%

Impact indicator: Increase in energy efficiency – Primary energy consumption

Source of the data: ENER based on Eurostat data

Baseline (2013)	Latest known value (2016)	Target (2020) Europe 2020 target
1 571.2 million tonnes of oil equivalent (Mtoe) [Baseline adjusted: before: 1 569.9]	1542.7 million tonnes of oil equivalent (Mtoe)	20% increase in energy efficiency (No more than 1 483 Mtoe of primary energy consumption)

Impact indicator: Increase in energy efficiency – Final energy consumption

Source of the data: ENER based on Eurostat data

Baseline (2013)	Latest known value (2016)	Target (2020) Europe 2020 target
1 108.2 million tonnes of oil equivalent (Mtoe)	1107.8 million tonnes of oil equivalent (Mtoe)	20% increase in energy efficiency

[Baseline adjusted: before 1 106.2]		(No more than 1 086 Mtoe of final energy consumption)
General objective: A Stronger Global Actor		
Impact indicator: GDP per capita (current prices-PPS) as % of EU level in countries that are candidates or potential candidates for EU accession Source of the data: Eurostat		
Baseline (2014)	Latest known value (2017)	Target (2020)
34% for Western Balkans (excluding Kosovo ¹¹) 64% for Turkey	35 % for Western Balkans (excluding Kosovo ⁹) 67% for Turkey	Increase

Result Indicators

A New Boost for Jobs, Growth and Investment

Specific objective 1.1: Working with Member States to strengthen Europe's R&I systems and achieve the European Research Area		
Related to spending programme(s)		
Result indicator: Number of PSF activities (peer-reviews, mutual learning exercises, specific support)		
Source of the data: DG RTD services		
Baseline (2015)	Interim Milestone (2018)	Target (2020)
5	10	10

¹¹ This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

State of play 2018:		Comments:
14		Results beyond expectations
Specific objective 1.2: To establish the right framework conditions to capitalise on the results of European research and innovation by involving all actors in the innovation process ("Open Innovation")		Related to spending programme(s)
Indicator: EU Innovation Output indicator ¹² Source of the data: DG RTD services		
Baseline (2011 ¹³)	Interim Milestone (2017)	Target (2020)
100.0	Positive trend	Positive trend
State of play 2018:		Comments:
103.1*		*Latest known value (2017) - The composite nature of this indicator is not particularly suited to establishing a target
Result indicator: Number of support schemes made available by the countries/regions represented in the Community of Practice to support proposals awarded the Seal of Excellence Source of the data: : Information collected through the participants of the Community of Practice (<i>to be noted that the participants provide such information on a voluntary basis</i>)		
Baseline (2014)	Interim Milestone (2017)	Target (2020)
3	10	20
State of play 2018:		Comments:
42		25 related to SME Instruments Seal proposals, 5 to MSC

¹²The Innovation Output Indicator was developed by the Commission at the request of the European Council to benchmark national innovation policies and to monitor the EU's performance against its main trading partners. It measures the extent to which ideas stemming from innovative sectors are capable of reaching the market, providing better jobs and making Europe more competitive. The proposed new indicator covers technological innovation, skills in knowledge-intensive activities, the competitiveness of knowledge-intensive goods and services, and the innovativeness of fast-growing enterprises. It complements the R&D intensity indicator (3% target of the Europe 2020 strategy) by focusing on innovation output. It will support policy-makers in establishing new or reinforced actions to remove bottlenecks preventing innovators from translating ideas into successful goods and services.

¹³ Baseline revised since the adoption of the Strategic Plan.

Specific objective 1.3: To ensure an effective and efficient implementation of Horizon 2020 and other RTD programmes and maximise synergies			Related to spending programme(s) Horizon 2020, Euratom Research and Training Programme, Research Fund for Coal and Steel
Result indicator: Share of grants signed with a time-to-grant within 245 days (Horizon 2020-DG RTD)			
Source of the data: CORDA			
Baseline (2014)	Interim milestone (2018)	Target (2020)	
95%	100%	100%	
State of play 2018:		Comments	
91%		(cumulative figure since the beginning of the programme)	
Output indicator: Share of newcomers among the successful applicants (Horizon 2020)			
Source of the data: CORDA			
Baseline (FP7, 2013-2017)	Interim milestone (2018)	Target (2020)	
70%	55%	>70% <i>(on the basis of FP7 results)</i>	
State of play 2018:		Comments	
61.43%		Cumulative figure since the beginning of the programme	
Result indicator: Publications in peer-reviewed high impact journals in the areas of the different Societal Challenges (Horizon 2020-DG RTD)			
Source of the data: CORDA – H2020 Dashboard			
Baseline (at the start of Horizon 2020)	Interim Milestone (2018)	Target (end of the programme)	
New approach under Horizon 2020	On average, 20 publications per €10 million funding (for all Societal Challenges)	On average, 20 publications per €10 million funding (for all Societal Challenges)	
State of play 2018:		Comments	
2489, 2 publications per €10 million		The Commission is well aware of this issue and expects the situation to improve over the next five years, as publications typically take many years before emerging.	

Result indicator: Patent applications and patents awarded (Horizon 2020-DG RTD)			
Source of the data: CORDA – H2020 Dashboard			
	Baseline (at the start of Horizon 2020)	Interim Milestone (2018)	Target (end of the programme)
Societal challenges	New approach under Horizon 2020	On average, 2 per €10 million funding	On average, 2 per €10 million funding
Enabling and Industrial Technologies	New approach under Horizon 2020	3 patent applications per € 10 million funding	3 patent applications per € 10 million funding
State of play 2018:			Comments
0.482 patent applications per €10 million for Societal Challenges 0.555 patent application per €10 million for LEIT			Cumulative figures (including foreground and background results from continuous reporting) and these low results have already been highlighted in an interim evaluation period report (https://ec.europa.eu/info/research-and-innovation/strategy/support-policy-making/support-eu-research-and-innovation-policy-making/evaluation-impact-assessment-and-monitoring/horizon-2020_en)
Result indicator: Share of publications from ERC-funded projects which are among the top 1% highly cited per field of science (defined as an index ¹⁴)			
Source of the data: ERCEA			
EU baseline (2010)	Interim Milestone (2018)		Target (end of the programme)
New	1.5 %		1.8 %

¹⁴ In order to facilitate comparison of reference values between the EU and other parts of the world (published regularly in the US Science and Engineering indicators), the share of publications from the ERC will also be indicated by means of the "index of ERC highly-cited publications". A value higher than 1 indicates that publications from ERC-funded projects are cited at a level above what one would expect, a value lower than 1 indicates citation at a level below the expected value and a result of 1 corresponds to the expected value.

approach		<i>The target "doubles" the performance of EU based researchers in the top percentile of world highly cited articles. It is based on the challenging assumption that the ERC supported researchers are at the top of the class and should perform 100% better than an average researcher from EU, with respect to the record in the world top 1% of highly cited articles.</i>
State of play 2018:		Comments
7%		
Result indicator: Total investments mobilised via debt financing and Venture Capital investments		
Source of the data: EIB+EIF		
Baseline (2013)	Interim Milestone (2017)	Target (2020)
New approach	€ 8 billion	€ 15 billion
State of play 2018:		Comments
47 billion*		* Latest known value (2018) - The target has been reached earlier than expected, due to the success of the InnovFin programme
Result indicator: Growth and job creation in participating SMEs (Horizon 2020 – DG RTD)		
Source of the data: Common Support Centre		
Baseline	Interim Milestone	Target
New approach under Horizon 2020	To be developed based on FP7 ex-post evaluation and/or first Horizon 2020 project results	To be developed based on FP7 ex-post evaluation and/or first Horizon 2020 project results
State of play 2018:		Comments
no significant information available yet		
Result indicator: Total amount of funds leveraged through Article 187 initiatives managed by DG RTD, including additional activities, divided by the EU contribution		
Source of the data: Joint Undertakings		
Baseline (FP7)	Interim Milestone (2016)	Target (2020)
1.00 (€2.27 billion for €2.27 billion of EU	0.84	1.39 (€7.013 billion for €5.033 billion of EU contribution from Horizon 2020) - On the basis of the financial contribution foreseen in the Regulation establishing each one of the PPPs

contribution from FP7)		
State of play 2018:		Comments
1.51 (= 2,430 € bn /1,612 € bn) *		· IKOP as stated in the signed Grant Agreements + certified IKAA *
*in € billion		· EU contribution committed in the Grant Agreements signed *
		*cut-off date 31/12/2018
Result indicator: Share of EU financial contribution -DG RTD ¹⁵ allocated to SMEs; of which share of funds allocated through the SME instrument		
Source of the data: Common Support Centre		
	Baseline	Milestone (2016)
SMEs – SME instrument	New approach	5%
SMEs – total	17.2% (June 2013)	20%
		Target (2020)
		7% (<i>Horizon 2020 mandatory target</i>)
		20% (<i>Horizon 2020 mandatory target</i>)
State of play 2018:		Comments
SME instrument (2017): 7.53%		
SME Total: (2017) : 24.15%		
Result indicator: Share of EU financial contribution – DG RTD ¹⁶ going to private for profit entities		
Source of the data: Common Support Centre		
Baseline (FP7 – October 2013)	Interim Milestone (2016)	Target (2020)
29.2%	33%	33% (<i>On the basis of FP7 results and Horizon 2020 mandatory target for SMEs</i>)

¹⁵ Total combined budgets for all Horizon 2020-DG RTD specific objectives on societal challenges and the components of the specific objective 'Leadership in enabling and industrial technologies'.

¹⁶ Total combined budgets for all Horizon 2020-DG RTD specific objectives in Industrial Leadership (excluding "Access to Risk Finance") and Societal Challenges.

State of play 2018:		Comments
43.46%		Share of EU contribution going to PRC in SC and LEIT is 43.46%, the share is 26.79% for the whole H2020 programme.
Result indicator: Share of the RFCS funds going to private for profit entities		
Source of the data: DG RTD		
Baseline (2013)	Interim Milestone (2016)	Target (2020)
38.9%	40%	40% (on the basis of the previous MFF (2007-2013))
State of play 2018:		Comments
40.1%		

A Connected Digital Single Market

Specific objective 2.1: To increase impact and excellent science through openness ("Open Science")			Related to spending programme(s) Horizon 2020
Result indicator: % researchers based in Europe connect/use the upcoming European Open Science Cloud			
Source of the data: Eurostat			
Baseline	Interim Milestone (2020)	Target (2025)	
New approach	30%	80 %	
State of play 2018:		Comments	
No significant data available yet			
Result indicator: Share of Open access articles (resulting from Horizon 2020 funded research) published in peer reviewed journals			
Source of the data: Common Support Centre			
Baseline	Interim Milestone (2017)	Target (2020)	
New approach	100%	100%	
State of play 2018:		Comments	
90,23%		A first screening under Horizon 2020 in 2017 of the compliance with the	

obligation to provide open access (OA) to all peer-reviewed scientific publications resulting from Horizon 2020 grants (Article 29.2 MGA) showed that beneficiaries comply only partially.

In line with the outcome of the discussions at the Directors meeting on this topic, after the sending of two warning letters to the 'worst offenders' , an enforcement plan for OA to scientific publications was set out in December 2018. Beginning of January, RTD's authorising officers by delegation were instructed to follow this plan, and the other authorising officers dealing with the implementation of Horizon 2020 (R&I family DGs, Executive Agencies and Joint Undertakings) were encouraged to do the same.

A Resilient Energy Union with a Forward-Looking Climate-Change Policy

Specific objective 3.1: To implement the Research, Innovation and Competitiveness dimension of the Energy Union, together with a forward-looking climate-change policy			Related to spending programme(s)
Result indicator: Share of the overall Energy challenge funds allocated to the following research activities: renewable energy, end-user energy-efficiency, smart grids and energy storage activities (DG RTD)			Horizon 2020
Source of the data: Common Support Centre			
Baseline	Interim Milestone (2016)	Target (2020)	
New approach	85%	85% (<i>Horizon 2020 mandatory target</i>)	
State of play 2018:		Comments	
90.9%*		* Latest known value (2018) - Results beyond the target	
Result indicator: Climate-related expenditure (Horizon 2020-DG RTD)			
Source of the data: Common Support Centre			
Baseline	Interim Milestone (2017)	Target (2020)	
New approach	>35%	>35%	

State of play 2018:		Comments
30 % (on a cumulative basis since the beginning of the programme)		The interim target of 35 % has not been reached and the Commission is well aware of this problem. The Commission will do all the necessary actions to get as close as possible to this target by the end of H2020. Specific actions (focus areas) on these topics are high priorities and will have a direct impact on the expenditure and final result.
Result indicator: Sustainable development-related expenditure (Horizon 2020-DG RTD)		
Source of the data: Common Support Centre		
Baseline	Interim Milestone (2017)	Target (2020)
New approach	60%	60%
State of play 2018:		Comments
69 %		(on a cumulative basis since the beginning of the programme)
Result indicator: Number of projects contributing to the development of safe long-term solutions for the management of ultimate nuclear waste (Euratom – Fission)		
<i>Source of the data: Common Support Centre</i>		
Baseline (2007-2013)	Interim Milestone (2016)	Target (2020)
15	5	8 ¹⁷
State of play 2018:		Comments
11*		* Latest known value (2018) – cumulative figure
Result indicator: Number of publications in peer-reviewed high impact journals (Euratom – Fusion)		
<i>Source of the data: Common Support Centre (Dashboard)</i>		
Baseline (2010)	Interim Milestone (2016)	Target (2020)
800 (FP7) ¹⁸	600	800

¹⁷ The target figure is lower than the baseline due to the larger average size of the projects expected in the Euratom Research and Training Programme (2014-2018).

¹⁸ The baseline figure refers to peer review publications counted under FP7. This indicator under Euratom FP7 cannot be directly compared with the new indicator for Euratom

State of play 2018:		Comments
800		* Latest known value (2018) – average per year
Result indicator: Patent applications on the basis of research activities supported by the Euratom Programme (average per year) Source of the data: Common Support Centre		
Baseline (2007-2013)	Interim Milestone (2016)	Target (2020)
3	2-3	4
State of play 2018:		Comments
1*		* Latest known value (2018) - No sufficient amount of meaningful data is expected for "patents awarded" before 2020, because of the time that is needed for a patent to be awarded.
Result indicator: Level of investment in energy research and innovation (both public and private sectors) ¹⁹ Source of the data: JRC		
Baseline	Interim Milestone	Target
New approach	Not yet set	Not yet set
State of play 2018:		Comments
No relevant data available yet		
Result indicator: Trends in patents Source of the data: JRC		
Baseline	Interim Milestone	Target
New approach	Not yet set	Not yet set

Programme 2014-18. The new indicator covers only peer reviewed articles concerning implementation of the fusion research roadmap, while the old indicator concerns all peer reviewed articles published by fusion labs.

¹⁹ This indicator was announced in the Integrated SET Plan Communication and will be reported in the R&I part of the State of the Energy Union from 2016 onwards. No target has yet been set.

State of play 2018:		Comments
No relevant data available yet		
Result indicator: Number of researchers active in the energy sector Source of the data: JRC		
Baseline	Interim Milestone	Target
New approach	Not yet set	Not yet set
Planned evaluation: Interim evaluation of Euratom Research and Training Programme (2014-2018), 2017, Euratom		
State of play 2018:		Comments
No relevant data available yet		

A Stronger Global Actor

Specific objective 4.1: To translate Europe's strengths in science and technology into a leading global voice ("Open to the World")			Related to spending programme(s)
			Horizon 2020
Result indicator: Proportion of EU co-publications with at least one International Partner Country to the total of EU publications Source of the data: Science Matrix based on Scopus database			
Baseline (2013)	Interim Milestone (2018)	Target (2020)	
36%	38%	40%	
State of play 2018:		Comments	
44.35%			
Result indicator: Share of third-country participants in Horizon 2020-DG RTD Source of the data: Common Support Centre			
Baseline (December 2013)	Interim Milestone (2018)	Target (2020)	
4.73%	-	4.73%	
State of play 2018:		Comments	
3.86%		The DG RTD specific target of the Strategic plan have been aligned with the Horizon 2020 programme's legal base (10% → 4.73%)	

Output indicators

A New Boost for Jobs, Growth and Investment

Relevant general objective(s): A New Boost for Jobs, Growth and Investment

Specific objective: 1.1: To strengthen Europe's R&I systems and achieve the European Research Area through working with Member States

Main outputs in 2018:

All new initiatives and REFIT initiatives from the Commission Work Programme, State of the Union, Treaty, etc.

Output	Indicator/Deliverables	Target	Results
Commission Communication on a Revision of the EU Bioeconomy Strategy and Action Plan	Commission Communication	2018	Adpoted on 11/10/2018.
Improving Health Security in the EU against infectious diseases	Commission Communication - 'Improving Health Security in the EU – a one health approach to counteracting the threat from infectious diseases'.	2018	Ready for ISC, but currently on hold because it has not yet been considered by the College.

Important spending related outputs, from work programmes/financing decisions/operational programmes

Output	Indicator/Deliverables	Target	Results
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Other important outputs

Output	Indicator/Deliverable	Target	Results
European Semester related outputs	Country Reports for all Member States; Country Specific Recommendations where appropriate	February 2018 May 2018	13 CSRs directly addressing R&I issues delivered on time.

Horizon 2020 Policy Support Facility related outputs (Peer Reviews, Specific Recommendations or Mutual Learning Exercises)	14 such actions	By end 2018	8 actions finished in 2018 7 newly launched, published and presented in 2018
Analysis of Europe's R&I performance and narrative that speaks to both R&I and Economics and Finance policy-makers and analysts	Biennial flagship report "Science, Research and Innovation performance of the EU 2018", accompanied by a set of Working Papers on hot policy issues.	February 2018	Published and launched in February 2018
European Research Area (ERA)	Report on the implementation of the European Research Infrastructures (ERIC) Consortium Regulation	Q1- 2018	Adopted in July 2018 and transmitted to Council, European Parliament, ECOSOC and Committee of Regions. Welcomed in the Council Conclusions of 30 November 2018
Contribute to the 'Circular Economy package to boost innovation, jobs and growth'	Set-up of Strategic Research and Innovation Agenda's in the areas of Plastics, Nutrients, and Urban Water.	2018	Contribution delivered as planned. First elements of a Strategic R&I Agenda on plastics to be presented in February'19. First report in the area of water prepared. Work on nutrients to

			start in 2019. EC expert group "Support to CE financing" to finalise draft plans for recommendations in January'19.
European strategy for industry-oriented R&I infrastructures.	Commission Staff Working Document (SWD)	Q4 2018	Rescheduled Q1 2019
Develop an approach to accelerate progress towards batteries electro- chemistry and production in Europe	Strategy paper within the context of the Strategic Transport, Research and Innovation Agenda and the EU Battery Alliance	2018	The WP 2019 was adopted in July 2018 and the new call on batteries will be opened in January 2019 by INEA. Strategic Programming for batteries in Horizon Europe was launched in July 2018 among Commission services and will be open to stakeholders all along 2019.
Contribute to Action Plan on Vaccination	Council Recommendation	2018	Adopted by Commission April 2018. Adopted by Council in December 2018

Specific objective: 1.2: To establish the right framework conditions to capitalise on the results of European research and innovation by involving all actors in the innovation process ("Open Innovation")

Main outputs in 2018:

All new initiatives and REFIT initiatives from the Commission Work Programme, State of the Union, Treaty, etc

Output	Indicator/Deliverable	Target	Results
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Important spending related outputs, from work programmes/financing decisions/operational programmes

Output	Indicator/Deliverables	Target	Results
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Other important outputs

Output	Indicator/Deliverables	Target	Results
Evaluation of 'Innovation Deals'	Evaluation of Innovation Deals on waste water treatment and electric vehicles and the optimal use of batteries	2018	Signature of the "Innovation Deal" entitled 'From E-Mobility to recycling: the virtuous loop of the electric Vehicle' – March 2018. Conclusions of the 1 st ID on water communicated to policy DG on August'18. Signature of 2 nd ID on batteries on March'18; now in process and regulatory barriers identified.

Screening of legislative and policy initiatives to assess their impact on Innovation (' <i>Innovation Principle</i> ')	Number of Policy or legislative initiatives from the Commission Work Programme 2018 that will be assessed	All CWP-2018 initiatives assessed in 2018	All CWP-2018 initiatives assessed
Specific objective: 1.3: To ensure an effective and efficient implementation of Horizon 2020 and other RTD programmes and maximise synergies		Related to spending programme(s) ...	
Main outputs in 2018:			
All new initiatives and REFIT initiatives from the Commission Work Programme, State of the Union, Treaty, etc.			
Output	Indicator/Deliverables	Target	Results
Contributing to the new MFF – A policy package for the future Framework Programme for Research and Innovation (FP9).	(1) A 'Chapeau' Communication (2) The Framework Programme Regulation for FP9 (TFEU) (3) The Rules for Participation and Dissemination Regulation for FP9 (TFEU; applicable in part also to the Euratom Programme for FP9) (4) The Specific Programme Decision implementing the Framework Programme Regulation for FP9 (TFEU) (5) An Impact Assessment covering deliverables (1)-(4) (6) The Euratom Programme Regulation for FP9 complementing FP9. This will include a Proposal on the Euratom Research and Training Programme 2021-2025 (7) An Impact Assessment (Staff Working Document) accompanying the Euratom Regulation	June 2018	Done in June 2018
Important spending related outputs, from work programmes/financing decisions/operational programmes			
Output	Indicator/Deliverables	Target	Results
Implementation Of Horizon 2020	Completion Work Programme 2018-2020	Completion of calls foreseen	Fully implemented

		for 2018	
Implementation of the Euratom Programme	Implementation of the Work Programme	2018	Delivered in 2018
Implementation of Research for Coal and Steel Programme	Implementation of the Work Programme	2018	Delivered in 2018
Other important outputs			
Output	Indicator/Deliverables	Target	Results
Contributing to the e-Grant and e-Procurement Processes under the new MFF funding programmes	The 'Funding and Tenders' portal that brings together all the Commission's grant and procurement opportunities.	2018	(i) The Funding and Tenders Portal became fully operational and replaced the previous Participant Portal in Q4 2018. (ii) Continuous integration (onboarding) of additional programmes in the common IT tools. (ii) Preparation of the MGA for the next MFF.

A Connected Digital Single Market

Relevant general objective(s): A Connected Digital Single Market			
Specific objective: 2.1: To increase impact and excellent science through openness ("Open Science")		Related to spending programme(s) ...	
Main outputs in 2018:			
All new initiatives and REFIT initiatives from the Commission Work Programme, State of the Union, Treaty, etc.			
Output	Indicator/Deliverables	Target	Results
Contribution to the '2nd Data Package' COM(2017)495	Revise 'Recommendation on access to and preservation of scientific information'	2018	Done in April 2018
Provide Scientific Advice to College through the Scientific Advice Mechanism (SAM)	Two major outputs relating to Plant Protection Products and Carbon Capture and Utilisation Technologies.	2018	Done. Published in March and December 2018
Important spending related outputs, from work programmes/financing decisions/operational programmes			
Output	Indicator/Deliverables	Target	Results
Other important outputs			
Output	Indicator/Deliverables	Target	Results
Specific objective: 2.2: Embedding digital into the grand societal challenges		Related to spending programme(s) ...	
Main outputs in 2018:			
All new initiatives and REFIT initiatives from the Commission Work Programme, State of the Union, Treaty, etc.			
Output	Indicator/Deliverables	Target	Results
Important spending related outputs, from work programmes/financing decisions/operational programmes			
Output	Indicator/Deliverables	Target	Results
Other important outputs			
Output	Indicator/Deliverables	Target	Results
Contribute to the DigiCare implementation	Pilots for testing and scaling up data-sharing platforms for genomic, molecular and other relevant health data.	2018	Adopted 25 April 2018, (CNECT-led, with strong contribution of DG

			RTD).
Contribute to the 'Europe on the move' Mobility Package III	Contribute to the Connected and Automated Mobility R&I aspects.	Q2 2018	Contribution given to the Mobility Package III in Q2 2018.

A Resilient Energy Union with a Forward-Looking Climate Change Policy

Relevant general objective(s): A Resilient Energy Union with a Forward-Looking Climate Change Policy			
Specific objective: 3.1: To implement the Research, Innovation and Competitiveness dimension of the Energy Union, together with a forward-looking climate-change policy		Related to spending programme(s) Horizon 2020, Euratom.	
Main outputs in 2018:			
All new initiatives and REFIT initiatives from the Commission Work Programme, State of the Union, Treaty, etc.			
Output	Indicator/Deliverables	Target	Results
Contribution to the Communication on the future of EU energy and climate policy, including on the future of the Euratom Treaty and on the possible use of Article 192(2), second subparagraph TFEU (ENER/CLIMA in the lead).	Commission Communication	2018	Done. COM(2018)773 adopted on 28th November 2018. Contribution to the Communication "A Clean Plant for all" Successful negotiation and adoption of the Special Report on 1.5°C of the Intergovernmental Panel on Climate Change (IPCC), which provided fundamental input to the Communication.
Contribution to the Commission's reflections towards a sustainable Europe	Reflection Paper 'Towards a Sustainable Europe by 2030, on the follow-up to the UN Sustainable Development Goals, including on the Paris Agreement on Climate Change.'	2018	Contribution to the Reflection Paper has been done.
Important spending related outputs, from work programmes/financing decisions/operational programmes			
Output	Indicator/Deliverables	Target	

Other important outputs			
Output	Indicator/Deliverables	Target	Results
Contribution to SET Plan	RTD will deliver four Implementation Plans to achieve the R&I targets set for the SET Plan Key Actions: 'Ocean', 'Off-Shore Wind', 'Geothermal' and 'Nuclear Safety', under the leadership of the Member States and the industry.	Mid-2018	All delivered except for the Nuclear Safety IP for which it was decided to postpone the delivery of the Nuclear IP to the first half of 2019 in view of the different priorities of the Presidency of the EU)
Contribute to the Energy Union strategy	Contribute to the set-up of a Strategic Transport Research and Innovation Agenda (STRIA) Governance to address the overarching objectives of decarbonisation, energy efficiency and independence	May 2018	Nominations received from Member States and key transport stakeholders for the Governance group and two meetings have taken place (Nov 2017 and Dec 2018); 3 working groups on connected and automated transport; urban mobility and transport infrastructure have been set-up in the course of 2018.

A Stronger Global Actor

Relevant general objective(s): A Stronger Global Actor			
Specific objective: 4.1: To translate Europe's strengths in science and technology into a leading global voice ("Open to the World")		Related to spending programme(s) ...	
Main outputs in 2018:			
All new initiatives and REFIT initiatives from the Commission Work Programme, State of the Union, Treaty, etc.			
Output	Indicator/Deliverables	Target	Results
Important spending related outputs, from work programmes/financing decisions/operational programmes			
Output	Indicator/Deliverables	Target	Results
Other important outputs			
Output	Indicator/Deliverables	Target	Results
Partnership for Research and Innovation in the Mediterranean Area (PRIMA)	Administrative and technical preparation and launch of the Initiative	2018	Delegation agreement signed February'18 C(2018)371 on 2018 PRIMA financing and 2018 annual work plan adopted in January'18. 2018 calls launched and evaluations finalised. C(2018)8734 on 2019 PRIMA financing and 2019 annual work plan adopted in December'18 and 2019 calls launched in December'18.
Second Arctic Science Ministerial summit	Commission and Council decision approving the Joint Declaration and empowering Commissioner Moedas to sign it on behalf of	2018	Second Arctic Science Ministerial summit held in Berlin, 25-26 October 2018

	the Union		C(2018)5841 on the signing on behalf of the Union of the Joint Statement of Ministers on the occasion of the second Arctic Science Ministerial meeting adopted on October'18
Intergovernmental science-policy Platform for Biodiversity and Eco-Systems (IPBES), DG RTD lead	IPBES assessments and work programme for beyond 2018	2018	Successful negotiation and adoption the Intergovernmental science-policy Platform for Biodiversity and Ecosystems (IPBES).