



2017

Annual Activity Report

**Research Executive
Agency**

Table of Contents

REA IN BRIEF	3
EXECUTIVE SUMMARY	5
A) IMPLEMENTATION OF THE AGENCY’S ANNUAL WORK PROGRAMME – HIGHLIGHTS OF THE YEAR	5
B) KEY PERFORMANCE INDICATORS (KPIs).....	8
C) KEY CONCLUSIONS ON FINANCIAL MANAGEMENT AND INTERNAL CONTROL (EXECUTIVE SUMMARY OF SECTION 2.1).....	12
D) PROVISION OF INFORMATION TO THE COMMISSIONERS.....	13
1. IMPLEMENTATION OF THE AGENCY’S ANNUAL WORK PROGRAMME – HIGHLIGHTS OF THE YEAR	14
1.1 EXCELLENT SCIENCE – MARIE SKŁODOWSKA-CURIE ACTIONS (MSCA) AND THE FP7-PEOPLE PROGRAMME	15
1.2 EXCELLENT SCIENCE - FUTURE AND EMERGING TECHNOLOGIES (FET-OPEN).....	17
1.3 INDUSTRIAL LEADERSHIP – SPACE AND THE FP7 PREDECESSOR ACTION	19
1.4 SOCIETAL CHALLENGE 2: ‘FOOD SECURITY, SUSTAINABLE AGRICULTURE AND FORESTRY, MARINE AND MARITIME AND INLAND WATER RESEARCH AND THE BIOECONOMY’	20
1.5 SOCIETAL CHALLENGE 6: EUROPE IN A CHANGING WORLD - INCLUSIVE, INNOVATIVE AND REFLECTIVE SOCIETIES	22
1.6 SOCIETAL CHALLENGE 7: SECURE SOCIETIES – PROTECTING FREEDOM AND SECURITY OF EUROPE AND ITS CITIZENS AND THE FP7 PREDECESSOR ACTIONS IN SECURITY	23
1.7 SPECIFIC OBJECTIVE: SPREADING EXCELLENCE AND WIDENING PARTICIPATION (SEWP)	24
1.8 SPECIFIC OBJECTIVE: SCIENCE WITH AND FOR SOCIETY (SWAFS)	25
1.9 FP7 - CAPACITIES SPECIFIC PROGRAMME – RESEARCH FOR THE BENEFIT OF SMES (RSME)	26
1.10 ACTIVITY – ADMINISTRATIVE AND LOGISTICAL SUPPORT SERVICES	27
2. ORGANISATIONAL MANAGEMENT AND INTERNAL CONTROL	31
2.1 FINANCIAL MANAGEMENT AND INTERNAL CONTROL.....	31
2.1.0 <i>Control environment</i>	32
2.1.0.1 Budget implementation in 2017	32
2.1.0.2 Operating budget	32
2.1.0.3 The control system underlying the implementation of REA’s operational budget	33
2.1.0.3.1 The grant management life-cycle	33
2.1.0.3.2 Inherent risks to REA's grant management operations	34
2.1.0.3.3 Support services	36
2.1.1 <i>Control results</i>	38
2.1.1.1 Control effectiveness as regards legality and regularity	38
2.1.1.1.1 Ex-post control methodology	39
2.1.1.1.2 FP7 results for 2017	41
2.1.1.1.3 H2020 results	44
2.1.1.1.4 Conclusion on the control effectiveness as regards legality and regularity	47
2.1.1.2 Cost-effectiveness and efficiency	50
2.1.1.2.1 Stage one: call implementation and selection of proposals	50
2.1.1.2.2 Stage two: conclusion of grant agreements	53
2.1.1.2.3 Stage Three: monitoring grant agreement execution	54
2.1.1.2.4 Stage four: ex-post controls and recoveries	55
2.1.1.2.5 Overall assessment of the cost-effectiveness of controls in REA	57
2.1.1.3 Fraud prevention and detection	61
2.1.1.4 Safeguarding assets and information, reliability of reporting	62
2.1.2 <i>Audit observations and recommendations</i>	63
2.1.2.1 Audits by the European Court of Auditors (ECA)	63
2.1.2.2 Follow-up of actions resulting from previous ECA audits	64
2.1.2.3 Commission’s Internal Audit Service	64
2.1.2.4 Actions resulting from previous IAS audits	64
2.1.3 <i>Assessment of the effectiveness of the internal control systems</i>	67
2.1.4 <i>Conclusions as regards assurance</i>	70
2.1.5 <i>Declaration of Assurance and reservations</i>	72
DECLARATION OF ASSURANCE	73
2.2 OTHER ORGANISATIONAL MANAGEMENT DIMENSIONS	78
2.2.1 <i>Human resources management</i>	78
2.2.2 <i>Information management aspects</i>	80
2.2.3 <i>External communication activities</i>	81
2.2.4 <i>Specific efforts to improve ‘economy’ and ‘efficiency’ of spending and non-spending activities</i>	82

REA IN BRIEF

The Research Executive Agency (REA) is an autonomous body with its own legal personality, which was set up by a Commission Decision in 2007 with the aim of implementing parts¹ of the 7th Framework Programme for Research and Technological Development (FP7) and, since 2014, parts of the Horizon 2020 Framework Programme for Research and Innovation (2014-2020). REA now manages nearly 20 % of the Horizon 2020 budget and is the largest of the six European Union (EU) executive agencies.

In line with the Framework Regulation for Executive Agencies and with the Commission Guidelines for Executive Agencies, REA operates under the full control of the Commission and, like its parent Directorates-General (DGs), is located in Brussels. It is managed by the Director, a senior official seconded from the Commission, and by the Steering Committee, a governing board comprising representatives of the parent DGs. The Agency's middle managers (Heads of Department and Heads of Unit) are also seconded Commission officials. Cooperation with the Commission services is specified in the Memorandum of Understanding (MoU), which complements the Delegation Act by establishing the modalities and procedures for interaction between the six parent DGs² and the Agency.

In practice, REA helps the Commission to achieve its objectives in the field of research and innovation (R&I) and the EU strategies to foster growth by ensuring optimal implementation of the delegated parts of the Horizon 2020 and FP7 Framework Programmes. To this end, it delivers services to the research community by: (i) implementing R&I programmes and tasks supporting EU funding for R&I; and (ii) providing efficient and effective administrative and logistical support services for participants in the Framework Programmes and other Commission services. By maintaining close contacts with beneficiaries and giving the EU high visibility, REA acts as a promoter of the European Research Area (ERA) and EU R&I policies. The Agency has developed a performance-based and service-oriented culture and strives to reach ambitious targets. Its performance is monitored using Key Performance Indicators (KPIs).

The Juncker Commission, which took office in 2014, set ten priorities, identifying specific areas for action. By managing the parts of the R&I programmes that have been delegated to it and by promoting projects in Excellent Science, Industrial Leadership and Societal Challenges, REA is contributing to the achievement of several priorities, such as 'A New Boost for Jobs, Growth and Investment', 'A Connected Digital Single Market', 'A Resilient Energy Union with a forward-looking Climate Change Policy', 'An Area of Justice and Fundamental Rights based on Mutual Trust' and 'Towards a New Policy on Migration'. In addition, by coupling R&I, it helps to promote a world-class science in Europe, removing barriers to innovation and facilitating collaboration between the public and private sectors.

Management of the following Horizon 2020 actions (and some predecessor actions under FP7) has been delegated to REA:

- Horizon 2020 – Excellent Science – Marie Skłodowska-Curie actions (MSCA) and the FP7-People Programme (MCA) from DG EAC;
- Horizon 2020 – Excellent Science – Future and Emerging Technologies (FET Open) from DG CNECT;
- Horizon 2020 – Industrial Leadership – Space research actions and the actions of

¹ The FP7-People Specific Programme, the Capacities Specific Programme (Research for the benefit of SMEs) and the Cooperation Specific Programme (Space and Security themes)

² DG Research and Innovation (RTD), DG Education and Culture (EAC), DG Communications Networks Content and Technology (CNECT), DG Internal Market, Industry, Entrepreneurship and SMEs (GROW), DG Agriculture and Rural Development (AGRI) and DG Migration and Home Affairs (HOME)

the Space theme in the FP7 Cooperation Programme from DG GROW;

- Horizon 2020 Societal Challenge 2 – Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy from DG RTD and DG AGRI;
- Horizon 2020 Societal Challenge 6 – Europe in a changing world – inclusive, innovative and reflective societies from DG RTD and DG CNECT;
- Horizon 2020 Societal Challenge 7 – Secure societies – Protecting freedom and security of Europe and its citizens and the actions of the Security theme of the FP7 Cooperation Programme from DG CNECT and DG HOME;
- Horizon 2020 Specific Objectives ‘Spreading Excellence and Widening Participation’ and ‘Science with and for Society’ from DG RTD;
- FP7 Capacities – Research for the benefit of SMEs from DG RTD.

As an EU funding body, REA’s main tasks relate to the management of the project lifecycle. This includes the publication of calls from the Horizon 2020 work programme, the organisation of proposal evaluations, the preparation and conclusion of grant agreements and monitoring the resulting projects, in line with the applicable financial and administrative rules. REA ensures, through its high-quality project evaluation and review process, that the funded projects have a real impact on tackling societal challenges and boosting European competitiveness.

In addition, REA assists its six parent DGs in the Commission in managing programmes and achieving its policy objectives by collecting information on project implementation and results; by promoting the ex-post publicity and dissemination of results by the projects in accordance with the strategy for dissemination and exploitation of research results; by providing focused policy feedback whereby key projects results are signalled to the Commission services to support their policy development activities; by making recommendations on the programme’s future development, in particular with respect to call implementation and grant management issues; and by playing an important role in the communications related to funding opportunities, project results and success stories.

Finally, REA provides logistical and administrative support services. These includes participant validation for the entire Horizon 2020 as well as for some other non-research EU programmes (such as justice, education, competitiveness or agricultural promotion) and management of expert contracting and payments. This latter activity covers the experts (‘evaluators’) for all bodies implementing Horizon 2020 (except for those experts employed by the European Research Council) as well as the expert monitors (‘reviewers’) for FP7 and Horizon 2020 actions delegated to REA.

In 2017, REA prepared for an extension of its mandate, entering into force on 1 January 2018; (i) to manage projects generating EU classified information (EUCI) for Societal Challenge 7; and (ii) to offer participant validation services to all direct management operations in the Commission services and other EU bodies (grants and procurements). The latter is part of the Commission’s initiatives for synergies and efficiencies, whereby REA plays a major role in the development and roll-out of the SEDIA (Single Electronic Data Interchange Area), building on its experience in providing participant validation activities for Horizon 2020.

REA senior management underwent an important change in 2017, with the appointment of a new Director. Marc Tachelet has taken office as of April 2017, following a smooth hand-over from Gilbert Gascard, the previous Authorising Officer by Delegation (AOD).

EXECUTIVE SUMMARY

The Annual Activity Report (AAR) is a management report from the Director of the Research Executive Agency to the College of Commissioners. AARs are the main instrument of management accountability within the Commission and constitute the basis on which the College takes political responsibility for the decisions it takes as well as for the coordinating, executive and management functions it exercises, as laid down in the Treaties³.

a) Implementation of the Agency's Annual Work Programme – highlights of the year

REA, mandated by the European Commission to support the EU's research and innovation policy, funds high-quality R&I projects that generate knowledge for the benefit of society.

Therefore, REA invests in the evaluation of proposals to ensure that only the very best projects with the highest scientific excellence ranking and the best chance of success and impact are funded. Proposals are selected by qualified experts with relevant technical and scientific expertise in the field from a database of almost 130,000 experts. The quality and fairness of the Horizon 2020 evaluation process is widely recognised – by independent observers as well as by the external evaluation of REA, finalised in March 2016⁴.

REA is also monitoring the projects under its responsibility to ensure they deliver on the agreed objectives. By the end of 2017, 95.7 % of the closed FP7 projects managed by REA achieved all or most of their objectives, which demonstrates the high quality of key procedures in place for proposal evaluation and scientific and financial grant management.

To further illustrate this, reference can be made to the researchers or research groups who won important prizes in their field. In 2017, nine Marie Skłodowska-Curie actions (MSCA) fellows recruited under the GraWIToN project contributed to the preparation of experiments to collect evidence and data on gravitational waves, a major breakthrough in fundamental physics that led to the Nobel Prize in Physics in 2017. In addition, the 2017 Nobel Prize in Chemistry was awarded to a scientist previously in charge of a Marie Skłodowska-Curie Intra-European Fellowship project that investigated cellular signalling, thereby setting the basis for his subsequent scientific breakthrough. In total, this brings the number of MSCA fellows who have received a Nobel Prize to nine.

Since the creation of the Agency, REA has supported 78,000 fellows through the MSCA under H2020 and the FP7-People Programme (MCA).

The projects managed by REA since 2009 have resulted in the issuing of more than 650 patents; and there are already around 11,500 publications on Horizon 2020 projects. With more than 230 'success stories', REA accounted for about 40-50 % of all success stories provided to the Research common pool in 2017.

In its collaboration with the parent DGs, REA provides policy relevant information at various points of the project management cycle. Feeding back project results to the parent DGs to support their policy work is essential for a successful use by the Commission of the new management modes. One particular challenge is to define the needs and implementation modalities for this policy feedback loop. In 2017, REA mapped all the channels and tools used in this regard in order to share and implement good practices across the different actions and to offer the various EC policy services a tailored set of information and feedback activities. This aims to develop a more systematic and

³ Article 17(1) of the Treaty on European Union

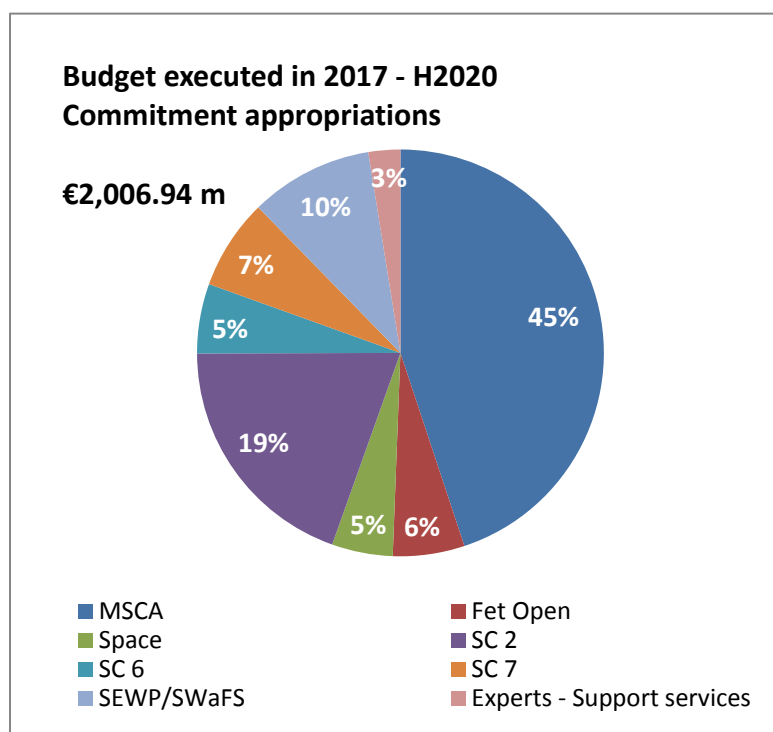
⁴ Evaluation of the Operations of the REA (2012-2015), Ref. Ares(2016)1305406 of 15/03/2016

clearer contribution to the Commission's policy developments, by capitalising on the programmes' and projects' outputs and results.

Beyond the success and impact of the projects, REA is aiming to continuously improve its services to applicants, beneficiaries and experts. In this respect, 2017 was a very successful year. Significant changes were made in the area of expert management (with the switch to the new, simplified expert model contract) and validations (where the procedure for the appointment of the Legal Entity Authorised Representative (LEAR) was simplified and the obligation to provide paper documents was dropped in favour of allowing scanned versions to be submitted electronically). A major challenge was to prepare REA for its new role as the single interface for participant data management for all direct management in the Commission (SEDIA). As of January 2018, REA handles validations not only for Horizon 2020 and a handful of other programmes but also for all the Commission's grants and procurement activities. This one-stop shop for legal and financial data provides an important simplification for applicants and beneficiaries. At the end of 2017, the harmonisation of business processes and the adaptation of IT tools were well underway. Where needed, transitional solutions were put in place.

In 2017, Horizon 2020 has reached cruising speed. This year witnessed a heavy workload for REA.

In 2017, REA launched 23 calls (Work Programme 2017 calls) for a total value of EUR 2,006.94 million. Oversubscription remained an important issue challenging the management of the evaluations and affecting the success rates.



Evaluations and Grant Agreement Preparations (GAPs) progressed according to plan.

By the end of 2017, evaluations had been finalised for all except three **2017 calls**⁵. REA had evaluated around 13,800⁶ proposals for the 2017 calls – some 1,000 more than in 2016 – out of which more than 1,800 were retained for funding (main listed proposals). The overall success rate for the 2017 calls was at 14.0 %⁷ (up from 13.3 % for the totality of the 2016 calls).

For about half of the 2017 calls (11) the GAPs (for main-listed proposals) were finalised

by the end of the reporting period⁸. Overall, REA signed more than 1,700 grants from the 2016 and 2017 calls for proposals in 2017.

⁵ At the time of reporting, evaluations were still ongoing for three 2017 calls: 1 FETOPEN call (H2020-FETOPEN-2016-2017-RIA, topic 1, third cut-off; H2020-FETOPEN-2016-2017-FET Innovation Launchpad, topic 4, second cut-off); and 2 SEWP calls (H2020-WIDESPREAD-03-2017-ERA chairs, H2020-WIDESPREAD-05-2017-Twinning).

⁶ For 2-stage calls, this figure includes the number of proposals evaluated at first stage.

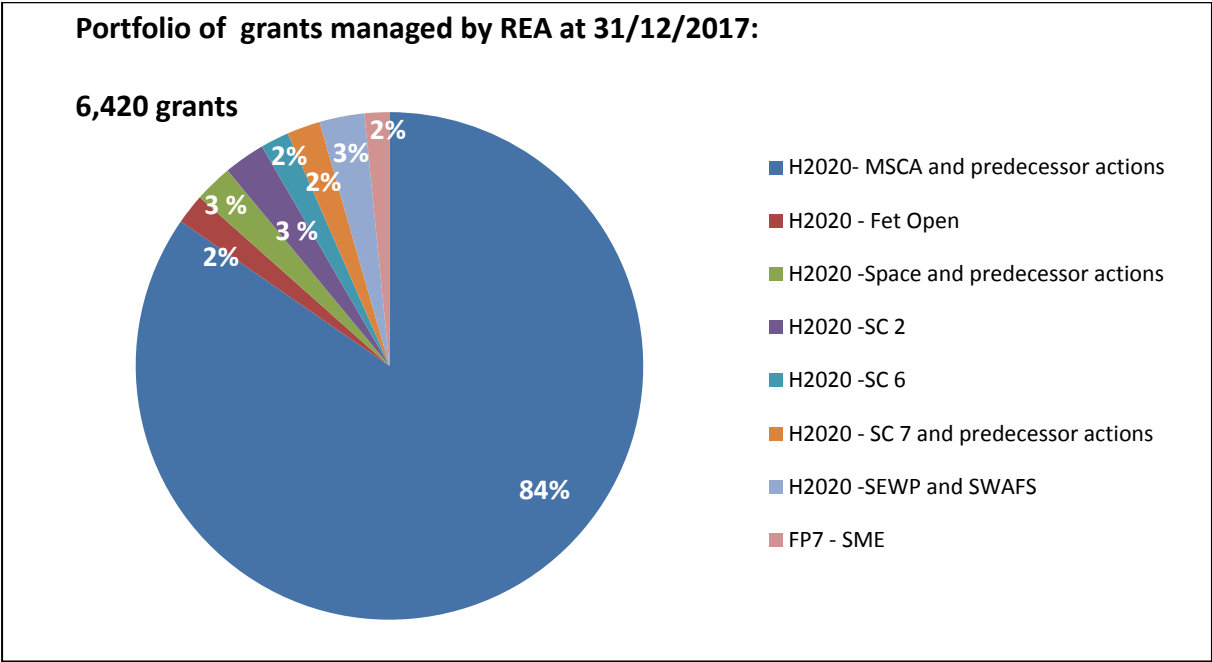
⁷ As evaluations for three 2017 calls are still on-going the success rate will continue to evolve.

The calculation of the success rate is based on the number of evaluated proposals at second stage.

⁸ On 31 December 2017, the GAP was ongoing for nine 2017 calls: all SC2- and SC6-two-stage calls, 2 MSCA calls (COFUND, IF), all SC7 calls and the SwafS call.

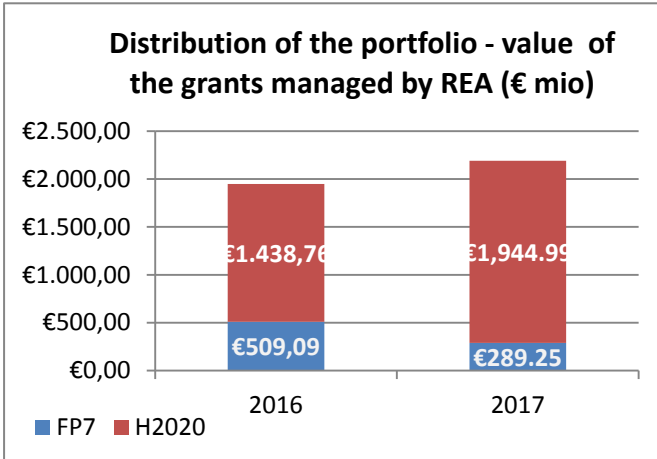
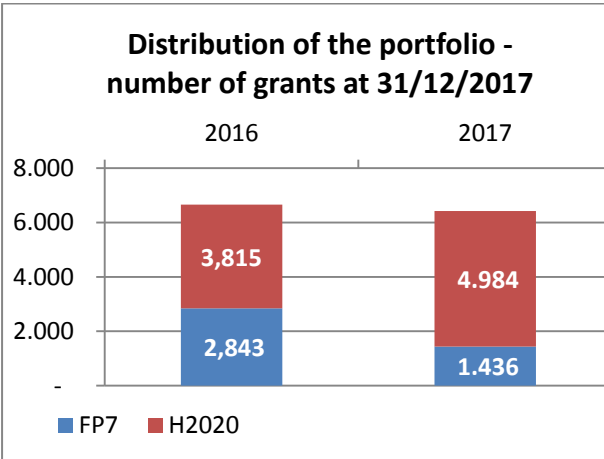
For the **2016 calls**, all evaluations had been completed by the beginning of 2017 and the contracting was finalised by end-June 2017.

In 2017, REA was very successful in reaching the **Time-To-Grant (TTG)** target with **100 %** of all grants agreements signed in less than 245 days (up from 99 % in 2016). The average TTG performance was stable at **193 days**, 52 days below the target⁹.



By the end of 2017, REA managed a total of 6,420 grants (H2020 and FP7 combined). Of these, almost 80 % were active H2020 projects (4,984 compared to 3,815 at the end of 2016).

For H2020, REA executed 100 % of its budget in commitment and payment appropriations (the latter for the sum of EUR 1,519.37 million).



Even though the number of FP7 projects fell considerably in 2017, the workload related to closing FP7 projects will remain significant in the year to come.

As to the portfolio of grants managed by REA, about EUR 2.23 billion were still to be disbursed at 31 December 2017, of which about 50 % were for MSCA and 23 % for

⁹ Source: CORDA

SC2¹⁰.

In terms of 'Time-To-Pay' (TTP), REA further improved its performance in 2017 with 96.9 % of all project-related payments made on time (up from 95.4 % in 2016). Both the grant agreement signature and the processing of payments were facilitated by a fully electronic grant management IT tool for H2020.

In terms of administrative and logistical support services, REA supported 353 calls with more than 7,000 experts on-site. Almost 7,800 entities had their legal status validated and over 8,900 LEAR extended mandates were validated. 15,700 contracts with experts were signed and more than 21,700 payments to experts were made (for an amount of EUR 51.55 million) within an average TTP of 10.5 days.

b) Key Performance Indicators (KPIs)

This subsection shows the five key performance indicators (KPIs) most relevant for REA, as set out in the Annual Work Programme (AWP) 2017, i.e. the indicators which measure the most critical aspects of its performance and give useful insights into its most significant achievements. The following KPIs have been retained:

- 1. Full implementation of the operational budget;**
- 2. Rapid conclusion of grant agreements (TTG - 'Time-To-Grant');**
- 3. High quality of grant management;**
- 4. Legality/regularity of financial transactions;**
- 5. Providing efficient support services to the Research DGs and other client services.**

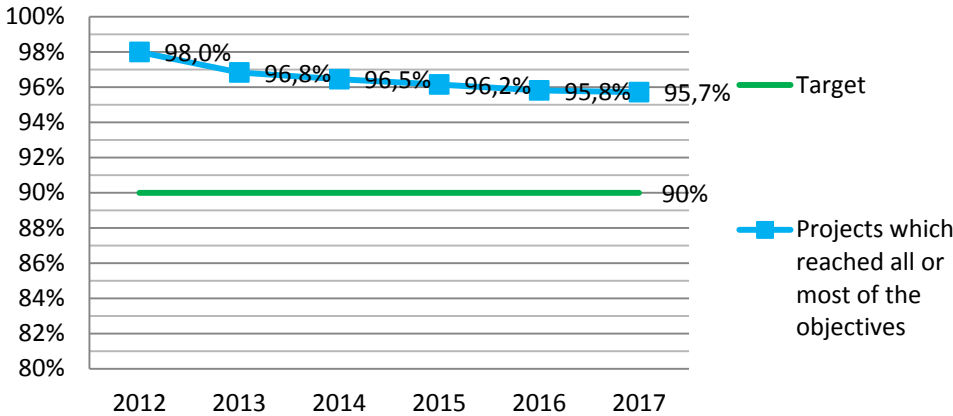
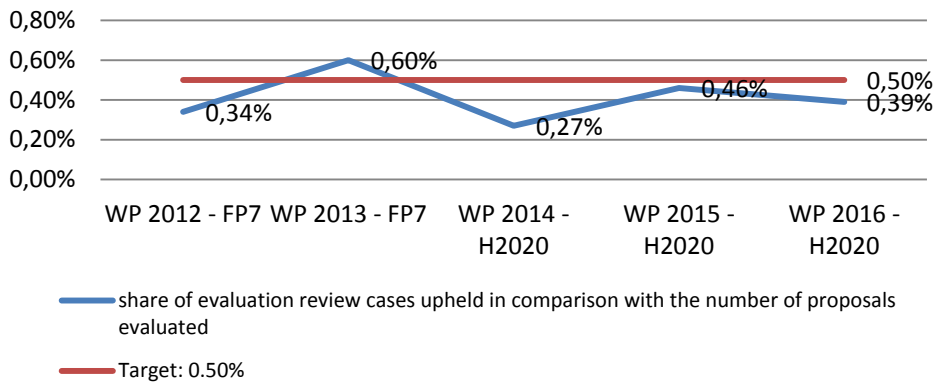
¹⁰ The distribution of the RAL ('reste à liquider') for the other activities managed by REA corresponds roughly to the ratio of budgets executed in 2017 – see chart above.

Result indicator	Target	Latest known results at 31/12/2017						
KPI 1 😊	Full implementation of the operational budget							
Target	100 % execution of commitment and payment appropriations							
2010	2011	2012	2013	2014	2015	2016	2017	100 % execution of commitment and payment appropriations
100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	
As in previous years, the operational commitment and payment appropriations from the EU general budget (excluding earmarked revenue) were fully executed in 2017 ¹¹ .								

KPI 2 😊	Rapid conclusion of grant agreements (TTG - 'Time-To-Grant')																
Target	100 % within 8 months (245 days)																
Over time REA has steadily improved its TTG performance. With 100 % of all grants agreements signed in 2017 (calls 2016 and 2017) in less than 245 days, the results were excellent – the best ever achieved by REA. The average TTG performance stands at 193 days (same result in 2016), 52 days before the target ¹² .																	
<table border="1"> <caption>Average TTG - REA (in days)</caption> <thead> <tr> <th>Year</th> <th>Average TTG REA (in days)</th> <th>Target (in days)</th> </tr> </thead> <tbody> <tr> <td>2014</td> <td>222</td> <td>245</td> </tr> <tr> <td>2015</td> <td>203</td> <td>245</td> </tr> <tr> <td>2016</td> <td>193</td> <td>245</td> </tr> <tr> <td>2017</td> <td>193</td> <td>245</td> </tr> </tbody> </table>			Year	Average TTG REA (in days)	Target (in days)	2014	222	245	2015	203	245	2016	193	245	2017	193	245
Year	Average TTG REA (in days)	Target (in days)															
2014	222	245															
2015	203	245															
2016	193	245															
2017	193	245															
Share of grants signed in 2017 within 245 days: 100 %																	
Average TTG (in days): 193																	

¹¹ Data source: REA Budget Execution Report based on ABAC data.

¹² Data source: CORDA.

KPI 3 😊	High quality of grant managements 3.1. Share of projects that achieved their objectives	
Target	90 % of FP7 closed projects achieved most of their objectives	
<p style="text-align: center;">FP7 Projects which reached all or most of the objectives</p>  <p>With 95.7 %¹³, the share of projects which achieved all or most of their objectives is largely above the target of 90 % and comparable to the performance of the previous year (95.8 % in 2016). Generally, it can be noted that, in recent years, the share of FP7 projects reaching all or most of the objectives declined slightly. This evolution is due to the fact that the most complex projects to implement are usually finalised towards the end of a Framework Programme.</p>		95.7 %
KPI 3 😊	High quality of grant managements 3.2. Share of redress (FP7)/ evaluation review cases (H2020) upheld in comparison with the number of proposals evaluated	
Target	Max. 0.5 % of proposals evaluated	
<p style="text-align: center;">Share of evaluation review cases upheld/ number of proposals evaluated</p>  <p>The low share of evaluation review cases upheld against the number of proposals evaluated¹⁴ for the calls of the WP 2016 calls (0.39 %, below the maximum target of 0.50 %), gives a good indication of the robustness of the proposal evaluation process and offers assurance with respect to the effectiveness of the internal control system for this process. For most 2017 calls, handling evaluation review requests was ongoing at 31 December 2017.</p>		0.39 % for 2016 calls

¹³ The data for this indicator is extracted from CORDA. The statistics are based on the project assessment reports (FP7 projects).

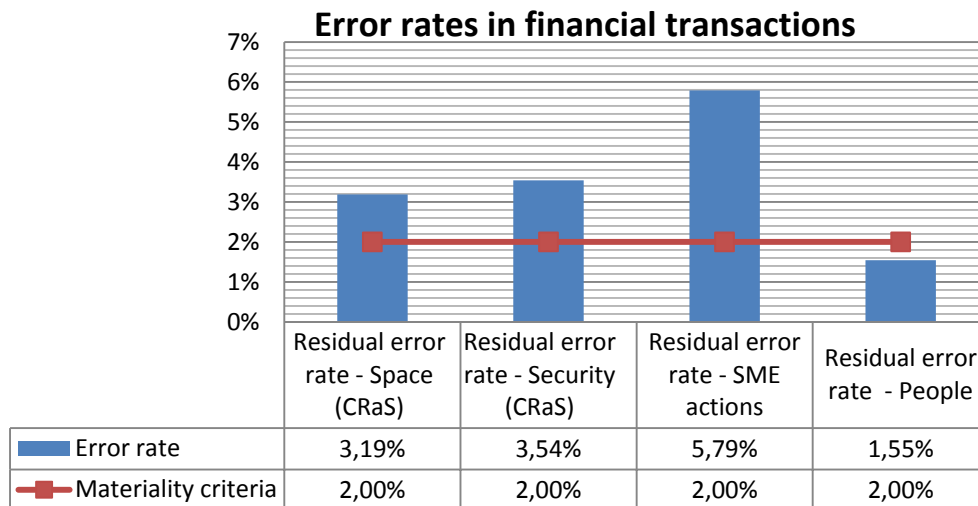
¹⁴ Data source: Participant Portal Redress (Request Form).

KPI 4 🚩 / 😊

Error rate in financial transactions

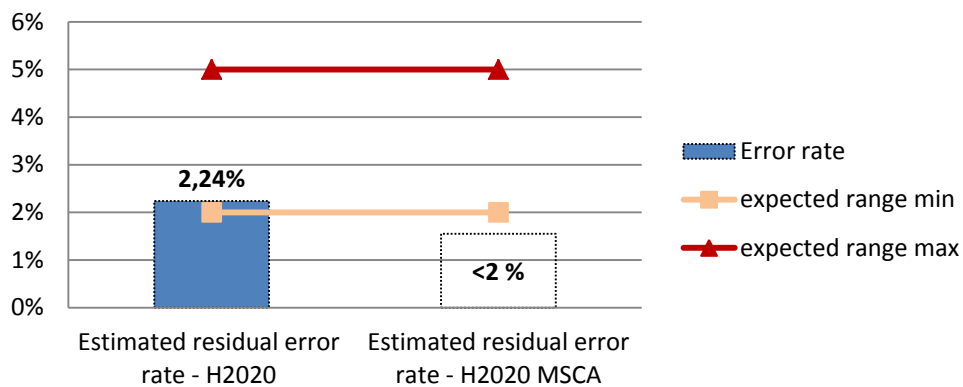
Target

FP7: less than 2 % of total budget (materiality threshold)
H2020 Overall : between 2 and 5 %
H2020 MSCA: less than 2 %



Based on the audits completed under the Common Representative Audit Sample (CRAS) and complemented by an additional audit sample, the residual error rate for three FP7 programmes – Space, Security and SME actions – are above the target, while the error rate for the FP7-People Programme is below the materiality level of 2 %¹⁵. These results confirm a stable trend for the error rates in FP7 financial transactions since 2016. For further reference, please see section 2.1.1. on control results.

Error rates in financial transactions H2020



At 31 January 2018, 110 of the 142 audits of the first Common Representative Sample (CRS) for H2020 were closed. Given the partial closure of the sample, this report refers to the residual error rate estimated by also including the draft audit results of the 32 ongoing audits, which is 2.24 % (for the Research family as a whole)¹⁶. Note that the nature of expenditure in the **first years of the programme may not be totally representative of the expenditure across the whole programme**. The programme is multi-annual and so are the error rates; the residual error rate, in particular, must be considered over time.

As for the MSCA, there were not enough audits to draw any conclusions for H2020. However, based on historical figures for FP7, and following new simplified rules under H2020, it is estimated that the error rate will remain below 2 %.

¹⁵ Data source FP7: Common audit Service reports (Audex database) for the CRAS and REA C.2.004 for the audits carried out by REA.

¹⁶ Data source H2020: Common Audit Service reports (Audex database).

KPI 5 😊	Providing efficient support services to the Research DGs and other client services		
Target	Participant validation: 95 % of validations performed within the 90 days from the "raise priority" date ¹⁷		😊
Target	Time-to-Contract for experts: 100 % of expert contracts signed in less than 10 calendar days ¹⁸		😊
Target	Time-to-Pay for experts: 100 % of expert payments carried out within 30 days ¹⁹		😊
	2015	2016	2017
Participant validation		92.4 %	95.1 %
Expert contracting	97.9 %	99.3 %	98.7 %
Expert payment	96.1 %	99.6 %	99.1 % ²⁰
REA provides administrative and logistical support services to the whole of H2020 and certain other programmes. Its performance is very good, as demonstrated by the indicators shown above.			

c) Key conclusions on financial management and internal control (executive summary of section 2.1)

In accordance with the European Commission's governance arrangements, which are also applicable to REA, the Agency conducts its operations in compliance with the applicable laws and regulations, working in an open and transparent manner and meeting the expected high level of professional and ethical standards.

The Commission has adopted a set of internal control standards/principles, based on international good practice, and aimed at ensuring achievement of the policy and operational objectives. The Financial Regulation requires that the organisational structure and the internal control systems used for implementation of the budget are set up in accordance with these standards/principles. REA has assessed the internal control systems during the reporting year and has concluded that the internal control standards/principles are implemented and function as intended. Please refer to section 2.1.3 for further details.

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

In conclusion, the management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are being monitored appropriately and mitigated; and the necessary improvements and reinforcements are being implemented. The Director, in his capacity as Authorising Officer (AO) for the administrative budget and Authorising Officer

¹⁷ Data Source: PDM system. The priority setting for validations is automatically set by the Participant Database Management (PDM) system.

¹⁸ Data source: Compass. The indicator is measured from the moment the contract signature process is launched in COMPASS until signature of the contract by both parties.

¹⁹ Data source: ABAC.

²⁰ Almost all delayed payments occurred in January 2017, linked to the closure of ABAC during the end-of-year transition period (carried forward from 2016 to 2017).

by Delegation (AOD) for the operational budget, has signed the Declaration of Assurance, albeit qualified by a reservation concerning FP7 Space and Security themes and one concerning FP7 SME actions.

In terms of risk management, REA continued to implement actions addressing the AAR reservations noted last year – details are provided in Annex 10. Nevertheless, following the near closure of the last FP7 ex-post audit campaign, no further information will be made available for assessing the impact of such actions.

The effectiveness and the efficiency of the controls in place have been assessed via indicators stemming from the Financial Regulation or agreed amongst the members of the research and innovation family. In terms of efficiency, REA's results are outstanding, be it for grant management or the support services.

The AAR 2017 includes an analysis of the costs and benefits of controls. Detailed results for REA remain in a range similar to the previous exercises. Therefore, overall, REA operations in grant management are considered to be cost-effective.

For the first time, in the AAR 2017, the full picture on the cost-effectiveness of the management of the H2020 programme is reported, including the impact of the costs shared at the level of the R&I family. The results remain within the objectives of the Horizon 2020 legislative proposal.

d) Provision of information to the Commissioners

In the context of the regular meetings held during the year between the Director and the parent DGs on management matters, the main elements of this report and the assurance declaration, including the reservations envisaged, have also been brought to the attention of the Agency's Steering Committee and to the parent DGs' Directors-General, who have taken these into consideration in their reporting to Commissioner Carlos Moedas, responsible for Research, Science and Innovation, Commissioner Tibor Navracsics, responsible for Education, Culture, Youth and Sport, Commissioner Mariya Gabriel, responsible for Digital Economy and Society, Commissioner Elżbieta Bieńkowska, responsible for Internal Market, Industry, Entrepreneurship and SMEs, Commissioner Phil Hogan, responsible for Agriculture and Rural Development, and Commissioner Dimitris Avramopoulos, responsible for Migration, Home Affairs and Citizenship and Commissioner Julian King, responsible for the Security Union.

1. IMPLEMENTATION OF THE AGENCY'S ANNUAL WORK PROGRAMME – HIGHLIGHTS OF THE YEAR

Overall, REA supported the Commission in reaching its objectives by managing the activities it has been entrusted with. To this end, REA's key actions have been identified in the REA Annual Work Programme (AWP) 2017.

As regards **programme implementation and project monitoring** tasks supporting the funding for R&I actions, REA is responsible for the management of the project life cycle:

- On the basis of the Horizon 2020 work programme, the agency autonomously manages the calls for proposals, evaluation of the proposals and the launch and conclusion of grant award procedures.
- REA monitors the resulting projects according to the applicable financial and administrative rules, making the necessary checks before paying out the grant.

In addition, the Agency assists the Commission in the management of the programmes:

- by playing an important role in informing on funding opportunities and project results;
- by making recommendations on the future development of the programme, in particular with respect to call implementation and grant management issues;
- by collecting information and data about the implementation and the results of the projects;
- by providing a focused policy feedback whereby key project results are signalled to the Commission services to support their policy development activities; and
- by promoting the ex-post publicity and dissemination of results by the projects in accordance with the strategy for dissemination and exploitation of research results.

The above are important elements of the **policy feedback loop**, which describes all tools and information channels through which the REA feeds policy-relevant information back to the DGs to support the Commission's policy-making and programming activities. This activity has grown in importance as more Horizon 2020 projects come to the mid-term and final review stage when important policy-relevant information becomes available. REA staff, in coordination with the Commission, organise and contribute to meetings and conferences, liaising with national contact points for the EU R&I Framework Programme, project coordinators and Commission representatives sharing information about new developments. REA also provides analysis of project portfolios, policy briefs and synthesis reports. Moreover, it facilitates cooperation and exchange among projects and participates in workshops in order to share best practices. REA's reports to the parent DGs on success stories, project implementation and statistics has also provided input for the interim evaluation of Horizon 2020 and the implementation aspects of the Work Programme 2018-2020.

In addition to its programme implementation tasks, REA also provides various **administrative and logistical support services** to participants and Commission services/agencies/joint undertakings implementing H2020 and, to a lesser extent, FP7, which include:

- planning the calls for proposals and contests for prizes and support for their publication;
- general logistical support for the evaluations;

- contracting and payment of the independent experts involved in the evaluation of all the proposals received (except for experts supporting the ERC);
- the validation of legal entities and notably the Legal Entity Authorised Representative (LEAR)²¹; and
- preparation of the assessment of these legal entities' financial capacity.

Other (non-research) EU programmes benefit from REA's support services (such as programmes in the field of justice, education, competitiveness and agricultural promotion), in particular with regard to participant validation. Based on the excellent performance of REA in this field, and to increase efficiency and simplify procedures for beneficiaries, in July 2017, the Commission decided to delegate to REA the management of all participants' data (for all grant and procurement actions managed by the Commission) as of 1 January 2018. During 2017, REA prepared to take up these additional tasks as of 1 January 2018.

This section provides result indicators on the implementation of the Agency's Work Programme 2017, by programme implementation tasks.

1.1 Excellent Science – Marie Skłodowska-Curie actions (MSCA) and the FP7-People Programme

Contribution to achieving the Commission's objectives

DG EAC has delegated to REA the management of the H2020 Marie Skłodowska-Curie actions (MSCA) and the Marie Curie Actions in the FP7-People Programme.

In managing the Marie Skłodowska-Curie actions and their predecessor actions under FP7, REA is helping DG EAC to contribute to the Commission's overarching general objective 1 'A New Boost for Jobs, Growth and Investment'. Through the MSCA, DG EAC aims to ensure the optimum development and dynamic use of Europe's intellectual capital of researchers in order to generate new skills and innovation and to realise its full potential across all sectors and regions.

The Marie Skłodowska-Curie actions offer funding possibilities for training and career development of researchers around an excellent research project. They provide support to individuals and organisations and boost scientists' overall mobility.

Examples of EU added value in the projects managed by REA

Like all EU-funded research projects, MSCA focus on projects that cannot be efficiently achieved by Member States acting alone, in particular when addressing issues with a cross-border dimension. The added value of these EU programmes also resides in the guarantee that all Member States, Associated Countries and third countries can participate in and benefit from highly skilled mobile researchers, exchanges of experience, transfer of good practices and policy support. They enable continent-wide competition to select the best proposals, thereby raising levels of excellence and providing visibility for leading innovation.

²¹ LEAR Extended mandate: After being validated, every entity is required to appoint a Legal Entity Authorised Representative (LEAR) who is in charge of:

- providing the Commission with up-to-date legal and financial data (including — on request — supporting documents) on the entity, via the Participants' Register;
- maintaining and updating this data (i.e. enabling it to be used for contracting and other transactions between the entity and the Commission);
- posting and updating on the website the names of the persons authorised to act as legal representatives and signatories for grant agreements and financial statements for their organisation through the electronic platform for interaction with beneficiaries (the H2020 Participant Portal).

Outstanding researchers and exceptional results are a good example of what European mobility can achieve by fostering excellence in research in Europe. As illustrated by the following examples, many MSCA projects have great potential in terms of discovering new solutions to various challenges within the EU.

The **Innovative Training Networks (ITN)** calls aim to enhance the creative and innovative potential of early-stage researchers by creating opportunities for cross-border and cross-sector mobility and encouraging them to broaden or deepen their skills by means of mobility, by opening attractive career opportunities in universities, research institutions, research infrastructures, businesses, SMEs and other socio-economic groups all over Europe and beyond. This is illustrated by the **Photo4Future project**, a highly innovative training network that tackles the challenges associated with photochemistry with the aim of overcoming the current limitations on the applicability and scalability of photochemical transformations. The project has already developed an artificial leaf that can act as a minifactory for producing drugs, an advancement that could allow medicines to be produced anywhere there is sunlight. Due to the high degree of participation from industry and involvement of researchers from different countries, this project will provide an innovation-friendly environment in which to turn scientific results into products or services that will benefit European economies.

The objective of the **Individual Fellowships (IF)** calls is to enhance the creative and innovative potential of experienced researchers wanting to diversify their individual competence in terms of skill acquisition at multi- or interdisciplinary level through advanced training, international and cross-sectoral mobility. **Art and Brain** is an example of a project focused on the behavioural impact of key regions of the brain when healthy individuals engage in art – in particular, how does activity in the brain, and thus the use of specific regions, contribute to the emotional or evaluative experience. The project has already produced several papers for causative studies and contributed to advancing the career of the mobile researcher who, in 2016, was awarded the Alexander Gottlieb Baumgarten Award for Outstanding Contributions of Young Scientists at the International Association of Empirical Aesthetics²².

The **COFUND** scheme aims at stimulating regional, national or international programmes to foster excellence in researchers' training, mobility and career development, spreading the best practices of MSCA. The EU added value may be illustrated by the **SMART LOIRE VALLEY** project whose mission is to build the human capital for research, development and innovation in the Central Region of France by attracting senior foreign researchers. The programme is designed to support the regional implementation of the EU smart specialisation concept and aims to fund 48 researchers.

The **RISE** scheme promotes international and inter-sector collaboration by supporting joint research or innovation projects carried out through staff exchanges and networking activities between research and business organisations. RISE involves organisations from the academic and non-academic sectors (in particular SMEs), based in and outside Europe. The **TraSaCu** project aims to develop an approach in road traffic safety research and accident prevention by exploring the cultural elements that can easily be changed to improve road safety in the traffic system under investigation. With the participation of two American partners with leading experience in traffic safety culture – the Montana State University and the Virginia Polytechnic Institute – the project represents a good example of EU-US collaboration under this scheme. It has produced several dissemination activities for the general public to raise the awareness around traffic safety. The project was presented to the public at the Long Science Night in Vienna in April 2016 and also participated in the EU Open Doors Day 2017.

²² REA has ensured that the research project is being conducted according to the highest ethical standards.

REA key achievements in 2017

By the end of the year, the grant agreement preparation (GAP)²³ had been finalised for two of the four 2017 calls under MSCA (ITN and RISE). All 207 grants for these two calls were signed on time. For the other two calls (IF and COFUND), evaluations were finalised in January 2018.

4 calls (budget: €900.65m)

11,214 proposals submitted

1,576 proposals main listed

14.2% success rate

The number of proposals submitted to the 2017 calls (11,214) increased by 93 compared to the 2016 calls (11,121); 1,576 proposals were included in the main list (including the IF and COFUND calls for which evaluation procedure was completed in January 2018). The overall success rate for all MSCA 2017 calls was at 14.2 %²⁴, which is higher than for the 2016 calls (13.2 %); however, oversubscription remains an issue. Maintaining the high quality of evaluations despite the constantly increasing number of proposals is a challenge for the MSCA calls that was managed successfully in 2017. The grants for the IF and COFUND calls are expected to be signed by mid-May 2018 at the latest.

However, as shown by the success rate, there were still a lot of proposals which met the H2020 criterion of excellence that could not be funded. Therefore, as announced by Commissioner Tibor Navracsics during celebrations of the 20th anniversary of the MSCA on 29 November 2016, as of early 2017 the MSCA started awarding the 'Seal of Excellence' to all proposals for the IF call achieving a score of 85 % and above. This enables the applicants to encourage other funders, at national or regional level, to finance their projects. It also contributes to further strengthening the MSCA as a benchmark for how nations and regions can keep, attract and develop the best research talent. In total, REA delivered 2328 'Seals of Excellence' to non-funded proposals from 31 different countries in 2017. It is still early to assess the exact impact, but so far, a total of 40 proposals found alternative funding thanks to the 'Seal of Excellence'.

Overall, REA signed 1,480 MSCA grants in 2017 (for 2016 and 2017 calls). At the end of 2017, the portfolio of MSCA projects managed by REA totalled 5,421 projects, of which 4,181 were H2020 and 1,240 were FP7.

1,480 grants signed

5,421 running projects

In terms of execution of the budget planned for payments for 2017, 3,603 payments were processed during the year and REA executed 100 % of its budget for H2020 (EUR 784.58 million) and for FP7 (EUR 108.72 million).

1.2 Excellent Science - Future and Emerging Technologies (FET-Open)

Contribution to achieving the Commission's objectives

DG CNECT has delegated to REA the management of the H2020 Future Emerging Technologies – (FET)-Open actions.

In managing the FET-Open actions, REA is helping DG CNECT to contribute to the Commission's overarching general objective 1 'A New Boost for Jobs, Growth and Investment'. Through the FET-Open actions, the Commission aims to supporting the early stages of joint science and technology research for radically new future technological possibilities through a multi-disciplinary approach, which can sow the seeds

²³ GAP for the proposals on the main list.

²⁴ It should be noted that this is an average rate for MSCA and there is a high variance between the calls, ranging from 7.4 % for ITN, 15 % for IF, 16.9 % for COFUND and up to 24.9 % for the RISE call.

for future industrial leadership and for tackling society's grand challenges in new ways.

The objective of FET-Open is to fund novel ideas selected from bottom-up calls open to all fields of science in order to build up a diverse portfolio of targeted projects. Early detection of promising new areas, developments and trends, along with attracting new and high-potential R&I players, will be key factors.

The FET-Open scheme is part of the pilot phase of the 'European Innovation Council' (EIC)²⁵ which aims to develop and scale-up ground-breaking, high-risk, high-gain innovation, able to create future markets and boost prosperity in Europe.

Examples of EU added value in the projects managed by REA

A programme such as FET-Open could only be launched at European level as such a bottom-up programme aiming to develop radically new future technologies needs a critical mass of potential applicants to function. Furthermore, as the research funded is so innovative, there might only be a very limited number of specialists in the field at the national level. The EU added value of the programme, as well as the ground-breaking character of the research projects funded, are illustrated by the example below.

The **SUPERTWIN** project aims to develop advanced optical microscope imaging beyond the limit of the minimum separation between two light sources that may be resolved into distinct objects. If successful, the project will propose quantum super-resolution imaging technology opening new possibilities for compact, portable, super-resolution microscope techniques with no moving parts and no requirements as regards the sample's optical properties. The project could have a huge impact on biology, inspection and micro/nano technology with up to a five-fold improvement in resolution over current technological possibilities.

REA key achievements for 2017

1 call (budget: €114.09m)

376 proposals submitted
(January 2017 cut-off)

28 proposals main listed
(January 2017 cut-off)

7.5 % success rate
(January 2017 cut-off)

Of the 376 proposals submitted for the **FET-Open second cut-off** (deadline 17 January 2017), 366 were for Research and Innovation Actions (RIA) and 10 for Coordination and Support Actions (CSA).

As regards RIA, this represents a significant fall of more than 30 % compared with the last cut-off in May 2016 (547 proposals submitted for RIA). Of the 365 proposals evaluated for RIA, 26 were included on the main list which represents a success rate of 7.1 % – significantly higher than that for the May 2016 cut-off of (4 %). For CSA, nine proposals were evaluated and two included on the main list, with a success rate of 22.2 %.

While the success rate for CSA is above REA's average success rate for the 2017 calls (at 14 %), the success rate for RIA remained largely under this average success rate, which may be explained by the bottom-up approach and a low call budget. The overall success rate for all 2017 FET-Open calls was at 7.5 %.

The GAP was finalised in September 2017 with all 28 grants signed on time.

At the time of reporting, evaluations were still ongoing for the **third cut-off of FET-Open-RIA** (deadline 27 September 2017) and the **second cut-off of FET-Open Innovation Launchpad** (deadline 27 September 2017). For the former, 403 proposals had been submitted; for the latter, 54. Evaluations are expected to be finalised in February 2018.

²⁵ COM/2016/0733 final - Europe's next leaders: the Start-up and Scale-up Initiative.

In total, REA signed 47 FET-Open grants in 2017 (call 2016-2017). The portfolio of FET-Open projects managed by REA on 31 December 2017 numbered 123 projects.

47 grants signed

123 running projects

In terms of execution of the budget planned for payments for 2017, 88 payments were processed during the year for a total amount of EUR 70.87 million, thereby spending 100 % of the budget.

1.3 Industrial Leadership – Space and the FP7 predecessor action

Contribution to achieving the Commission's objectives

DG GROW has delegated to REA the management of the 'Space' activity in the H2020 specific objective 'Leadership in Enabling and Industrial Technologies' of 'Industrial leadership'²⁶ and the actions of the Space theme in the FP7 Cooperation Programme.

In managing the H2020 Space activity and the FP7 predecessor action, REA is helping DG GROW to contribute to the Commission's overarching general objective 1 'A New Boost for Jobs, Growth and Investment'. Through this programme DG GROW aims to maintain and build global leadership in enabling technologies and space in order to ensure that space will remain accessible to Europe and safe to operate in the long run, as well as to develop and exploit space infrastructure to meet future EU policy and societal needs.

Europe has an interest in ensuring that its industry continues to thrive in this fiercely competitive market. 'Industrial Leadership' is aiming to speed up the development of technologies and innovations that will underpin tomorrow's businesses across all sectors, including space, and encourage them to invest more in research and target areas where they can work with the public sector to boost innovation.

Examples of EU added value in the projects managed by REA

The exploitation of satellite data plays an important role in a number of sectors directly influencing our lives, such as meteorology, communication, broadcasting, environmental management, navigation and disaster management. Europe has been developing its own satellite infrastructure through the European Space Agency (ESA) and has set up the COPERNICUS Programme – a system for monitoring the earth. This has positioned Europe as a major player in the global market. Over the course of successive H2020 calls, the relevance of earth observation has increased, promoting the development of innovative products and services based on satellite-enabled data. In line with this, since the beginning of H2020, REA has selected and funds around 40 projects on earth observation.

The project **URBANFLUXES** is an excellent example of combining Copernicus Sentinel and other satellite data with conventional meteorological measurements and models. Bringing those methods together has contributed to a better understanding of the warming process in cities. That helps with the decision-making for commercial and public investments in urban areas, to the benefit of the people living there. With this knowledge, the impact of measures aiming to reduce urban heat can be closely monitored and tested in a cheaper and quicker way. The proposed satellite-based approach is expected to be easily transferable to any city.

²⁶ With the exception of the the 'SME instrument', the 'Fast Track to Innovation' full-scale pilot, Galileo-related activities, and projects indirectly managed by third parties.

REA key achievements for 2017

2 calls (budget : €96.76m)

193 proposals submitted

28 proposals main listed

14.7 % success rate

The evaluation of the two 2017 space calls was completed during the first semester (193 proposals submitted and 190 proposals evaluated). Compared to 2016, the number of proposals evaluated increased for COMPET by 37 % (137 in 2017 as against 100 in 2016), while the number dropped slightly for earth observation (53 in 2017 as against 60 in 2016). This gave a success rate of 14.7 % for the call as a whole. By the end of the year, all 28 main-listed grants had been signed before the TTG target.

Further to the H2020 ad hoc calls, three proposals were submitted and evaluated under a Framework Partnership Agreement (FPA) on Space surveillance and tracking (SST). Ultimately, on the request of DG GROW and with a view to simplifying the SST overall, a merged grant agreement 2+3SST was prepared and signed on 12 December 2017. This grant is for one of a set of related SST projects. Together, they aim at a policy objective with a sensitive security dimension – building up a warning service for the protection of satellites from damage or loss due to space debris - with a consortium of Member States that operate in an intergovernmental mode and – certainly until the next EU long-term budget - with a fragmented setup of small actions and multiple funding sources; this complex package requires very close coordination with DG GROW as the relevant policy DG.

In total, 30 grants were signed in 2017 (29 from the 2017 calls and one from the 2016 calls).

30 grants signed

At 31 December 2017, there were 161 running Space projects, out of which 124 were H2020 projects and 37 were FP7 projects.

161 running projects

In terms of execution of the budget planned for payments in 2017, a total of 101 payments were processed in 2017 using all the available payment appropriations (EUR 75.29 million for H2020 and EUR 9.09 million for FP7).

1.4 Societal Challenge 2: 'Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy'

Contribution to achieving the Commission's objectives

DG AGRI and RTD have delegated to REA the management of part of the Horizon 2020 Societal Challenge 2 – Food security, sustainable agriculture and forestry (SC-2), marine and maritime and inland water research and bioeconomy.

In managing part of the H2020 Societal Challenge 2, REA is contributing to the Commission's overarching general objective 1 'A New Boost for Jobs, Growth and Investment'. This scheme is fully embedded in the Commission's vision and also contributes to 'A Connected Digital Single Market' and developing 'A Resilient Energy Union with a Forward-Looking Climate Change Policy.'

The aim of the programme is to support R&I contributing to more productive, sustainable and resource-efficient production while fostering related ecosystem services, recovery of biological diversity as well as competitive and low-carbon supply chains. This will accelerate the transition to a sustainable European bioeconomy, bridging the gap between new technologies and their implementation, and contribute to boosting investment, employment and economic growth in the EU. It will benefit from synergies with actions launched under the Horizon 2020 focus area 'Industry 2020 in the circular

economy' to foster economic, social and environmental prosperity by positioning Europe as a front runner the move to a circular economy and society.

Examples of EU added value in the projects managed by REA

Ensuring a sufficient supply of safe, healthy and high-quality food and bio-based products in the context of scarcity of natural resources and climate change is crucial to Europe's long-term prosperity and well-being. Investments in this societal challenge will enable Europe to take leadership in the markets concerned, providing healthy food products and helping to further develop sustainable land, seas and oceans management and bioeconomy markets. Cooperation at EU level enables these challenges to be tackled in a more efficient way as food security concerns all Member States and solutions are often interdependent.

The innovative character of the research funded under SC-2 in the domain of sustainable food security is illustrated by **TRADITOM**. This project aims to help local farmers to recover forgotten traditional tomato crops and long-lost flavours. Consumers' complaints about the loss of flavour in modern tomatoes provide an opportunity for the valorising traditional tomato varieties. This project is using the DNA from over 1 500 forgotten tomato breeds to create resilient, nutritious and flavour-full varieties.

REA key achievements for 2017

4 calls (budget: €391.25m) - single & two-stage calls	For the single-stage calls , 199 proposals were submitted of which 198 were evaluated and 31 included in the main list. The success rate for the single-stage calls was 15.7 % , significantly lower than in 2016 (28.8 %).
626 proposals submitted	
66 proposals main listed	
21.3 % success rate	
	For the two-stage calls , 427 proposals were submitted of which 421 were evaluated at the first stage. In the second stage, 112 proposals were evaluated of which 35 were included in the main list, corresponding to a success rate of 31.3 %²⁷ , considerably lower than in 2016 (45.3 %). This may be explained by an important increase of 47 % in submissions compared to the 2016 two-stage calls.

The overall success rate for the 2017 calls (single- and two-stage calls together) of **21.3 %** was lower than for the 2016 calls (37.2 %).

By the end of the reporting period, the GAP for the main listed proposals was finalised for the single-stage calls, with all 31 grants on the main list signed within 245 days. For the two-stage calls, the GAP was still running at the end of December 2017.

Overall, 66 grants were signed in 2017 (from 2016 and 2017 calls). At the end of 2017, REA managed a total of 168 running projects under this activity.

66 grants signed
168 running projects

In terms of execution of the budget for payment appropriations for 2017, 111 payments were processed during the year, using 100 % of the budget (EUR 250.08 million).

²⁷ The success rate fell with the introduction of the rule that the projects selected at the end of the first stage may represent around three times, but not lower than two and a half times the available budget.

1.5 Societal Challenge 6: Europe in a changing world - inclusive, innovative and reflective societies

Contribution to achieving the Commission's objectives

DG CNECT and DG RTD have delegated to REA the management of part of Horizon 2020 Societal Challenge 6 – 'Europe in a changing world – inclusive, innovative and reflective societies'.

In managing part of the H2020 Societal Challenge 6, REA is helping DG CNECT and DG RTD to contribute to the Commission's overarching general objective 1 'A New Boost for Jobs, Growth and Investment'. Through its migration related SC6-projects, REA also indirectly contributes to achieving the Commission general objective 8 'Towards a new Policy on Migration'. The programme funds research projects to support EU policies on reducing inequalities and social exclusion in Europe, overcoming the economic and financial crisis, and tackling unemployment, all of which are prerequisites for a sustainable European integration.

Research and innovation can help to overcome prevailing economic instability and ensure that Europe is resilient to future downturns, demographic change and migration patterns. Thus, research performed under Societal Challenge 6 'Europe in a changing world - inclusive, innovative and reflective societies' aims to foster a better understanding of Europe and is addressing these EU-wide issues by exploring new forms of social and technological innovation to tackle them.

Examples of EU added value in the projects managed by REA

Europe is confronted with major socio-economic challenges which significantly affect its common future. These challenges are enormous and call for a common European approach based on shared scientific knowledge which the social sciences and humanities, among others, can provide. They must be tackled together because they interact in complex and often unexpected ways. In a nutshell, the EU added value of this programme involves creating synergies by uniting researchers from all over Europe to solve pan-European issues.

DIGIWHIST, an EU H2020-funded project, brings together six European research institutes with the aim of empowering society to combat public-sector corruption, thereby increasing trust in governments and improving the efficiency of public spending across Europe. The project has already created a unique IT infrastructure whereby open data serve the purpose of transparency, allowing for real-time monitoring of public procurement performance and targeted audits. This project, being carried out simultaneously across 35 jurisdictions, also has the potential to become a valuable source of information and analysis also for policymakers at all levels of government.

REA key achievements for 2017

4 calls (budget :
€110.66m)

745 proposals submitted

30 proposals main listed

9.2 % success rate

For the single-stage calls, a total of 269 proposals were submitted, of which 268 were evaluated and 19 included in the main list. The success rate of the single-stage calls was 7 %.

For the **two-stage calls**, 476 proposals were submitted, of which 475 were evaluated at the first stage. Of the 57 evaluated at the second stage, 11 were included in the main list. This corresponds to a success rate of 19.3 %.

The overall success rate of the 2017 calls (single-stage and two-stage calls) was 9.2 %.

Overall, 26 grants were signed in 2017 (2016 and 2017 calls together). At 31 December 2017, 116 active projects were under management.

26 grants signed

116 running projects

In terms of execution of the budget for payment appropriations for 2017, 64 payments were processed thereby using 100 % of the available budget (EUR 77.59 million).

1.6 Societal Challenge 7: Secure societies – Protecting freedom and security of Europe and its citizens and the FP7 predecessor actions in Security

Contribution to achieving the Commission's objectives

DG HOME and DG CNECT have delegated to REA the management of part of Horizon 2020 Societal Challenge 7 'Secure societies - Protecting freedom and security of Europe and its citizens'.

In managing part of the H2020 Societal Challenge 7 and FP7 Security research, REA is helping DG HOME and DG CNECT to contribute to the Commission's overarching general objectives 1 'A New Boost for Jobs, Growth and Investment', and 7 'An Area of Justice and Fundamental Rights based on Mutual Trust'.

The Horizon 2020 Secure Societies Challenge is about undertaking the R&I activities needed to protect our citizens, society and economy as well as our infrastructures and services, prosperity, political stability and well-being and enhancing the resilience of our society. The primary aims are to foster secure European societies against natural and man-made disasters, fighting crime and terrorism, improving cyber- and border security, and supporting the Union's external security policies through conflict prevention and peace building.

In 2017, a major challenge for REA was the preparation for an extension of its mandate, entering into force on 1 January 2018, to manage Societal Challenge 7 projects generating EU classified information (EUCI). Special trainings for staff have been put in place and REA's infrastructure, including IT systems, upgraded to fulfill the criteria for handling classified information.

Examples of EU added value in the projects managed by REA

In the context of significant transformations, growing global interdependencies and threats, the protection of EU citizens, society and economy is key to its prosperity, political stability and well-being. Therefore, the development of solutions is best tackled at the European level to maximise their efficiency and enhance their impact. The following example of a REA-funded project illustrates this:

Privacy Flag, a project focusing on personal data protection developing an innovative methodology to assess the compliance of various applications and websites with the EU's General Data Protection Regulation and the Swiss Data Protection law. The Universal Privacy Risk Area Assessment Methodology will enable citizens to check whether their rights as data subjects are being respected and help companies to comply with personal data protection requirements. This methodology will be applied through a user-friendly interface delivered as a smart phone application, a web browser add-on and a public website.

REA key achievements for 2017

3 calls (budget : €143.79m)

315 proposals submitted

42 proposals main listed

14.0 % success rate

Evaluations for the three SC7 2017 calls were finalised towards the end of 2017: 315 proposals were submitted to the three calls and 299 were evaluated by REA. This represents a slight increase compared to the 2016 calls for which 277 proposals were evaluated. Of the 42 included in the main list, 32 will be managed by REA²⁸. At 14.0 %, the success rate is at the same level as last year (14.1 % for the 2016 calls). The GAP for the three calls was opened in January 2018 and is expected to close before the end of April

2018.

While no SC7 grant has been signed yet for the 2017 calls, REA signed 19 grants from the 2016 calls.

19 grants signed
(calls 2016)

By 31 December 2017, REA managed a total of 137 running projects under this activity, of which 85 were H2020 projects and 52 were FP7 projects.

137 running projects

In terms of execution of the budget for payment appropriations for 2017, a total of 110 payments were processed during the year, using 100 % of the budget for H2020 (EUR 85.35 million) and FP7 (EUR 45.45 million).

1.7 Specific Objective: Spreading Excellence and Widening Participation (SEWP)

Contribution to achieving the Commission's objectives

DG RTD has delegated to REA the management of the H2020 Specific Objective 'Spreading Excellence and Widening Participation' (SEWP) `.

In managing the H2020 Specific objective SEWP, REA is helping DG RTD to contribute to the Commission's overarching general objective 1 'A New Boost for Jobs, Growth and Investment'. Its aim is to fully exploit the potential of Europe's talent pool and to ensure that the benefits of an innovation-led economy are both maximised and widely distributed across the EU in accordance with the principle of excellence.

Despite a recent tendency for a convergence in the innovation performances of individual countries and regions, differences among Member States and Associated Countries remain. SEWP projects are targeting those countries that are low performers in terms of R&I, with a view to widening participation in Horizon 2020 and contributing to the realisation of the European Research Area (ERA), by 'Teaming' excellent research institutions with lower-performing counterparts to create or upgrade centres of excellence, and 'Twinning' institutions through staff exchanges, expert visits and training courses. The 'ERA Chairs' action is also bringing outstanding researchers to universities and research organisations in the targeted countries to help them attract and maintain high-quality human resources and to implement the structural changes necessary to achieve excellence on a sustainable basis.

Examples of EU added value in the projects managed by REA

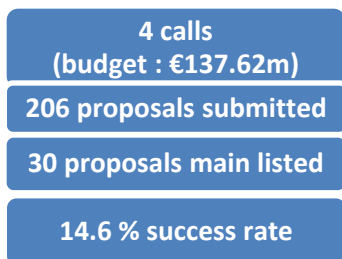
The targeted support provided through strong cooperation between the Member States can clearly be considered as an EU added value. By connecting pools of excellence, the joint activities launched under this objective enhance institution building/networking and

²⁸ The other 10 projects will be managed by the parent DGs due to their specific policy relevance and/or the security classification.

learning from the experience of advanced partners, and promote synergies with the European Structural and Investment Funds.

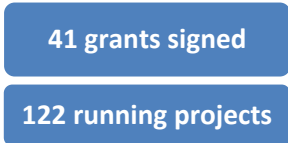
This is fully reflected by the H2020 project **ANTARES** which is focusing on a new European Centre of Excellence for the development of advanced technologies in sustainable agriculture and food security in Serbia – the BIOSENSE INSTITUTE (BIOS) – with the aim of boosting economic growth in the region. BIOS has teamed up with the Stichting Wageningen Research in the Netherlands and the Serbian Ministry of Education, Science and Technological Development to develop innovative agricultural solutions to produce more food with fewer resources. This project will help agriculture which, as one of the most promising economic sectors in Serbia, is in urgent need of innovations.

REA key achievements for 2017



A total of 206 proposals were submitted and all were evaluated for the WIDESPREAD-04-2017 Teaming – Phase 1 call. 30 projects included on the main list, generating a success rate for this call of 14.6 %. Two other calls (WIDESPREAD-03-2017 ERA chairs and WIDESPREAD-05-2017 Twinning) were still under evaluation at the end of the reporting period²⁹.

In 2017, 41 grants were signed from the 2016 and 2017 calls. Out of these 11 projects resulted from the politically sensitive Teaming call (WIDESPREAD-01-2016-2017-Teaming Phase 2). Launch events were attended at a high political level by presidents of state, ministers, ambassadors, the Director-General of DG RTD and other high level representatives (i.e. university presidents/rectors). The projects are being monitored in a coordinated manner ensuring a harmonised implementation.



REA managed 122 SEWP projects at the end of 2017.

In terms of execution of the budget for payment appropriations for 2017, 121 payments were processed during 2017, using 100 % of the budget (EUR 80.98 million).

1.8 Specific Objective: Science with and for Society (SwafS)

Contribution to achieving the Commission's objectives

DG RTD has delegated to REA the management of the H2020 Specific Objective 'Science with and for Society' (SwafS).

In managing the H2020 Specific objective SwafS, REA is helping DG RTD to contribute to the Commission's overarching general objective 1 'A New Boost for Jobs, Growth and Investment'.

The aim of SwafS is to develop innovative ways to build effective cooperation between science and society, to recruit new talents, to build capacities and to pair scientific excellence with social awareness and responsibility. It supports projects along the following activity lines: attractiveness of scientific careers, gender equality, integration of citizens' interests and values in R&I, formal and informal science education, accessibility and use of research results, governance for the advancement of responsible R&I and promotion of an ethics framework for R&I, anticipation of potential environmental, health

²⁹ The results for the fourth call from REA's AWP 2017, WIDESPREAD-1-2016-Teaming Phase 2, were included in last year's AAR.

and safety impacts, and improved knowledge in science communication.

Examples of EU added value in the projects managed by REA

The strength of the European science and technology system depends on its capacity to harness talent and ideas. This can only be achieved if a fruitful and active dialogue between science and society is developed to ensure the responsibility of science and to enable the development of policies more relevant to citizens. Improving the cooperation between science and society in all Member States is becoming increasingly crucial. Research impacts society as a whole and there is a need for European cooperation to promote participation in all Member States, which can only be initiated at the European level.

For instance, the **PERFORM** project is investigating the effects of the use of innovative science education methods based on performing arts to foster young people's motivation and engagement with science, technology, engineering and mathematics (STEM) in selected secondary schools in France, Spain and the United Kingdom. It aims to explore a creative, participatory educational process for experiencing science through performing arts and thus perfectly matching the objectives of SwafS.

REA key achievements for 2017

1 call (budget: €58.42m)

216 proposals submitted

23 proposals main listed

10.6 % success rate

216 proposals were submitted to the SwafS-2017 call and have been evaluated. Of these, 23 proposals were included on the main list. At 10.6 %, the success rate was considerably lower than in 2016 (16.2 %). While the number of proposals on the main list remained stable (23 in 2017 as against 22 in 2016), the number of proposals evaluated in 2017 rose by 60 % (216 in 2017 as against 136 proposals in 2016).

The GAPS for the proposals from the SwafS-2017 call were on-going at the time of reporting.

In 2017, 21 SwafS-grants were signed by REA (from the 2016 call), all of them on time. At 31 December 2017, there were 65 running projects.

21 grants signed

65 running projects

In terms of execution of the budget for payment appropriations for 2017, 45 payments were processed in 2017, using 100 % of the budget (EUR 40.08 million).

1.9 FP7 - Capacities Specific Programme – Research for the benefit of SMEs (RSME)

Contribution to achieving the Commission's objectives

DG RTD has delegated to REA the management of the 'Research for the benefit of SMEs' scheme in the FP7 Capacities Programme.

In managing the FP7 RSME actions, REA is helping DG RTD to contribute to the Commission's overarching general objective 1 'A New Boost for Jobs, Growth and Investment'.

The 'Research for the benefit of SMEs' scheme targets the development of close-to-market innovations through the support of small groups of innovative SMEs or SME associations, which lack (sufficient) research capacity and are given the opportunity to subcontract research to RTD performers in order to acquire the necessary technological knowledge. The projects funded aim to create new knowledge and produce results with clear potential to improve or develop new products, processes or services for those SMEs

taking part.

Examples of EU added value in the projects managed by REA

Besides enhancing the economic benefits and competitiveness of SMEs, the development of close-to-market innovations improving or creating new products and processes is also beneficial for the consumers. In the long run, it strengthens the EU's economy and its competitiveness at the global scale.

A good example of the close-to-market innovations contributing to the development of new products and services is the **LYNCEUS** project which has demonstrated ultra-low-power wireless body area network technologies for enabling unobtrusive localisation and tracking of people for on-board and overboard search and rescue, as well as for safe evacuation of ships during an emergency. The LYNCEUS novel technology has been transferred into SME-driven market segments for smoke-alarm/fire-detection systems, lifesaving equipment and assistive search-and-rescue equipment, aiming to generate a high societal and market impact for European SMEs in the near future.

REA key achievements for 2017

In total, 107 SME projects were closed in 2017 and 107 were still running at the end of the year for an amount still to be paid of EUR 17.91 million.

In terms of execution of the budget for payment appropriations for 2017, 104 payments were processed during the year for a total amount of EUR 14.54 million, using 100 % of the budget.

107 SME running projects

100 % payment execution

1.10 Activity – Administrative and Logistical Support Services

Contribution to achieving the Commission's objectives

The Commission has delegated to REA the management of its administrative and logistical support services. By providing support services, REA is helping the Research family to achieve the H2020 programme objectives and thereby contributing to the Commission's overarching general objective 1 'A New Boost for Jobs, Growth and Investment'.

REA's role as service provider of administrative and support services comprises:

- Call planning (and publication)
- Contracting and payment of expert evaluators and related activities
- Logistical support for evaluations
- Validation of the existence and status of legal entities (beneficiaries), the LEAR, and the financial capacity assessment (FCA).

Centralising these services at REA contributes to synergies, economies of scale and simplification for programme participants.

The Agency's delegation act outlines the list of support services and beneficiaries of the services provided by REA. Details of the scope and targets for this activity are set out in the 'Rules for the administrative and logistical support services provided by REA for

H2020 and certain other programmes³⁰.

Some of the tasks delegated to REA, notably for call planning, participant validation, and the verification of financial capacity, were extended beyond Research family's programmes to include other programmes (such as COSME, ERASMUS+, etc.). The REA mandate was revised in 2016 and programmes managed by DG AGRI, DG HOME (AMIF, ISFP, ISFB)³¹ and DG JUST were also included.

During the second semester of 2017, the Commission delegated to REA all legal and financial validations of legal entities participating in grant and procurement actions under direct management in the context of setting up a Single Electronic Data Interchange Area (SEDIA). This provides applicants, candidates and tenderers with a single entry point to communicate and exchange information in relation to procurement and grant procedures managed by the Commission services (including executive agencies and joint undertakings). Major challenges were the harmonisation of business processes and the adaptation of IT tools. These were well underway at the end of 2017 and transitional solutions put in place, where needed. Moreover, resources were engaged to substantially reinforce the responsible REA unit to manage the extra workload of the SEDIA project.

REA key achievements for 2017

Major highlights and workload indicators related to the provision of the **evaluation support services** for H2020 and certain other programmes in 2017 are detailed below:

Global Planning 2018-2020 completed

7,063 experts supported on site

7,900 requests received by RES

- REA coordinated the global planning exercise of call deadlines for the 2018-2020 H2020 Work Programmes, as well as the evaluation dates for 353 calls for proposals;
- REA provided logistical support to on-site H2020 evaluation activities, involving 7,063 experts. The experts assisted the Commission in evaluating the proposals;
- REA initiated a remodelling of the H2020 evaluation facilities to enable:
 - the ERCEA evaluation platform to be hosted in the same building,
 - the building to host an increased number of experts at any given time (from 580 to 1050, extending the maximum capacity to 700 for H2020 evaluations and 250 experts for ERCEA),
 - the creation of 26 new polyvalent meeting rooms.
- The **Research Enquiry Service** – RES³² responded to more than 7,900 requests for information from the public, 44 % of which were answered directly by the external service provider, EUROPE DIRECT Contact Centre; 94 % of the questions were answered within 15 working days.

As regards **the contracting and payment of experts** and related activities, support services were offered to REA units and to the Research family. Contracting and payment of expert evaluators (for H2020 as a whole) and monitors (for REA-managed actions only) was effective, and performance in terms of paying experts on time was also

15,700 expert contracts

21,700 payments to experts, for €51.55m

³⁰ A revised version was approved by the REA Steering Committee on 28 February 2017.

³¹ AMIF – Asylum, Migration and Integration Fund; ISFP – Internal Security Fund – Police; ISFB – Internal Security Fund - Borders and Visa.

³² The RES is the single entry point for questions on research, via the web or by telephone. REA coordinates the service provided by an external contractor in cooperation with DG COMM under the umbrella of the EUROPE DIRECT Contact Centre (EDCC).

very good.

- 2017 saw the roll-out and implementation of the revised H2020 expert model contract with modified payment modalities. This generated important changes in managing the contracting of and payment to experts.
- More than **6,100 legal entity files (LEF)** and **5,600 bank account files (BAF)** for experts were processed in 2017;
- **More than 15,700 expert contracts** and **740 amendments were signed** (evaluators and monitors) in 2017, representing an increase of 20 % in the number of contracts (13,100 contracts last year). This increase was primarily due to the need to reissue all the expert contracts relating to the SME Instrument when the revised model contract entered into force in April 2017;
- **98.7 %** of expert contracts were countersigned by REA in less than 10 calendar days from the date of sending the contract to the expert;
- Some **21,700 payments** were made to experts for a total of **EUR 51.55 million** (an increase by 21 % compared to 2016, partly linked to the introduction of the new payment modalities in the revised model contract);
- **99.1 %** of payments were made within 30 days; the average time to pay was **10.5 days**, compared to an average of 12 days in 2016. This positive result was partly due to the efficiency gains generated by implementation of the COMPASS payment workflow.

The figures above include both expert evaluators and monitors for the programmes delegated to REA and expert evaluators for other parts of H2020 where REA is supporting other H2020 implementing bodies.

In 2017, REA **validation services** validated the legal status of almost 7,800 entities, which represents an increase by 6.3 % compared to the previous year. In addition, REA validated more than 8,900 LEAR extended mandates and processed 16,700 change requests submitted by the LEARs.

7,800 entities validated

8,900 LEAR extended mandate validated

1,300 FCA requests completed

Unlike FP7, the SME status in H2020 is attributed on the basis of a self-declaration. For the specific H2020 SME Instrument, in which SME status is an eligibility criterion, the entities are requested to further confirm their SME status via the online self-assessment tool³³. The REA validation services only provide assistance and validate the SME status of the entities which filled in the self-assessment tool if specifically requested to do so by the entity. In 2017, 24 requests to assess SME status were received within the framework of H2020. In addition, in order to verify the reliability of the SME status self-assessment tool, REA implemented sample-based ex-post checks where self-declared SMEs were required to submit documents proving their SME status.

During 2017, REA gave support to the financial capacity assessment (FCA) via the responsible authorising officers for both H2020 and non-H2020 programmes. The FCA follows the specific validation rules of each EU body. REA's role is limited to providing relevant data in a structured format, extracted from the participants' (certified) financial statements. REA supported 1316 assessments.

³³ Since 2014, SME status has been based on an SME self-declaration. For schemes where SME status is an eligibility criterion, this self-declaration requires the completion of a web-based questionnaire. The questionnaire, developed by DG DIGIT in cooperation with and under the guidance of REA, is accessible via the Beneficiary Register on the Participant Portal. At the end of the questionnaire, the entity obtains a result that either confirms or rejects its self-declared SME status.

Finally, REA remains active in the **governance of the common IT tools** used by the support services, in particular PDM/Participant Register (SEDIA) and EMPP/EMI for which it plays a leading role. As part of this process, REA worked closely with RTD and operational units to support the development of the eExperts platform and revise the payment and project monitoring workflow, both scheduled for release in mid-2018.

REA has been entrusted by the Grant and Procurement Steering Board (GPSB) to be Business Process Owner (BPO) for the Participant Register (SEDIA), Expert management (EMPP/EMI) and for the H2020 submission and evaluation systems (SEP Submission and Evaluation). REA also provides Business Process Managers and deputy BPOs (BPM) for all three business domains.

2. ORGANISATIONAL MANAGEMENT AND INTERNAL CONTROL

This section answers to the question *how* the achievements described in the previous section were delivered by the Agency. This section is divided in two subsections.

The first subsection reports the control results and all other relevant information that support management's assurance on the achievement of the financial management and internal control objectives. It includes any additional information necessary to establish that the available evidence is reliable, complete and comprehensive; appropriately covering all activities, programmes and management modes relevant to the Agency.

The second subsection deals with the other components of organisational management: human resources, better regulation principles, information management and external communication.

2.1 Financial management and internal control

Assurance is an objective examination of evidence for the purpose of providing an assessment of the effectiveness of risk management, control and governance processes.

This examination is carried out by management, who monitors the functioning of the internal control systems on a continuous basis, and by internal and external auditors. Its results are explicitly documented and reported to the Director. The reports produced are:

- the bi-annual reports submitted by the Heads of Unit and endorsed by their Head of Department, in their capacity as Authorising Officer by Sub-Delegation (AOSD);
- the opinion on the state of control of REA's Internal Control Coordinator (ICC);
- the outcome of activities of the ex-post audit function and fraud prevention measures;
- the limited conclusion on the state of control and the observations and recommendations reported by the Internal Audit Service (IAS);
- the observations and recommendations reported by the European Court of Auditors (ECA);
- the observations and recommendations reported by DG BUDG (in the context of the validation of the local accounting systems by the Commission's Accounting officer);
- the observations deriving from the assessment performed on the effectiveness of internal control in REA;
- the report on REA's risk-assessment exercise.

These reports are derived from a systematic analysis of the evidence available. This approach provides sufficient guarantees as to the completeness and reliability of the information reported and results in a complete coverage of the budget delegated to REA's Director.

This section reports the control results and other relevant elements that support management's assurance. It is structured into (a) Control results, (b) Audit observations and recommendations, (c) Effectiveness of the internal control system, and resulting in (d) Conclusions as regards assurance.

2.1.0 Control environment

Effective control provides reasonable assurance to the REA management as regards achieving the Agency's operational and financial objectives. Control includes all the measures taken by management and staff to ensure that:

- operational activities are effective and efficient;
- the regulatory and legal requirements are met;
- assets and information are safeguarded; and
- financial and other management reporting is reliable.

2.1.0.1 Budget implementation in 2017

REA's first Key Performance Indicator targets full implementation of the budget entrusted to it in a given year. As detailed in the executive summary of this report, REA achieved this objective with a 100 % execution of commitment and payment appropriations.

In 2017, REA managed financial operations related to FP7 and H2020 grants, expert management and administrative expenditure. To give an idea of the relative weight of each of these operations, Table 1 presents the budget distributed per type of payments made over 2017 compared to 2016.

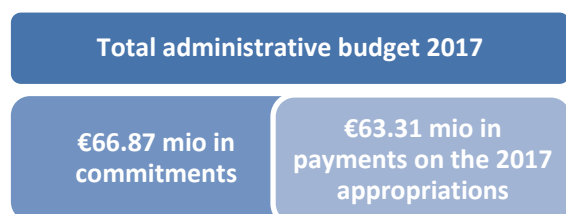
Table 1: Total budget managed by REA in 2016 and 2017 (payments made) (in EUR million)

Operational and administrative expenditure (in € million)	Pre-financing	Payments against cost statements	Total payments related to grant management	Expert payments	Grand total: Operational expenditure	Operating expenditure	Total budget managed
2016	1,106.51	493.88	1,600.39	42.55	1,642.94	59.23	1,702.17
2017	1,101.87	543.75	1,645.62	51.55	1,697.18	66.12	1,763.30

This section 2.1 provides details on the control results for the operational budget, covering 96.25 % of the REA 2017 expenditure³⁴. As for the operating (administrative) budget, the following subsection summarises key information that will feed into the conclusions regarding legality and regularity of the transactions.

2.1.0.2 Operating budget

On 31 December 2017, the total execution of the 2017 operating (administrative) budget amounted to EUR 66.87 million in commitments (100.0 % of the budget³⁵) and to EUR 63.31 million in payments³⁶.



About 90 % of the Agency's 2017 administrative budget is dedicated to costs related to

³⁴ In terms of payments (as opposed to "relevant expenditure" calculated in Table 5).

³⁵ An amount of only €25,009.27 has not been committed at 31.12.2017 representing only 0.04 % of the 2017 Budget.

³⁶ The total amount executed in payments on the 2017 administrative budget is EUR 63.31 million to which an amount of EUR 2.81 million should be added in respect of the payments against the "Reste à liquider" (RAL - outstanding committed amounts) in the 2016 administrative budget.

salaries, building charges, the evaluation platform and various service level agreements for administrative support provided by the Commission's horizontal services (e.g. DG DIGIT for the IT network and related services, DG HR/PMO for salaries and security services, DG BUDG for the use of the Commission's accounting system, OIB for the building infrastructure and movable properties, etc.). The cost of staff going on missions is processed with the help of the PMO and are reimbursed in line with the Commission's rules for reimbursement of mission costs.

The remaining 10 % were devoted to expenditure for ex-post audits, the purchase of IT equipment and services, the organisation of training, etc. Most of this expenditure is incurred by using framework contracts made available by the Commission.

As regards legality and regularity, the Agency considers that risks concerning the implementation of its administrative budget are low. Furthermore, for several years now, the European Court of Auditors (ECA) has given a positive opinion on the execution of REA's administrative budget without any comment. For these reasons, REA's Director, in his capacity of Authorising Officer, did not express any reservation on the matter.

2.1.0.3 The control system underlying the implementation of REA's operational budget

In 2017, REA operated under a mandate that entrusted it with:

- the implementation of some 20 % of the Horizon 2020 Framework Programme;
- the management of the legacy of some 13 % of the Seventh Framework Programme (2007-2013);
- the provision of administrative and logistical support services to EU bodies implementing H2020 and other selected programmes, including, in particular, the contracting and payment of independent experts and the validation of programme participants.

Operations of the two first items are implemented under the "direct grant management" control system, detailed in Annex 5 of this report, and amount to EUR 1,645.62 million paid in 2017.

Operations of the third item, the "support services", are manifold, and detailed under section 1.10 from an operational point of view. This section will focus on those aspects that have an impact on the declaration of assurance.

2.1.0.3.1 The grant management life-cycle

The control system in place at REA, applicable to both framework programmes, is structured in line with the internal control template in Annex 5 and relates to four distinct stages. Key internal control indicators have been defined for each of the following stages:

- (a) Programming of the calls, evaluation and ranking of proposals (stage 1)
- (b) Selection of proposals and conclusion of grant agreements (stage 2)
- (c) Monitoring of the grant agreement execution (stage 3)
- (d) Ex-post controls and recoveries (stage 4)

In 2017, stages 1 and 2 were implemented exclusively for the H2020 programme, while transactions of stages 3 and 4 were carried out for both H2020 and FP7 programmes.

An important aspect of REA's control system for grant management is the fact that most of it is designed at the level of the Research and Innovation Family. Since 2014, the Common Support Centre (CSC) has ensured the consistent and uniform treatment of all

beneficiaries and the coherent implementation of the Framework Programme by providing common services for legal support, ex-post audit, IT systems and operations, business processes and programme information and data to all research DGs, executive agencies and joint undertakings implementing Horizon 2020.

As a consequence, for its H2020-related transactions, REA relies and depends on:

- common streamlined, harmonised and rationalised business processes;
- common training and improved documentation linked to programme and project implementation;
- a single set of common IT tools to be used by all implementing services and all participants;
- a common interpretation of the single set of rules and a common control strategy;
- a common audit service delivering feedback on the legality and regularity of the financial transactions;
- the consolidation and dissemination of results and data generated by projects managed by different actors.

While the coordination of these processes remains a collaborative process in which REA participates actively, responsibility for the overall design and set-up of the control systems is shared among all members of the Research and Innovation family.

2.1.0.3.2 Inherent risks to REA's grant management operations

Beyond the standard risks and mitigating actions summarised in Annex 5, some specific considerations are listed below relating to the different specific programmes implemented by REA. These considerations will affect the targeted control measures it implements on a daily basis and are relevant to the monitoring of error rates in the underlying payments.

Risk profiles in FP7 operations

REA manages the FP7 People Specific Programme, the Space and Security themes under the Cooperation Specific Programme and the Research for the benefit of SMEs under the Capacities Specific Programme.

As pointed out in the previous AARs, as regards the **FP7 People Specific Programme**, of REA, most recurring errors detected for other FP7 specific programmes (e.g. wrong calculation of hourly and overhead rates, absence of time-recording systems) have very little relevance for the mobility grants which use much simpler financing modalities, i.e. largely based on the use of unit costs.

For the grants under the **Space and Security** themes of the FP7 Cooperation Specific Programme, the standard FP7 financing modalities apply. REA considers that the intrinsic risk for these schemes is similar to other schemes under the Cooperation Specific Programme.

Under the **Research for the benefit of SMEs** scheme (RSME) from the FP7 Capacities Specific Programme, the SMEs receive EU funds to reimburse RTD performers for research and demonstration activities outsourced to them. In return, the SMEs acquire the ownership of any commercially exploitable project results. The inherent risk of the SME scheme is significantly different from the other schemes under the Cooperation Specific Programme, mainly due to two reasons:

- Such SME actions do not have many SME beneficiaries participating more than once, therefore their participation is more prone to errors.
- The complexity of the rules can be difficult for small companies to apprehend.

The combination of these two factors explains this programme's higher risk profile compared to other programmes. Indeed, being one-time participants, the vast majority of SMEs do not benefit from the learning effect of multiple participations and often lack the administrative resources to deal with the complexity of the rules. The higher risk has been confirmed by ex-post audits and has resulted in an error rate higher than the representative error rate calculated at the Research and Innovation family level.

More specifically, a major risk identified in the SME actions was – as reported in previous AARs – the risk of SMEs not recording the RTD performers' invoices in their accounts. This risk results from the fact that SMEs often mandate the project coordinator to use their share of the grant to pay directly, on their behalf, the RTD performer for the agreed prices. It appeared from desk-audit campaigns launched by REA in 2014 and 2015 that this risk had a high prevalence with a financial exposure of more than 10 %. Therefore, REA decided that, as of 1 January 2015, specific additional ex-ante controls would be systematically performed to ensure the appropriate registration of RTD performers' invoices in the SMEs' accounts, before making any final payment. These measures allowed for a reduction in financial exposure: in the 2016 AAR, REA estimated the detected error rate at 6.28 % for this segment of the programme.

In addition, the current economic climate drives many SMEs into bankruptcy. The SME actions managed by REA have been particularly impacted during the past few years (142 bankruptcies of SME beneficiaries of the specific SME actions from a total of 233 bankrupt entities related to actions financed by REA since 2010). With 25 new bankrupt SMEs in 2017 the number of bankrupt entities is in the same range as in 2016 (24 bankrupt entities). Although there is no direct financial loss for the EU budget as a result of interventions by the Participant Guarantee Fund, there may be an indirect impact since projects might not deliver on all expectations because of defaulting partners in the consortia.

As a consequence, even considering the significant mitigation of the risk related to the registration of RTD invoices, REA considers that the intrinsic risk of the Research for the benefit of SMEs action remains high due to its specificities, as highlighted above. Therefore, REA calculates an error rate specific to the Research for the benefit of SMEs actions.

In this context, it should be noted that the risk profile of the schemes has not changed over time as the rules governing the FP7 People Specific Programme and the SME actions have not been altered over the same period.

Risk profiles in H2020 operations

Compared to FP7, the rules for Horizon 2020 have been considerably simplified via:

- a single funding rate per action, identified in the call for proposals;
- a flat rate for indirect costs;
- simplified time recording and greater use of beneficiaries usual accounting practices;
- more flexible rules for third parties and subcontracting;
- simpler and clearer rules for calculating productive hours (and personnel costs);
- extended use of unit cost model (MSCA).

This should result in a lower rate of error in cost declarations.

However, even with simplified rules, the inherent risk of overcharging of costs will always remain in a system that is based on the reimbursement of actual costs. Furthermore, the legislative process added additional risks of error (more SMEs, widening, costs of large infrastructures). Although the risks arising from these three new elements cannot be avoided, the Commission and REA are taking action to mitigate them through guidance,

training and a risk-based ex-ante control strategy.

At the same time, the burden of control must be balanced against the need to assure wide participation and an attractive programme, all within the overriding demand to attain the objectives of excellent science and competitive industries.

For this reason, Article 23 of the Horizon 2020 Regulation explicitly states that:

"The control system shall ensure an appropriate balance between trust and control, taking into account administrative and other costs of controls at all levels, so that the objectives of Horizon 2020 can be achieved and the most excellent researchers and the most innovative enterprises can be attracted to it."

It also states that audits of expenditure shall be carried out in a coherent manner *"to minimize the audit burden for participants"*.

Spending on Horizon 2020 (other than pre-financing) began slowly in 2015, increased in 2016 and reached a significant level in 2017, when the level of error and the real impact of the simplification measures can be assessed.

In the meantime REA, in cooperation with the Research and Innovation family, continues its efforts to prevent errors:

- Improvements in ex-ante controls before payment: REA actively participated in the various workshops which resulted in the adoption of a common Ex-ante Control Strategy at the level of the Research and Innovation family. That strategy is designed according to four directing principles:
 - controls must provide reasonable assurance about legality and regularity based on the information available at the time;
 - controls must strike the right balance between less administrative burden for beneficiaries and effective financial control;
 - controls must be risk-based and cost-effective;
 - beneficiaries should be treated equally (FR, art. 135.7).
- In addition, REA established its own working group to elaborate on the ex-ante controls to be performed. Additional guidelines for the checks to be carried out are set out in checklists used for all steps.
- Guidance to beneficiaries and certifying auditors: under H2020 the Participant Portal offers a major improvement in terms of communicating to the beneficiaries and other stakeholders, with comprehensive guidance and clear templates.

As underlined in the previous editions of the AAR, the Marie Curie Actions already had a low risk profile under FP7 and under H2020. The design has been simplified even more with the extended use of unit costs for all the **Marie Skłodowska-Curie Actions**: all cost categories are based on unit costs fixed ex-ante in the H2020 Work Programmes.

The risk profile of the other actions delegated to REA, namely **FET-Open, Space research, Societal Challenges and specific objectives**, does not differ from mainstream collaborative research schemes. For H2020, major simplifications have been introduced compared to FP7 and the overall risk level is expected to be lower than for FP7.

2.1.0.3.3 Support services

The support services represent an important share of REA's activities. They have both a direct and indirect impact on assurance building for REA and for the other bodies they serve.

The direct impact comprises in the implementation of payments to experts for the whole H2020 (except ERCEA experts), amounting to EUR 51.55 million paid from REA's operational budget.

The indirect impact lies in the fact that the support services are important components of the grant management system, thereby contributing to the achievements of all the client organisations' control objectives. Although they do not bear a direct financial risk, there are some risks relating to efficiency and reputation.

The following examples illustrate how the inherent risks to the support services might affect the achievement of objectives, and how REA contributes to their mitigation:

- Poorly organised evaluation sessions or bad performance in terms of Time-To-Pay to experts might discourage experts from working for H2020. This might lower the qualitative outcome of the programme. REA operational indicators (see the fifth KPI in particular) show that REA's performance is high and that the residual level of this risk is considered to be low.
- Validation of the LEAR extended mandate during the grant preparation is another complex issue which may result in delays during this phase. REA has already taken action to simplify the process (see section 2.2.4 Specific efforts to improve 'economy' and 'efficiency' of spending and non-spending activities).
- Under H2020, a major simplification has been introduced regarding the assessment of participants' SME status. This assessment is based on a self-declaration, unlike FP7 where applicants had to provide supporting documents for an ex-ante SME validation by the REA Validation Services.
- In the specific case of the H2020 SME instrument applicants are further assisted by a self-assessment tool available on the Participant' Portal. As SME status is an eligibility criterion, REA provides further assistance to those entities requiring more assurance that their self-assessment has been completed correctly. In July 2017, REA has revised the self-assessment tool and released an improved version providing further simplification and enhanced assistance.
- In addition, since 2015, REA has carried out ex-post checks to verify, on a sample basis, whether the SME status has been declared correctly by the selected applicants. The 2017 ex-post verifications comprised 50 entities funded by the H2020 SME Instrument – Phase 2. The SME status of 49 of the 50 entities was confirmed by REA, with the last assessment being pending, awaiting the provision of additional documents by the entity concerned.

2.1.1 Control results

This section reports and assesses the elements identified by management that support the assurance on the achievement of the internal control objectives³⁷. The REA Director's assurance building and materiality criteria are outlined in Annex 4. Annex 5 outlines the main risks together with the control processes aimed to mitigate them and the indicators used to measure the performance of the control systems.

The first control objective is linked to the legality and regularity of the operations. It is analysed on the basis of the error rates detected by ex-post audits in the main expenditure items (grants). They constitute REA's fourth Key Performance Indicator.

The second control objective includes the cost-effectiveness and the efficiency of the operations. Its achievement is demonstrated by different ratios between the resources for managing the workload and the budget implemented, and indicators on the timeliness of the operations. Of those indicators, Time-to-Grant is of particular interest as REA's second Key Performance Indicator.

The third subsection reports on the controls and their results in relation to Fraud prevention.

The fourth subsection is dedicated to safeguarding of assets and information and the reliability of reporting.

2.1.1.1 Control effectiveness as regards legality and regularity

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

For the Research Framework programmes, the main legality and regularity indicator is the error rate detected by ex-post audits. Because of its multi-annual nature, the effectiveness of the Control Strategy of the Research and Innovation family can only be fully measured and assessed in the final stages of the FP, once the Ex-post Control Strategy has been fully implemented and systematic errors have been detected and corrected.

REA's general control objective for FP7, as stated in Annex 4 to this report, is to ensure for the Seventh Framework Programme 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 FP's management cycle. As for Horizon 2020, the final control objective is to achieve a residual error rate as close as possible to 2 %, without necessarily expecting it to go below 2 %.

Whether or not REA is on track to achieving this objective is assessed annually, in light of the results of the Ex-post Audit Strategy implementation 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.

³⁷ Effectiveness, efficiency and economy of operations; reliability of reporting; safeguarding of assets and information; prevention, detection, correction and follow-up of fraud and irregularities; and adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of programs as well as the nature of the payments (FR Art. 32).

The following subsections include information on the methodology underlying the ex-post audit results for the programmes and activities delegated to REA and disclose detailed indicators regarding the status of the implementation of ex-post audit strategies and audit plans and the results of the ex-post audits per activity.

2.1.1.1.1 Ex-post control methodology

The principal methodology underlying the calculations of the error rates is defined in the Common Audit Strategies for FP7 and H2020 for the R&I family. Where relevant, REA complements the common indicators, in view of a more detailed reporting on the legality and regularity of the operations it manages.

Definitions

The Common Representative Sample (CRS)³⁸ provides an estimate, via a representative sample of cost claims across the R&I family, of the **overall level of error** in the Research Framework Programmes, for all services involved in its management. All of these grants follow the same homogeneous overall control system, which is set out in this report.

Whilst the CRS is thus the basic indicator of legality and regularity for the Framework Programme as a whole, REA also examines all the results of controls in its particular population to confirm whether the error rate detected by the CRS should be complemented by other evidence that may lead to **different conclusions on the error rate**.

The CRS is complemented by 'risk-based' audits, which are selected according to one or more risk criteria. These audits are intended to detect and correct as many errors as possible for instance by targeting the larger beneficiaries and identifying possible fraudulent operators. They are also referred to as 'corrective' audits.

Different indicators are calculated to provide a comprehensive view on legality and regularity:

Representative Error Rate for the Framework Programme: this is the error rate derived solely from the results of the CRS, extrapolated to the overall population and calculated for each FP as a whole. This error rate provides an estimate of the level of error in the given Framework Programme at the time of the audits, but does not factor in the follow-up and corrections/recoveries undertaken by managing services after the audit, nor does it provide information on the net final financial impact of errors.

Specific Detected Error Rate: This error rate is calculated for actions that have a risk profile different from FP7 or H2020 mainstream actions: MCA and SME actions for FP7, and MSCA actions for H2020. For FP7, the specific detected error rate is based on a non-biased selection of transactions³⁹, without this being statistically representative. Nevertheless, it is seen as providing relevant indications on the error rate in the related population. For H2020, the specific detected error rate for MSCA is provided by the Common Audit Service (CAS), based on the CRS and a "second-layer" sample specifically created for this population.

Residual Error Rate: the residual error rate, on a multi-annual basis, is the extrapolated level of error remaining after corrections/recoveries undertaken by the managing services following the audits that have been carried out. The calculation of the residual error rate, as shown in **Annex 4**, is based on the following assumptions:

³⁸ For FP7, CRAS (Common Representative Audit Sample).

³⁹ See more explanations under the next title.

1. all errors detected will be corrected;
2. all non-audited expenditure subject to extension of audit findings is clean from systematic material errors so that the residual error rate can be estimated as equal to the non-systematic error rate.

The residual error rate develops over time and depends on the assumptions set out above. This indicator is reliable and acceptable for the purposes for which it was intended, i.e. as a legality and regularity indicator on the progress made, through the ex-post audit strategy, to deal with errors over a multi-annual basis. However, it remains an estimate as long as not all the cost claims have been received and not all the cases of extension of audit findings have been fully implemented.

Specific Residual Error Rate: The specific residual error rate is calculated using the same formula and assumptions as the Residual Error rate, but is based on the Specific Detected Error Rate, rather than the Representative Error Rate. It is used for MCA and SME actions for FP7, and MSCA actions for H2020.

Error rates following the risk profile of REA's specific programmes

Since the **Representative Error Rate** predominantly reflects the errors encountered in the mainstream collaborative R&I projects, it can be considered as fully representative for the FP7 **Space and Security** themes, and for all H2020 projects except the MSCA actions.

The Research for the Benefit of **SMEs actions** in the Capacities Specific Programme and the **Marie Curie Actions** (MCA) in the People Specific Programme have a **different risk** profile compared to mainstream FP7 projects as explained above. As a consequence, the overall assessment of the risk exposure in terms of legality and regularity in the underlying transactions will be supported by the Specific Detected Error Rates.

The specific detected error rates for FP7 take into account:

- (1) the audits that were part of the CRaS and were financed from the targeted REA managed programmes;
- (2) REA's randomly selected audits launched previously under FP7;
- (3) the audits performed on the strand of top beneficiaries.

Risk-based audits are not taken into account for the calculation of the specific detected error rate as this would introduce a significant bias. By definition, risk-based audits, target high-risk beneficiaries and are launched by the ex-post audit service on the basis of information received from operational units with serious doubts about a beneficiary, the European Anti-Fraud Office (OLAF), the European Court of Auditors or whistle-blowers. Their findings are not representative of the population.

Although the size and composition of the sample do not ensure statistical precision, this error rate gives an indication of the risk exposure in the two populations and represents an important element in assurance building. The inclusion of top beneficiaries in the calculation does not introduce any significant bias which would render this indicator less relevant as demonstrated below.

The **People** Specific Programme is characterised by a high level of participation from universities, both in high-value network grants and in mono-beneficiary fellowships. Funding modalities have remained largely identical to those in FP6, which implies that most beneficiaries have gained a sufficient understanding of the funding rules, independently of their frequency of participation. As a result, a differentiation between error rates for incidental and repeat beneficiaries is no longer expected.

Since the **SME actions** have many non-repeat beneficiaries, the share of the total budget covered by beneficiaries who have been audited for at least one FP7 project is low. For the SME actions, the audits targeting the top beneficiaries include mostly those

selected as an add-on to a random selection⁴⁰. As such, by excluding audits selected on the basis of a risk identification while including audits under the strand of 'top beneficiaries', no significant bias is expected in the detected error rate.

For H2020, the Specific Detected Error Rate takes into account:

- (1) the audits that were part of the CRS and were financed from the REA-managed programmes,
- (2) a second-layer sample of randomly selected audits for MSCA.

Both components are performed by the CAS.

2.1.1.1.2 FP7 results for 2017

Following the state of play of the implementation of the common audit strategy and of the REA audit plan, the results of the FP7 audits are discussed below.

Implementation of the FP7 audit strategy and plan

The R&I family as a whole had a target of 4,056 audit results for FP7. With 4,324 FP7 audits results covering 64.2 % of the programme's expenditure, completed by the end of 2017, this original target was exceeded by 6 %.

The percentage of FP7 expenditure covered by the audits (64.2 %) refers to the value of the participations of the audited beneficiaries. It includes both the fully audited participations (8.4 %), also referred to as the 'direct' coverage, and the non-audited participations which nevertheless, after the full treatment of audit results, are clean from systematic errors (55.8 %), also referred to as the 'indirect' coverage.

REA had a target of 518 audit results for FP7. With 528 FP7 audit results, this target was exceeded by 1.9 %. Once the FP7 audits still open and planned for 2018 are closed (57 audits open at the end of 2017 and 27 new audits planned for 2018), the original target for FP7 audits will have been exceeded by 94.

The common FP7 Audit Strategy agreed at the level of the R&I Family was complemented by REA's ex-post audit plan for 2017/2018. As of 2017, no further random audit samples have been taken by the CAS or REA and all new audits on FP7 are risk based. The REA audit plan is aimed at directing the limited resources for ex-post controls to give maximum impact by considering the specificities of each action managed by REA and by exploiting the experience gained through audit activity in previous years. This foresaw the launch of 42 ex-post audits targetting participations considered as a higher risk.

40 FP7 audits launched in 2017

585 audits launched over the period 2009-2017

1,090 projects covered by audits

40 audits were launched, of which 8 risk-based audits were directed at the SME actions. For details on the audits launched, see Table 3 in Annex 10.

From 2009 to 2017, 585 audits were launched, covering a total of 1,090 projects⁴¹. This is further detailed by programme/theme and presented in Table 2 in Annex 10.

In 2017, 17 risk-based audits were launched for the Space and Security themes in the

⁴⁰ While one cost-claim is selected, an outsourced ex-post assignment can cover up to three participations, each with up to three cost claims, as part of one assignment for which a flat rate fee is due.

⁴¹ For audits performed on different beneficiaries of one project, we count the project audited several times. The number of distinct projects covered by all of our audits is currently 788. It is ensured that projects audited with multiple cost statements are not counted multiple times within one audit.

FP7 Cooperation Programme,

The audits which were finalised by the end of 2017 covered a total of 1,436 audited cost claims from 979 projects⁴². In terms of budget coverage⁴³, REA estimates that 3.4 % of the EU contribution requested by the beneficiaries has been directly audited. However, also according to REA's estimates, some 55.5 % of the budget is covered in total by adding the indirect coverage of 52.1 % through the extension of the audit findings⁴⁴ to the direct coverage of the population actually audited. As regards the SME actions, the indirect coverage is significantly lower than for the other actions due to the fact that many of the SME beneficiaries participating in the scheme are non-repeat beneficiaries in FP7 (for more details see Table 5 of Annex 10).

528 audits finalised
over the period 2009-2017

1,436 cost claims audited
from 979 projects

Audit coverage – 55.5 %

The audit work for FP7 is almost completed. The last CRaS was launched in 2016. By the end of 2017, only 21 audits of the CRaS remained open.

REA spending on FP7 accounted for 10 % of the payments and 58 % of the "relevant expenditure"⁴⁵ in 2017. This share is expected to fall substantially in 2018.

Against this background, a final wrap-up of conclusions on the FP7 audit campaign is presented below and FP7 audits will no longer be covered in detail in future AARs. Future AARs will only continue to report on the implementation of FP7 audit results.

Results of the ex-post audits for FP7

Representative and Specific Detected Error rates

Based on 461 completed audits (95 % of the complete sample of 486 including CRaS 1, CRaS 2 and CRaS 3), the Representative Error Rate is **4.95 %**. The remaining cases are still subject to contradictory procedures with the beneficiaries. Consequently, the Common Representative Error Rate may still develop.

Representative Error Rate
Space & Security: 4.95 %

The detected error rates are based on 121 and 363 cost statements for the SME actions and the People Specific Programme (regarding the Marie Curie Actions) respectively. Details of the audited cost statements can be found in Tables 5 and 6 in Annex 10.

The **specific detected error rate** of the **People Specific Programme** is **1.73 %**⁴⁶, which corroborates REA management's assessment of a low inherent risk for this scheme.

Specific Detected Error
Rate:
SME actions : 6.12 %
MCA (People) : 1.73 %

The **specific detected error rate** determined for **SME actions** is **6.12 %**, which is in

⁴² The desk audits performed in 2014 and 2015 to ensure the RTD performer invoice were properly registered in the bookkeeping and paid by the SME beneficiaries under the FP7 SME scheme are not included in the totals.

⁴³ Audited EU requested contribution per beneficiary vs total EU requested contribution.

⁴⁴ i.e. extrapolation of audit results to non-audit participations of audited beneficiaries; does not include the SME desk audits.

⁴⁵ See Table 3 in the section 2.1.1.1.4.

⁴⁶ Results of the specific error detected in TOP and MUS (including CRaS) audits on costs statements for People are respectively 1.20 % and 4.05 %. 'MUS' audits are audits selected on a random basis to form part of the common representative sample for the Research family DGs. 'TOP' audits are audits of 'top beneficiaries' with a high frequency and value of participations designed to maximise audit coverage by value of the total REA contribution.

line with the 2016 detected error rate (6.28 %).

Residual Error Rates

The Representative Error Rate (for **Space and Security**) and REA's Specific Detected Error Rate (for the **People Specific Programme and SME actions**) are used as a basis to estimate, on a multi-annual basis, the Residual Error Rate – namely, the extrapolated level of error remaining after corrections/recoveries undertaken by the managing services following the audits carried out.

Even though the risk profile of the Space and Security themes is similar, the subpopulations may differ and thus justify calculation of different residual error rates for each theme, as the correction of the systemic errors in the audited population may differ in each subpopulation. Based on the audits completed under the first, second and third CRaS, the residual error rate considered for the **Space** theme is **3.19 %** and **3.54 %** for the **Security** theme.

Residual Error Rates:
Space : 3.19 %
Security: 3.54 %
SME: 5.79 %
MCA (People): 1.55 %

For the **SME actions** and for the **People** Specific Programme (Marie Curie actions – MCA), the residual error rates are calculated at **5.79 %** and **1.55 %** respectively (both based on the detected error rates).

Overview of the FP7 error rates for the period 2009-2017 at 31 December 2017

Table 2 below gives an overview of the calculated error rates for the FP7 specific programmes managed by REA. It is based on the conclusions of the available final audit reports.

Table 2: Overview of the error rates for the period 2009-2017 at 31 December 2017 (based on final audit reports)

Cooperation - Space		Cooperation Security		Capacities - Research for the benefit of SMEs		People - Marie Curie Actions	
Based on the Common Representative audit Sample (CRaS)		Based on the Common Representative audit Sample (CRaS)		REA MUS, CRaS and TOP		REA MUS, CRaS and TOP	
Representative Error Rate	4.95 %	Representative Error Rate	4.95 %	Detected Error Rate	6.12 %	Detected Error Rate	1.73 %
Residual Error Rate	3.19 %	Residual Error Rate	3.54 %	Residual Error Rate	5.79 %	Residual Error Rate	1.55 %

Comments on the results

The Common Representative Error Rate for the Space and Security themes under FP7, calculated on a multiannual basis, is 4.95 %. The Residual Error Rate for REA is 3.39 %.

With one audit still to be completed, the REA Residual Error Rate for the Space and Security themes may still change in 2018. However, as the current rate for these themes is almost identical to that of last year and considering that only one audit remains open, it can be assumed that the final Residual Error Rate will be close to this value.

These results are in line with the conclusions expressed in previous AARs: the Common Representative Error Rate resulting from FP7 audits will be around 5 % at the end of the programme and the residual error rate at around 3 %.

These figures do not necessarily mean that there is a loss to the EU budget. Many of the projects spend more than the project budget, so the real loss to the EU budget will be lower than when estimating the financial impact by using the error rates above.

The reservation in the declaration of assurance for FP7 expenditure is addressed in section 2.1.5.

The R&I Family implementing the Seventh Framework Programme have made continuous efforts to mitigate the risk of error in FP7 expenditure, including:

- a number of simplifications introduced in 2011 (for example accepting average hourly rates without a certificate on methodology, unit costs for owner/managers not receiving a salary, etc.) and modifications to the Model Grant Agreement;
- a major communication campaign targeting beneficiaries and their auditors;
- continuous review of ex-ante control procedures, often based on the results of audits by the Commission auditors as well as those of the European Court of Auditors;
- 528 ex post audits, performed by external or in-house auditors, together with the recovery of overpayments and the extrapolation of systemic errors to unaudited cost claims from the same beneficiaries.

However, it is clear that the 2 % materiality level for the FP7 Residual Error Rate as a whole will not be attained. Nevertheless, the lessons learned from FP7 audits have been used to develop the general framework for the Horizon 2020 programme.

2.1.1.1.3 H2020 results

The state of play regarding implementation of the common audit strategy and the first results of the H2020 audits are presented below.

Ex-post audit plan implementation

For H2020, the CAS is **responsible for designing, drafting and implementing the H2020 Ex-post Audit Strategy** and for undertaking all audits, including those for Executive Agencies. The creation of the CAS was a major step forward in ensuring a harmonised approach and minimising the burden on beneficiaries.

Given the stage of the programme's lifecycle, a limited number of cost claims totalling EUR 4.1 billion of requested funding had been received by the services by the end of 2017. The first Horizon 2020 audits were launched in the middle of 2016 and further audits were launched in 2017. The first Common Representative Sample (CRS), a Common Risk Sample and an Additional Sample⁴⁷ have been selected. In total, by December 2017, 625 participations had been selected for audit, covering all the services signing grants in Horizon 2020.

In addition, for the MSCA, 150 or more participations⁴⁸ will be selected annually for audit (up to 2025), covering both 50 randomly selected participations feeding into a specific detected error rate for this action and risk-based audits selected following a bottom-up approach (i.e. participations identified by project officers as particularly at risk over compliance issues). The 50 randomly selected participations to be audited will allow REA to build a sample over time that will provide reliable indications on the exposure to errors in the MSCA.

⁴⁷ This last sample accommodates special needs of certain stakeholders with regard to audit coverage and selection method. In addition, top-ups, which refer to the participations of selected beneficiaries that are added to the selected participations, are included in the total participations selected.

⁴⁸ 166 in 2018 and 194 in 2019

In total, the audit of 392 participations has been finalised (385 on the 2016 selection of 625 participations and 7 on the 2017 selection). This includes 110 of the 142 selected in the first CRS.

Audit results

The error rates for the H2020 programme overall, at 31 December 2017 are:

The **Common Representative Error Rate** based on 110 out of 142 participations selected in the first CRS is 1.6 %. However, if we take into account the draft audit reports then the expected representative error rate for the full sample will be around 2.82 %.

The **Residual Error Rate for the Research and Innovation family**: 1.44 %, expected to rise to around 2.24 % when the draft audit reports are taken into account.

At 31 December 2017, the error rates for the actions managed by REA are:

The **Common Representative Error Rate** stated above gives a fair view of the legality and regularity of the H2020 transactions concluded by REA in 2017.

H2020

Estimated Representative Error Rate: 2.82 %

As for the MSCA part of the programme, for which a specific control target was set in the AWP 2017, the audit results available do not allow for a reliable conclusion or estimate to be drawn. However, under FP7, the detected error rate for the Marie-Curie Actions has always been lower than the error rate calculated for the mainstream collaborative research (CRaS error rate), which is usually some 2-3 % lower. As the Marie Skłodowska-Curie programme was further simplified under H2020, the detected error rate for these actions is expected to be even lower. The last-known FP7 specific detected error rate is 1.73 %.

The **Residual Error Rate** derived from the CRS for REA is 1.46 %. It must be noted that this indicator is calculated based on the closed audit results and that a REA specific residual error rate taking into account the draft audit results is not available. Therefore, it cannot be considered as conclusive due to the limited number of participations represented in the sample. As a consequence, and following a conservative approach, REA will refer to the Residual Error Rate calculated for the whole R&I Family for the purpose of calculating the amount at risk.

H2020

Estimated Residual Error Rate: 2.24 %

For the **Specific Residual Error Rate for MSCA**, following a conservative approach, REA will refer to the last residual error rate for FP7 in 2017, i.e. at 1.55 %, for the calculation of the amount at risk under the H2020 MSCA programme.

Comments on the H2020 results

The error rates set out above **are only a preliminary estimation and must be treated with caution**. The CRS is not yet complete, and as such is not yet fully representative of the total expenditure of the population. In addition, the first CRS was taken at an early stage of the programme in order to provide an early indication of the error rate and whether the simplifications introduced in Horizon 2020 have been effective. The nature of expenditure in the first years of the programme may not be totally representative of the expenditure across the whole programme. The programme is multi-annual and so are the error rates; especially the residual error rate must be considered over time. In particular, over time, the cleaning effect of audits will tend to increase, thereby further reducing the residual error rates significantly below the representative/detective error rate.

On top of the evidence available from the CRS, only a limited number of audits has been carried out for REA, so it is difficult to draw firm conclusions.

There is nevertheless evidence that the simplifications introduced in Horizon 2020, as well as the increased experience of major beneficiaries, are reducing the number and level of errors made by beneficiaries.

The Model Grant Agreement and its accompanying annotations have been adjusted to introduce simplifications or clarifications on different points. The results of the first audits will be considered in a working group bringing together auditors from the Commission and the European Court of Auditors to see where additional simplifications and clarifications may be needed.

Considerable efforts have been made by the CAS, with contributions from REA, to ensure clear communication of the rules and guidance to participants and their auditors. By the end of 2017, a total of 75 communication events had been organised in 26 different countries with a total of 6,600 participants.

Grants based on lump-sum funding will be piloted in the 2018 work programme to evaluate if this form of deliverable-based funding, which would avoid errors of legality and regularity, would be fit-for-purpose for achieving all the objectives of the research policy.

The Financial Statement accompanying the Commission's proposal to the legislative authority for the Horizon 2020 Regulation states: *"The Commission considers therefore that, for research spending under Horizon 2020, a risk of error, on an annual basis, within **a range between 2-5 % is a realistic objective** taking into account the costs of controls, the simplification measures proposed to reduce the complexity of rules and the related inherent risk associated to the reimbursement of costs of the research 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 %.**"*

The first audit results suggest that the detected/representative error rate will remain within the established range. Together with the experience in FP7, they also suggest that the objective for the residual error rate could be reached by the end of the programme.

In conclusion, REA considers that the overall error rate will fall within the range established in the Financial Statement, so it does not consider that a reserve is needed for Horizon 2020 expenditure.

For the MSCA in particular, the first audit results, from the CRS and other audits, suggest that, over the multiannual period, the residual error rate will be below 2 % as was already the case under FP7.

2.1.1.1.4 Conclusion on the control effectiveness as regards legality and regularity

In the context of the protection of the EU budget, at the Commission's corporate level, the REA's estimated overall amounts at risk and their estimated future corrections are consolidated.

In 2017, based on comments received from the European Court of Auditors (in its Annual Report 2016) and the Internal Audit Service, DG RTD changed the methodology for calculating the estimated amount at risk at closure compared to 2016. Considering that the comments are also relevant for REA, the same approach has been followed.

For grant management expenditure, which accounts for the vast majority of the amount at risk at closure, the **residual error rate has been used in estimating the average rate of correction**⁴⁹ (and thus the risk at closure). The residual error rate is a well-established concept for the Research family (see Annex 4 Materiality criteria) and is considered to be the most reliable method to estimate, both conservatively and reasonably, the corrective effect of audits. This has also enabled harmonisation within this report and across the R&I family.

The error rates estimated for administrative expenditure (0.5 %) and experts related payments have been reviewed in the light of comments from the European Court of Auditors (Annual Report 2016) and in a harmonised way across the Research family. No recoveries are assumed for this expenditure.

For REA, the estimated overall amount at risk at payment for the 2017 payments made is EUR 33.78 million. This is the AOD's best, conservative estimation of the amount of *relevant expenditure*⁵⁰ during the year (EUR 1,400.39 million) not in conformity with the applicable contractual and regulatory provisions at the time the payment is made.

This expenditure will be subsequently subject to ex-post controls and a sizeable proportion of the underlying error will be detected and corrected in successive years. The conservatively estimated future corrections for those 2017 payments made are EUR 5.53 million. This is the amount of errors that the REA conservatively estimates to identify and correct from controls that it will implement in successive years.

The difference between those two amounts leads to the estimated overall amount at risk at closure of EUR 28.25 million.

⁴⁹ The historic corrective capacity, reported by DG BUDG at 1.3 % has been adjusted based on the difference between the relevant Representative/Detected Error rate and the relevant Residual Error/specific residual error rate for the expenditure item. The impact of this change in methodology on the overall figures for the estimated amount at risk at closure is the following: if the corrective capacity of 1.3 %, provided by the central services through corporate reports, was applied without adjustment, the estimated overall amount at risk at closure would amount to EUR 17.14 million, to be compared to EUR 28.31 million declared below.. %

⁵⁰ "*relevant expenditure*" during the year = payments made, minus new pre-financing paid out, plus previous pre-financing cleared.

Table 3: Estimated overall amount at risk at closure in 2017

	Payments made (in 2017; m€)	<i>minus new</i> ¹ prefinancing (in 2017; m€)	<i>plus cleared</i> ² prefinancing (in 2017; m€)	relevant expenditure ³ (for 2017; m€)	Estimated Representative/ Detected Error Rate (%)	Estimated overall amount at risk at payment (2017; €)	Estimated corrective capacity based on the residual error rate ⁴ (%)	Estimated future corrections (for FY; €)	Estimated overall amount at risk at closure (€)	Share of the amount at risk in % of the relevant expenditure
H2020										
Excellent Science - Marie Sklodowska Curie actions	784.58	606.33	126.24	304.50	1.73%	5,267,827	0.18%	548,097.63	4,719,730	
Excellent Science - FET Open	70.87	56.54	0.44	14.78	2.82%	416,683	0.58%	85,700.71	330,982	
LEIT - Space	75.29	54.14	6.89	28.04	2.82%	790,649	0.58%	162,615.85	628,034	
Societal Challenge 2	250.08	188.09	3.50	65.48	2.82%	1,846,627	0.58%	379,802.74	1,466,824	
Societal Challenge 6	77.59	51.45	3.02	29.15	2.82%	821,936	0.58%	169,050.71	652,886	
Societal Challenge 7	88.35	57.12	6.65	37.89	2.82%	1,068,427	0.58%	219,747.32	848,679	
Spreading Excellence and Widening Participation	80.98	63.06	3.14	21.06	2.82%	594,013	0.58%	122,172.94	471,840	
Science with and for Society	40.08	25.30	1.81	16.60	2.82%	467,989	0.58%	96,253.06	371,736	
Total H2020:	1,467.82	1,102.02	151.69	517.49	2.18%	11,274,152	0.34%	1,783,441	9,490,711	
FP7 legacy										
People	108.72	0.05	414.03	522.70	1.73%	9,042,646	0.18%	940,853	8,101,792	
Cooperation - Space theme	9.09	0.00	44.15	53.24	4.95%	2,635,446	1.76%	937,048	1,698,399	
Cooperation - Security theme	45.45	0.00	69.59	115.04	4.95%	5,694,433	1.41%	1,622,051	4,072,383	
Capacities - SME actions	14.54	0.00	59.71	74.25	6.12%	4,544,110	0.33%	245,026	4,299,084	
Total FP7:	177.80	0.05	587.47	765.23	2.86%	21,916,635	0.49%	3,744,977	18,171,658	
Total Grant Management	1,645.62	1,102.07	739.16	1,331.17	2.5%	33,190,786	0.42%	5,528,418	27,662,368	

	Payments made (in 2017; m€)	<i>minus</i> new ¹ prefinancing (in 2017; m€)	<i>plus</i> cleared ² prefinancing (in 2017; m€)	relevant expenditure ³ (for 2017; m€)	Estimated Representative/ Detected Error Rate (%)	Estimated overall amount at risk <i>at</i> <i>payment</i> (2017; €)	Estimated corrective capacity based on the residual error rate ⁴ (%)	Estimated future corrections (for FY; €)	Estimated overall amount at risk at closure (€)	Share of the amount at risk in % of the relevant expenditure
Expert management ⁵	51.55	0.00	0.00	51.55	0.5%	257,762.67	0.00%	0	257,763	
Total operational expenditure	1,697.18	1,102.07	739.16	1,334.27	2.5%	33,448,549	0.41%	5,528,418	27,920,131	
Administrative expenditure ⁵	66.12	0.00	0.00	66.12	0.5%	330,600	0.00%	0	330,600	
Grand total	1,763.30	1,102.07	739.16	1,400.39	2.4%	33,779,149	0.39%	5,528,418	28,250,731	
Amount at risk at closure in percentage of the relevant expenditure ⁶										2.02%

¹ New Prefinancing (PF) actually paid out by REA during the financial year (FY) (i.e. excluding any PF received as transfer from another DG).

² PF actually having been cleared during the FY (i.e. their 'delta' in FY 'actuals', not their 'cut-off' based estimated 'consumption').

³ For the purpose of equivalence with the ECA's scope of the EC funds with potential exposure to L&R errors (see the ECA's AR methodological Annex 1.1 point 10), also our concept of "relevant expenditure" includes the payments made, subtracts the new pre-financing paid out, and adds the previous pre-financing actually cleared during the FY. This

⁴ The correction percentage is based on the difference between the Representative/Detected Error rate and the Residual Error rate. This is the best estimate of the expected

⁵ The error rate for administrative expenditure and experts related payments is estimated at 0.5% accordingly to best practice identified in the Research and Innovation Family.

⁶ The total amount in % here is the sum of the detail lines and, for rounding reasons is not equal to the sum of the "operational" and "administrative" subtotals.

The same table including further details for the parent DGs can be found in Annex 10.

2.1.1.2 Cost-effectiveness and efficiency

Based on an assessment of the most relevant key indicators and control results, REA has assessed the cost-effectiveness and efficiency of the control system and reached a positive conclusion.

The effectiveness, the efficiency and the cost-effectiveness of the controls implemented at each stage are assessed below.

For the purpose of this assessment, **'controls' are understood here within a large scope**: they include all the processes and procedures implemented during the grant management lifecycle, not only financial verifications.

The **costs taken into account** are covered by **the administrative and operational budget**. Administrative costs represent staff costs with the relevant overheads (title 1 and 2 of the administrative budget, + relevant items in title 3), excluding the overheads linked to the general administrative coordination (horizontal activities)⁵¹ and the overall operational coordination. Operational costs charged to the control stages relate to the experts involved in evaluating the proposals and review of the scientific deliverables during grant implementation.

Given the fact that **REA operates in a control system that is integrated at the Research and Innovation family level**:

- REA relies on the services provided by the Common Support Centre.
- In addition, the support services provided by REA to the H2020 implementing bodies is also part of this family-wide integrated control system.

Following the latest audit recommendations received for the research and innovation family, the complete picture regarding the cost-effectiveness of the H2020 grant management will be captured in this and subsequent annual activity reports.

In order to implement this approach, the shared part of the costs (evaluation experts and support services) will be reported at corporate level in the conclusion of this chapter, instead of including them in the individual control stages implemented by REA. Also, as of 2017, a significant part of the ex-post audit activity relates to H2020 and is undertaken by the CAS for Research and Innovation family as a whole. As a result, the cost-effectiveness indicator for this fourth control stage is no longer pertinent for REA.

As a consequence of this approach, the results for the first and the fourth control stages, are not to be compared to the results for 2016.

2.1.1.2.1 Stage one: call implementation and selection of proposals

This first stage (for H2020 only) relates to the preparation of the calls and evaluation of the submitted proposals. At this stage, the overall control objective is to ensure a high-quality evaluation which results in the selection of the best projects to achieve the operational objectives set out in the specific work programmes adopted by the Parliament and the Council.

⁵¹ Coordination costs at operational unit level are included; administrative coordination and top management are not included.

Effectiveness and efficiency

The effectiveness and efficiency of this control stage is assessed through three main indicators. The first two demonstrate the quality and robustness of the evaluation/selection process (they constitute REA's third KPI). The third indicator measures compliance with the five-months time limit to inform the applicants about the outcome of the selection process (Time-to-Inform).

These figures are complemented by other indications of the quality of the selection process, provided by the independent observers.

Number of evaluation review cases upheld (H2020)

The H2020 evaluation review procedure⁵² gives applicants the possibility to file a complaint if they think that there were shortcomings in the handling of their proposal during the evaluation. An independent evaluation review committee analyses all complaints and, where appropriate, may recommend the re-evaluation of the proposal.

For the 2016 calls, all the review committees finalised their work in 2017. Overall, 179 complaints were introduced through the evaluation review procedure. The review committees concluded that 50 cases should be upheld. Of these 50, it was decided that 19 would go through a re-evaluation; none of these 19 cases were funded after re-evaluation.

The low share of review requests submitted and cases upheld for the WP 2016 calls – 1.39 % and 0.39 % respectively – gives a good indication of the robustness of the proposal evaluation process. The indicators are even better compared to the good results already achieved for the 2015 calls when the evaluation review requests totalled 1.57 % and the cases upheld 0.6 %.

Overall, by the end of the reporting period, and based on the evaluation review procedures in the H2020 WP 2016 and WP 2017, only 1 of the 29 re-evaluated proposals received funding.

In 2017, eight Article 22 requests⁵³ to review the legality of REA acts were treated by the Commission services. The complaints received concerned the outcome of the evaluations for proposals not being selected for funding under MSCA-IF 2016 (2 cases), Widespread-2016-2017 (1 case), FET-Open-2016-2017 (2 cases), SFS-2016-2017 (1 case) and RUR-2016-2017 (2 cases). They were all rejected.

Results of the selected projects

The effectiveness of the selection process can also be demonstrated by reference to the fact that 95.7 % of all REA FP7 projects reached all or most of their objectives (as reported under KPI 3). Indeed, the most valuable benefits of these controls relate to the qualitative assurance that the most excellent projects are selected out of the many projects proposed, which is a prerequisite for their successful implementation.

Time-to-Inform (H2020)

Following the Financial Regulation, REA has a maximum of five months (153 days) to inform applicants of the outcome of the scientific evaluation (TTI: Time-to-Inform).

**TTI: 100 %
(130 days on average)**

In 2017, REA informed all its applicants in time, with an average TTI of 130 days.

⁵² Formerly called "redress procedure" under FP7.

⁵³ Cf. Council Regulation (EC) No 58/2003 of 19 December 2002.

Feed-back from the independent observers

The effectiveness of these controls is also confirmed by the reports of the independent observers who are appointed to assess the objectivity, impartiality and transparency of the evaluation for each call. These reports underline REA's success in ensuring smooth, fair, transparent, effective, efficient and high-quality evaluation processes, making only minor suggestions for improvement and indicating examples of very good practice which should be continued.

They recognise the complexity of the process and highlight, among other things, the careful selection of experts with relevant knowledge, the well-prepared briefings, the excellent organisation by REA staff, the motivation of all actors involved, and the constant efforts to respect the principles of impartiality and confidentiality. They also point out that the evaluation procedures described in the Horizon 2020 Manual are strictly followed. Finally, they conclude that they share the opinion expressed by many experts that the quality of the evaluation is very high, also compared to national and international schemes.

Cost-effectiveness

The costs of this first control stage are linked to the staff and experts involved in the process. In order to lower the costs, REA promotes remote evaluation by the experts and provides common administrative support to the other implementing services.

Common support services provided by REA

For greater efficiency and the cost-effectiveness of the H2020 programme, REA manages the contracting of evaluation experts for the whole R&I family (except EARCEA)⁵⁴.

The efficiency gained is demonstrated by the stable and outstanding performance regarding the **contracting** and **payment of experts**, with **98.7 %** and **99.1 %** respectively **processed in time**. The smooth contracting and payment of the experts has a very high impact on the programme's attractiveness to the experts who are a key component of the H2020 control system.

The total cost of this support service represents 0.08 % of the budget implemented in 2017 by the R&I family for H2020.

Cost-effectiveness indicators

The total cost of the first control stage for 2017 is estimated at EUR 21.01 million. Compared to the number of eligible proposals to be evaluated, this gives a similar average cost per proposal to that in 2016.

Table 4: Cost-effectiveness of the evaluation and selection of proposals

	2016	2017
No. of eligible proposals	12,842.00	13,767.00
Total cost of expert evaluators (M€)	14.78	14.01
Estimated staff costs (in M€)	6.66	7.00
Total estimated costs (M€)	21.44	21.01
Estimated average cost per proposal (evaluated) (€)	1,669.52	1,526.42

In 2017, REA committed EUR 1,953 million for the managed calls for proposals. The total staff costs of the evaluation stage (without the experts' costs) represent 0.36 % of this sum. This indicator is not to be compared with the 1.33 % reported for 2016. As from the

⁵⁴ For more operational details about this administrative support, please refer to section 1.10.

2017 AAR, the cost of shared services is reported at R&I family level, thus its impact is reported in the *overall* assessment of the cost-effectiveness of controls in REA.

2.1.1.2.2 Stage two: conclusion of grant agreements

The second control stage in grant management comprises the grant finalisation process for those proposals at the top of the ranking list. A series of key controls and preventive checks are performed within a three-month time limit, the quality of which will guarantee the smooth implementation of the projects. They are based on a specific risk-assessment and might include clarification of ethical requirements, examination of the financial capacity of the project coordinator, or a security scrutiny, where necessary.

For greater efficiency and the cost-effectiveness of the H2020 programme, REA manages the validation of third parties for the whole R&I family⁵⁵.

Effectiveness and efficiency

REA has eight months (245 days) between the call deadline and grant signature (Article 20(2) of the H2020 Rules for Participation). This is called the 'Time-to-Grant' (TTG) and is one of the most important performance indicators in the H2020 programme.

TTG: 100 % grants signed
in less than 245 days
(193 days on average)

Over time, REA has steadily improved its TTG performance. With **100 %** of all grant agreements **signed in 2017 (calls 2016 and 2017)** in less than 245 days, the results were excellent - the best ever achieved by REA. The average TTG performance stands at **193 days** (the same as 2016), 52 days before the target⁵⁶.

For the 2017 calls, the TTG performance for only one activity, LEIT – Space, was available at the time of reporting (100 %)⁵⁷. For the other activities, the eight-month TTG period was still running at the end of 2017.

Further details are provided in the call implementation overview tables in Annex 12 (Tables 1 and 2).

Cost-effectiveness

The cost of the second control stage comprises staff costs only and are compared to the number of grants signed and the total amount committed.

In 2017, REA concluded 1,731 grants for more than EUR 1,953 million. The cost-effectiveness of the control stage was 0.34 %, which remains in a similar range to that of 2016 (0.38 %).

Table 5: Cost-effectiveness of the conclusion of grant agreements

	2016	2017
Number of grant agreements finalised	1,713	1,731
Estimated staff costs (M€)	6.20	6.61
Average cost of control for one finalised grant agreement (€)	3,622	3,817

⁵⁵ It should be noted that REA also provided the validation services for some other EC programmes – for more details see section 1.10.

⁵⁶ Data extracted from CORDA.

⁵⁷ Data extracted from CORDA.

2.1.1.2.3 Stage Three: monitoring grant agreement execution

This stage entails the monitoring of the project activities, mainly through the scientific and financial reports. It involves reviews by scientific experts (monitors) as well as ex-ante checks on the participants' cost claims, before interim and final payments.

The R&I family has designed a common Ex-ante Control Strategy for H2020. REA implements this common guidance aiming to strike a good balance between the controls' costs and benefits by targeting the controls on the risks identified. In 2017, important preparatory work was done on using the recent developments of the common IT systems with respect to the reinforced monitoring of projects with a specific risk profile.

As regards the FP7 programme, in 2015, REA had put in place specific ex-ante controls for SME actions, following recurrent ex-post audit findings with a high financial impact. The aim was to ensure that the RTD performers' invoices are duly registered in the SMEs' accounts and paid before proceeding to the final payment.

For both programmes, the ex-ante checks also include the review of audit certificates on cost statements (certificates on financial statements) delivered by external auditors⁵⁸.

The CFS provides additional assurance for expenditure in the current reporting year and in previous years. The total FP7 expenditure covered by CFS to date is EUR 2.074 billion. Experience has shown that such certificates, provided by independent auditors appointed by the beneficiary and submitted with the cost claim, do not provide a 100 % guarantee on the legality and regularity of the declared costs. Nevertheless, they have a significant impact on reducing the risk of errors.

Effectiveness and efficiency

Execution of operational payment appropriations

REA's first KPI is mainly linked to this control stage. As in previous years, the appropriations delegated to REA under the EU's General Budget (i.e. credits in the REA operational budget) were fully implemented by the Agency at 31 December 2017, having reached **100.00 %** in both, commitment and payment appropriations, for an amount of EUR 1,829.50 million⁵⁹ and EUR 1,697.18 million, respectively.

Time-To-Pay (TTP)

An important indicator is 'Time-To-Pay' (TTP) which is defined as the percentage of payments made within deadlines set by the Financial Regulation. Table 6 in Annex 10 gives an overview of the Agency's performance in funding grants, per programme and per type of payment. The results indicate high compliance with the payment deadlines with **98.5 %** of all payments processed in time.

In 2017, the performance for **FP7 grants** remained at a very good level and in line with previous years, reaching **93.5 %** of the interim/final payments processed on time.

For **H2020 grants**, performance on the payment of pre-financings remained excellent, with **98.8 %** processed within 30 days. As from 2017, the number of interim and final payments has reached a significant level (1,082 compared to 202 for 2016). Of these, 97.6 % have been processed in time (as against 89.6 % in 2016), which indicates the procedure has matured.

⁵⁸ In FP7, certificates on the financial statements are submitted when the threshold of EUR 375,000 for a beneficiary's non-audited claimed costs is reached for grants that include real costs (thereby excluding the Marie Curie actions COFUND, IRSES, IxF, RG/CIG). Under H2020, these certificates are only required for final payments when the total EU contribution claimed exceeds EUR 325,000.

⁵⁹ This amount refers only to C1 credits (voted budget), not to be compared to the Annex 3 table 1, referring to all the fund sources.

In general, performance in terms of average gross TTP improved for H2020, thanks to the automation of the procedure and the paperless workflow.

In total, REA reached 96.9 % of the payments processed in time for all grant-related payments, regardless of their type or Framework Programme (compared to 95.4 % in 2016).

Time-To-Amend (TTA) grant agreements (H2020 and FP7)

As regards the performance for 'Time-To-Amend' (TTA) for H2020 grants, this continues to be very favourable with an **average net TTA of 12 days** in 2017 for **1,038 amendments implemented**. This is significantly below the contractual target of 45 days and indicates a better performance than last year (for more details see Annex 12, Table 9). Compared to FP7 (net TTA of 27 days in 2017) the performance for H2020 continued to improve significantly thanks to the automated work flow (for more details see Annex 12, Table 8).

As regards FP7, the TTA grant agreements continued to fall in 2017, with an **average TTA of 27 days for 350 amendments** implemented (as against 32 days in 2016), significantly below the target of 45 days (for more details see Annex 12, Tables 8 and 10).

Cost-effectiveness

The costs linked to this control stage comprise staff costs and monitoring expert costs. Most of the mission budget is also charged to this segment of the controls.

Table 6: Cost-effectiveness of the monitoring of the execution of the grant agreements

	2016	2017
Estimated staff costs (M€)	24.3	24.4
Experts reviewers (M€)	1.9	3.9
Total cost of the control stage (M€)	26.2	28.3
Number of grant agreements running on 31 December	6,658	6,420
Average cost of control for one running grant agreement (€)	3,935	4,409

This overall cost must be considered against the sum of EUR 1,697 million paid in 2017 for grant agreements: the costs of the controls performed at this stage represent 1.67 % of the total amount paid.

2.1.1.2.4 Stage four: ex-post controls and recoveries

The fourth stage includes the ex-post controls as well as the recovery of any amount paid in excess of that due. In 2017, REA carried out ex-post controls only on FP7 payments⁶⁰, but implemented ex-post audit results for both FP7 and H2020 programmes.

The cost of this control stage include staff costs (salary and relevant administrative costs) and the cost of outsourced ex-post audits. The staff costs are linked to the execution of the audits as well as to the follow-up of their results (corrections).

⁶⁰ The implementation of the audit plan is detailed under section 2.1.1.1.

Effectiveness and efficiency

Implementation of FP7 audit results – including extrapolations

In 2017, a total of 142 adjustments were reported as implemented following audits (73 cases) and extrapolation (69 cases) against 114 in 2016. 64 % of the adjustments were implemented by recovery orders or by the 'no financial impact'⁶¹ implementation method. This may be explained by the fact that the end of FP7 was drawing near and more and more recoveries related to projects for which the final payment had already been made.

By the end of 2017, and in cumulative terms, adjustments were proposed for 521 audited REA projects. Of the total amount for implementation (EUR 23,821,603), EUR 15,081,554 has been implemented effectively.

Table 7: Implementation of REA ex-post audit results during 2017 – adjustments in favour of the EU budget

Cumulatively	Results from external audits		Adjustments implemented		Adjustments pending implementation	
	Number of projects	Funding adjustments (in €)	Number	Value	Number	Value
FP7	521	23,821,603	444	15,081,554	77	8,621,031

The table below shows the cumulative implementation of the extension of the audit findings (extrapolations focusing on findings in favour of the EU budget only). Any systematic errors found in a beneficiary's a audit are extended to this beneficiary's non-audited participations. To date, 326 cases have been closed for a total sum of over EUR 2.5 million. The remaining 322 cases will be implemented or closed as non-applicable in the coming years.

Table 8: Implementation of FP7 extrapolation in REA (cumulatively)

Cumulatively	Number of projects analysed for extrapolation			Number of extrapolation cases implemented			Number of cases to be analysed/ implemented by the REA
	Deriving from REA audits	Deriving from non-REA audits	Total	Where no extrapolation correction is required	In favour of the EU budget		
					Number of projects	Funding adjustments	
FP7	629	1,667	2,296	1,648	326	2,528,628	322

At the end of 2017, the cumulative implementation rates for audit adjustments and extrapolations were 85 % and 86 % respectively (including the projects for which no extrapolation correction was required). These results are consistent with the current stage of the FP7 programme's life cycle.

Liquidated damages

The implementation of liquidated damages imposed when overpayment was detected through ex-post audits is done independently by means of recovery orders addressed

⁶¹ The 'no financial impact' implementation method is applied to cases where the rejection of costs does not lead to an unjustified EU contribution.

directly to the audited beneficiary. To date, 148 cases of liquidated damages have been implemented for a total of EUR 799,468. Liquidated damages have a relatively low financial impact on the total amounts to be recovered. Under H2020, beneficiaries whose costs have been declared ineligible following an audit are no longer requested to pay liquidated damages. However, financial penalties may be imposed following a case-by-case assessment.

Cost-effectiveness

REA’s ex-post audit function has evolved significantly since the creation of the CAS and the centralisation of ex-post audits for H2020. As explained in section 2.1.1.1, in 2017 the FP7 audit plan was still being implemented by REA, but will be progressively phased out. However, REA staff will continue to dedicate time to the follow-up of ex-post audits carried out by the CAS.

The total cost of ex-post controls is estimated at EUR 2.01 million. The cost of the outsourced audits is falling as REA is reaching the global target for FP7 ex-post audits.

Table 9: Indicator – Resources used by REA for ex-post controls/audits

	2016	2017
Estimated staff costs (M€)	1.55	1.50
Cost of outsourced audits (M€)	0.91	0.52
Total cost of controls (M€)	2.47	2.01

2.1.1.2.5 Overall assessment of the cost-effectiveness of controls in REA

Considering that REA's mandate is to implement direct grant management for the FP7 and H2020 programmes and provide administrative support services, its total operating budget has been broken down per activity and per control stage for the grant management part. This has been complemented by the expert costs dedicated to some control stages, which are charged to the operational budget.

Table 10 gives an overview of the cost of controls per stage. It shows that EUR 40.03 million operating budget was necessary to carry out the grant management-related controls, which cost EUR 43.92 million in total, including the experts’ costs. Unlike AAR 2016, the costs relating to expert evaluators are not included in this table but are reported together with the costs of the services shared among the R&I family members, in Table 13 below.

Table 10: REA's total cost of controls – broken down by stage of the grant management and other activities/tasks

		Total staff costs (in M€) (Title 1 of the administrative budget)	Other expenditure (in M€)		Total cost of control (in M€)
			of which charged to the <u>administrative</u> budget (from Titles 2 and 3)	of which charged to the <u>operational</u> budget (expert reviewers)	
ex-ante	Stage 1 – Call implementation, evaluation and selection	5.59	1.41	0.00	41.91
	Stage 2 – Conclusion of grant agreements	5.53	1.07	0.00	
	Stage 3 – Monitoring the GA execution	19.99	4.42	3.89	
ex-post	Stage 4 – Ex-post controls and recoveries	1.25	0.76	0.00	2.01
Total cost of control for the grant management		32.36	7.67	3.89	43.92
			40.03		
	Support services	9.07	9.37	The total cost of experts (evaluators and reviewers) amounted to 17.9 M€, paid of operational budget. The cost of evaluator experts (14.01 M€) is reported in Table 12, as part of a shared cost for the Research family.	
	Other tasks (coordination and administrative support)	6.81	1.59		
REA's total operating costs		48.24	18.63		
			66.87		

The total costs of the grant management can be compared to the total payments made in 2017.

Table 11: REA's cost of controls as a percentage of the operational budget in 2017

	Costs (M€)	Operational budget in payments made (M€)	Overall cost effectiveness ratio
REA's total cost of controls (expert reviewers included)	43.92	1,697.18	2.59 %
REA's cost of control (operating costs only)	40.03	1,697.18	2.36 %

Overall, the cost of controls represents 2.59 % of the total amount paid in 2017 for FP7 and H2020 grants, which should not be compared to the 3.40 % obtained in 2016, because of the change in approach. Considering only the administrative costs of the programme implementation (without the cost for experts charged to the operational budget), the management cost accounts for only 2.36 % compared to the total amount paid for grants.

However, management decisions taken regarding the controls to be implemented for grant management are not based exclusively on cost-effectiveness considerations. While keeping the costs of programme implementation at a reasonable level is a key motivation for setting up executive agencies, control measures are designed, improved and implemented so as to:

- guarantee the quality of the operations that remain the main condition to achieve the programmes' objectives;
- mitigate various identified risks.

For FP7, REA continued with its control system without a change in strategy, since the programme is near to be closed. For H2020, REA is implementing its Control strategy inspired by that of the Research and Innovation family, adjusted for certain specific risk profiles, like for MSCA.

Those controls produce some quantifiable benefits (rejection of ineligible costs, corrections, recoveries) and, more importantly, non-quantifiable benefits that cannot be measured in financial terms. In 2017, resources were invested, in particular, in the following processes:

- prevention of conflict of interest for experts in the evaluation of proposals - to maintain the good reputation of the programmes in terms of objectivity and impartiality;
- monitoring and implementing the independent observers' recommendations for the evaluation stage;
- risk-assessment of the projects/beneficiaries before signature of the grant - allowing for targeted and relevant controls during project lifetime;
- exploring different ways in which the Agency can provide feedback to its parent DGs on the outcome of the funded projects, which can contribute to the development of R&I policies;
- further development (adaptation) of the ex-ante checks before payments - with regard to implementation of the common ex-ante control guidance.

REA's very good performance, as expressed through the key indicators referred to in the executive summary, indicates that the controls in place are both effective and efficient.

According to the H2020 mid-term evaluation's key findings⁶²: "*Compared to FP7, Horizon 2020's efficiency is positively influenced by the extensive externalisation of programme implementation to new management modes including executive agencies (implementing 60 % of the budget).*"

Finally, it must be remembered that REA operates in a control system that is designed and managed at the corporate level (R&I family). REA relies on the services provided by the CSC, as explained in section 2.1.0.3.

The support services provided by REA to the H2020 implementing bodies is part of this family-wide integrated control system.

The complete picture regarding the cost-effectiveness of H2020 grant management in REA is summarised in the table below.

⁶² Commission Communication COM(2018) 2 final: Horizon 2020 interim evaluation: maximising the impact of EU research and innovation, 11.1.2018.

Table 12: Overall cost-effectiveness of the controls for H2020, including shared services costs

Effectiveness indicator in direct grant management	Total costs (M€)	Operational Payments 2017 R&I Family (M€)	Overall rate (total costs/total amount paid) %
Services provided by the Common Support Centre			
Legal support, ex-post audits, IT systems and operations, business processes, programme information and data for all research DGS, executive agencies and joint undertaking implementing H2020	67.93	9,743.35	0.70 %
Services provided by REA			
Evaluation experts' costs	51.55	8,142.11	0.63 %
Support services : Validation of beneficiaries and Evaluation platform	18.44	9,743.35	0.19 %
		Operational payments for grants 2017 REA	
REA costs of controls for grant management	43.92	1,697.18	2.59 %
Overall cost effectiveness for grant management in REA			4.11 %

With 4.11 % of costs compared to the implemented budget, REA is fully in line with the objectives set in the H2020 legislative proposal.

2.1.1.3 Fraud prevention and detection

Since 2013, REA has developed and implemented its own Anti-Fraud Strategy (AFS) on the basis of the methodology provided by OLAF. It was updated in September 2017.

Strategies and action plans

As required by the Commission's overall AFS, REA developed its **FP7 Anti-Fraud Approach** in 2013 on the basis of the first Commission Anti-Fraud Strategy (CAFS) adopted in 2011 and the first Research Anti-Fraud Strategy (RAFS) adopted in December 2012.

Last update of REA's AFS in September 2017

REA regularly updates its FP7 Anti-Fraud Approach and related action plan as laid down in the AWP 2017⁶³. The revision in September 2017 reflected the interpretation of the application of financial penalties.

As regards H2020, the **Common Anti-Fraud Strategy in the Research family** agreed by the CSC Steering Committee will continue to improve fraud risk awareness through communication activities and training for operational staff, by linking databases and information with other research DGs and services for intelligence analysis, and through risk-based audit preparation and selection.

The 'Actions of REA complementary to the Common Anti-Fraud Strategy of the Research family' was adopted in August 2016 to take into account specific risks linked to the REA's managed actions. In a nutshell, REA developed additional **guidance** to address the specificities of the Marie Skłodowska-Curie Actions under H2020.

The R&I family members meet several times a year at the Fraud and Irregularity in Research Committee (FAIR) to discuss common fraud matters and follow the implementation of the Action plan. REA is involved in three of the working groups set up to implement some actions of the action plan, namely:

- to develop clear guidance for simple checks that grant management officers are encouraged to perform at the various stages of the grant-management cycle (leading service: REA);
- to develop a common approach for reinforced monitoring (leading service: DG RTD); and
- to develop a number of case studies (leading service: EASME).

REA has an anti-fraud cell and anti-fraud correspondents in each unit. The anti-fraud correspondents and the anti-fraud cell collaborate at every stage of the anti-fraud cycle. In addition, and as laid down in the AWP, REA continued its actions to increase fraud awareness among its staff. At the end of 2017 some **57.5 % of REA's** operational staff had followed an anti-fraud training⁶⁴.

57.5 % of REA operational staff followed an anti-fraud training

Coordination with the rest of the R&I family is ensured by REA's active participation in the networks of OLAF correspondents in the Research family (FAIR), in the Fraud

⁶³ Cf. Relevant objectives and indicators for financial management: See objective 3, indicator 1 of the Annual Work Programme 2016: "Updated anti-fraud strategy (AFS) of the REA, elaborated on the basis of the methodology of OLAF".

⁶⁴ Cf. Relevant objectives and indicators for financial management: See objective 3, indicator 2 of the Annual Work Programme 2016: "Fraud awareness is increased for target population, as identified in the REA's AFS".

Prevention and Detection Network (FPDNet) and at the level of the anti-fraud correspondents' network.

The IAS audited REA's FP7 Anti-Fraud Strategy in 2015 and launched a follow-up audit in autumn 2016. It concluded that all the recommendations had been adequately and effectively implemented and that they were closed.

Control results

As regards OLAF cases involving both REA and the Commission and requiring measures to be taken in a coordinated manner at the horizontal level (Commission and REA), the CSC is responsible for coordinating and drafting the relevant legal documents regarding FP7 and H2020 cases.

REA provides its management with quarterly updates on cases involving OLAF and bi-annual updates to the parent DGs and the Steering Committee. There is an organised follow-up of fraud cases and fraud suspicions, including coordination with OLAF. In 2017, REA transmitted 10 new cases to OLAF. The table below lists the number of OLAF cases relating to participations managed by the Agency over the year.

Table 13: Indicator: number of pending OLAF cases relating to participations managed by the REA

Number of pending OLAF cases at 1 January 2017	55
New OLAF cases handled by REA in 2017	24
Cases that stopped being followed-up and reported in 2017	18
Number of pending OLAF cases at 31 December 2017	61

New OLAF cases reported by REA in 2017	10
New OLAF cases reported by REA in 2017 and retained by OLAF for further investigation	2
New OLAF cases reported by REA in 2017 and dismissed by OLAF	4
New OLAF cases reported by REA in 2017 for which OLAF's decision is still pending	4

Cases for which OLAF concluded its investigations and issued its conclusions	8
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Internal trainings on 'An introduction to fraud prevention' have been organised at REA since 2011. Two training sessions on fraud detection and prevention were organised, in cooperation with OLAF, for project and financial officers to support them in detecting anomalies at an early stage. Furthermore, one training session on fraud detection was organised for REA managers. These sessions were attended by 49 REA staff. Since the beginning of the course in 2011, a total of 354 staff currently working at REA have been trained.

2.1.1.4 Safeguarding assets and information, reliability of reporting

The agency protects its assets through a good internal control system which guards against loss due to theft or errors, and provides reasonable assurance regarding the prevention or timely detection of unauthorised acquisition, use or disposal of its assets that could have a material financial effect.

Table 4 in Annex 3 reports REA's overall financial assets. These assets of EUR 1,543,305,141 are predominantly pre-financings paid to research grant beneficiaries and to the various entrusted entities implementing parts of Horizon 2020. They are therefore managed and controlled in the context of direct grant management.

These amounts are cleared from the pre-financing accounts after validation of the cost claims or the relevant periodic management reports.

2.1.2 Audit observations and recommendations

This section reports and assesses the observations, opinions and conclusions reported by auditors as well as the limited conclusion of the internal auditor on the state of control – which could have a material impact on achieving the internal control objectives – and therefore on assurance, together with any management measures taken in response to the audit recommendations.

2.1.2.1 Audits by the European Court of Auditors (ECA)

In its report on implementation of the budget for the financial year 2016, the European Court of Auditors (ECA) concluded that the most likely error rate for Chapter 5 'Competitiveness for growth and jobs' was 4.1 %, which is an improvement compared to the previous year (4.4 %).

In the framework of the Declaration of Assurance (DAS) 2016, 17 preliminary findings were received by REA, 10 of which concerned Marie Curie Actions. As a follow-up, the reporting system has been adapted to enable the beneficiaries of MSCA projects to have better control over the eligibility and payment of the fellows. When they submit a researcher declaration on appointing a researcher, beneficiaries must declare that they have checked the fellow's eligibility and the payments made to her/him. In addition, when submitting cost claims, the beneficiaries must declare that the costs are eligible and can be substantiated by adequate records and supporting documentation.

DAS 2017

In the framework of the DAS 2017, the ECA launched 16 audits on payments (interim, final or expert payment) for REA. For eight audits, on-the-spot checks were carried out and eight preliminary findings were received. For six of these (five relating to H2020 and one to FP7) the ECA had no comment. For the remaining two related to FP7, the ECA commented:

- 1) For the first transaction relating to the SME action, the ECA highlighted the ineligibility of some staff costs. The error rate reached 10.80 %⁶⁵ (EUR 17 280). REA took into account that a formal issue had been regularised after the audit through a grant amendment without the need for any financial correction.

In addition, the ECA spotted a delay in the transfer of funds from the coordinator. However, the grant agreement does not define a time frame for the transfer of funds within a consortium, and REA, in line with the Commission, considers that it is the coordinator's responsibility to ensure the timely distribution of funds to the beneficiaries, as agreed in the consortium agreement.

- 2) For the second transaction relating to the FP7 security theme, the ECA identified two ineligible expenses concerning travel and subcontracting costs. REA accepted the finding related to subcontracting but considered the travel costs eligible. The error rate calculated by the Court was 11.70 %, despite the low amounts concerned (EUR 2 372).

In conclusion, the ECA did not find any errors different in nature from those REA had already detected in its own ex-post audits. Therefore, the ECA audits did not require any reassessment of the assurance provided by REA's control systems.

⁶⁵ The cost items have been selected by the ECA using monetary unit sampling (MUS) to obtain a representative view of the legality and regularity of the entire audited population for Competitiveness for Growth and Jobs. Thus, the sum of the error percentages shown above does not constitute an error rate for the audited project, but contributes to the overall evaluation of EU expenditure.

2.1.2.2 Follow-up of actions resulting from previous ECA audits

In January 2017, no outstanding recommendation was derived from ECA audits other than corrections to be implemented as a result of ex-post controls performed in the context of the DAS, for which progress made in implementation is reported under section 2.1.2.1.

2.1.2.3 Commission's Internal Audit Service

In its contribution to the 2017 AAR process, the Commission's Internal Audit Service (IAS) concluded that overall, based on the work undertaken in the period 2015-2017, the internal control systems audited were effective. In 2017, the IAS performed the following audit:

IAS audit on the closure of FP7 projects

In May 2017, the IAS finalised the audit on the closure of FP7 projects in REA. The audit covered the monitoring and reporting on project closure and management of the final distribution report, de-commitments, archiving and document management, amendments, complaints, and the implementation of ex-post audit results. The IAS made **two important recommendations** for which deadlines were set for the second semester of 2017. One dealt with the monitoring of and reporting on the closure of FP7 projects, and the second tackled document-management issues and archiving of FP7 project files.

Recommendation number one, dealing with the monitoring of and reporting on the closure of FP7 projects, was reported as implemented by REA. Supporting documents were sent to the IAS and the action is ready for review.

REA has adapted the reporting system: the accounting quality checks performed by the accounting sector already include several checks for the closure of the grant in the IT tool CPM. This should give reasonable assurance that operational units receive sufficient reminders to ensure the correct status/data quality in CPM. The AOSD report template was adapted and management informed about the changes made. The change applying to the definition of 'closed project' was explained to the Heads of Unit. The operational units have received instructions to perform a 'data cleaning' to identify and align the closed project status in the relevant IT tools.

Recommendation number two, dealing with document-management issues, has been partially implemented. The part relating to archiving FP7 project files was implemented by revising REA's archiving manual and providing additional guidance on the responsibilities of the different actors. The Agency reminded the staff dealing with the archiving of project files about the applicable rules, which were also explained and reiterated to members of the financial officers network (NFO) and project officers network (NPO) by the document management officer (DMO). The action relating to the cleaning-up exercise for project closing is still ongoing. It was organised with the operational units under the supervision of the DMO. The operational units were given a period of six months to transfer at least 80 % of the closed project files to REA's central archives (CA). This action has been scheduled to be implemented by REA at the end of the first quarter of 2018.

2.1.2.4 Actions resulting from previous IAS audits

(1) IAS follow-up on the limited review of the calculation and underlying methodology of the residual error rate (RER) for the 2015 reporting year

In April 2016, the IAS finalised a 'Limited review of the calculation and the underlying methodology of the residual error rate (RER) for the 2015 reporting year'. The methodology for calculating the detected error rates was reviewed. Although the IAS did

not identify any critical or very important findings in this review, it made three important recommendations.

Two recommendations were implemented, and findings related to guidance were dealt with during 2016. The latter concerns a review of the current guidelines and Excel sheet used to calculate the RER. The roles and responsibilities of all actors involved, including supervision and back-up arrangements, planning and time-line framework and the systematic review of the data were improved by providing guidance and explanations developed by the responsible unit. As regards the Excel sheet used to calculate the RER, the content and structure of the guidelines were reviewed and simplified. The revised version was approved by REA senior management in February 2017.

Early in 2017, the IAS announced a follow-up audit engagement which was finalised before the end of the first quarter of 2017. It concluded that all three important recommendations have been implemented.

(2) IAS audit on human resources management in REA

In the audit on human resources (HR) management in REA, in 2016, the IAS issued one very important recommendation and three important recommendations. The very important recommendation related to management of the selection process for contractual agents (CA), where it recommended that REA update and revise its selection procedures by clearly defining tasks and responsibilities regarding the checks to be performed as well as rules on documentation of the selection process. REA should also provide training sessions for panel members and ensure that controls are systematically implemented in the selection procedure.

This recommendation was reported as implemented at the end of the year and is ready for review by the IAS. Guidance for the selection procedure and supporting documents such as checklists, training material, etc. have been developed and are in use. All panel members will follow training, and a guide has been developed to inform panel members about the rules and obligations. The relevant service signs a checklist before the file with the panel results is put forward for the Director's signature.

The first important recommendation to link the HR strategy with the business multi-annual objectives was reported as implemented by REA and is ready for review by the IAS. A link was made between the HR multi-annual objectives and the business strategic objectives. The indicators and periodicity of monitoring have been stipulated, and the annual yearly performance indicators for HR set out in the AWP.

The second important recommendation to revise, update and put in place the formal approval of standardised job descriptions was reported as implemented and is ready for review by the IAS. The harmonisation process involved several discussions between the management and REA networks, and the job descriptions for all profiles have been updated. The methodology adopted for harmonising job descriptions gives the units sufficient flexibility to update job descriptions according to their needs, without affecting the standard elements.

The third important recommendation requested regular monitoring and reporting on the update of job descriptions by the Agency's senior management. The action was reported as implemented is ready for review by the IAS. Monitoring of the validity of job descriptions is done through Sysper every time a new post is created or modified. Standard Sysper templates are the basis for units to create job descriptions and for REA HR to verify their compliance. A full stock-taking and report on the progress of job descriptions at the REA level will be made in the C1 AOSD report, and the responsible unit will monitor and report regularly to senior management.

(3) IAS follow-up of the audit on H2020 grant management in REA

In the 2016 audit on grant management, the IAS issued four recommendations of which the one dealing with managing conflicts of interest (CoI) among external experts was considered as very important and three recommendations as important.

Early in 2017, the IAS announced a follow-up audit would be performed on implementation of the audit on H2020 grant management in REA. It asked the Agency to ensure that sufficient and coherent instructions regarding CoI checks are provided and their application is systematic and consistent. The Agency should also issue specific guidance for staff on managing CoI discovered during the evaluation process. In addition, it should establish a procedure to be followed in case of misuse of personal data in the context of the evaluation process.

IAS has received supporting documents for the implementation, such as a presentation on CoI checks, when to perform them and their potential consequences. The Business Process Owner (BPO) for Proposal Submission and Evaluation has notified the Commission's call coordinators about implementing a common IT solution for the detection of potential conflict of interest. The CSC has posted guidance material on GoFund, such as a standard presentation for experts about CoI, application of the confidentiality rules and processing personal data. Furthermore, REA has prepared a guidance note for cases of possible or actual misuse by an expert of personal data and/or breach of confidentiality.

The IAS confirmed in January 2018 that it considers the very important recommendation to have been implemented.

In its follow-up audit, it assessed that recommendations number two and four have been adequately and effectively implemented and are considered closed. The two important recommendations dealt with: (2) "the evaluations' lessons learned" and (4) "the IT tools used for the specific evaluations in REA". For recommendation number 2, the IAS assessed that REA has established an internal system for collecting and analysing the feedback received during the evaluation process. This reporting is based on a table used for following up the observations made by the independent observers and reporting on their implementation. For recommendation number 4, the IAS considered the necessary changes in the SEP system had been introduced as regards the FET-Open specificity. It confirmed that the SEP pilot exercises with the MSCA calls gave positive results allowing the Agency to phase out the EMEX tool.

The third recommendation was made to ensure that the communication between REA and the beneficiaries is stored systematically in COMPASS, to have a better trail of correspondence that could be used during the implementation phase of the project and in case of litigation. The issue to store communication between REA and the beneficiaries systematically in IT systems is under finalisation. REA's director tasked the project officers' network and a REA representative in the key user group for grant management to deal with implementation by setting up internal guidance. A draft version is available and scheduled to be implemented by the end of the first quarter of 2018. In parallel, the CSC was asked to further improve COMPASS/Syigma to facilitate the project officers' user experience when using these systems as a communication channel. The recommendation is delayed, but will be reported as implemented by the end of the first quarter.

Announced IAS audit on H2020 project management

In November 2017, the IAS announced the start of an audit on REA's project management for H2020. The audit scope is described as an assessment of the implementation of the project management process, including project monitoring, (scientific) reviews and reporting, ethics monitoring, amendments, early termination of grants, and the dissemination and communication of H2020 research results.

2.1.3 Assessment of the effectiveness of the internal control systems

The Commission has adopted an internal control framework, based on international good practice, aiming to ensure the achievement of policy and operational objectives. In addition, as regards financial management, compliance with the international framework is compulsory.

REA has put in place the organisational structure and internal control systems adapted to achieving the policy and control objectives, in accordance with the standards and having due regard to the risks associated with the environment in which it operates.

Management's assessment of the effectiveness of the internal control systems

The 2017 AAR is the last report in which REA must verify whether all the requirements of the 16 internal control standards have been met, given that in 2017 the Commission moved to 17 'internal control principles' (ICP) which apply as of 1 January 2018. The new concept no longer defines the requirements with which REA has to comply, but focuses on the effectiveness of the entire internal control system and its components designed by REA for its specific control environment.

Guidance on how to implement and monitor the revised internal control framework is provided by DG BUDG. In the fourth quarter of 2017, a gap analysis was made to map the controls in place for various control standards against the revised principles. An overview table was set up to identify REA's main controls and available data. The conclusion of the gap analysis is that only minor corrections are required in the course of 2018 to fine-tune the existing control environment in line with the revised control framework. Based on indicators proposed by DG BUDG, the Agency defined potential REA indicators to assess the effectiveness of its internal control system. The mapping exercise resulted in provisional internal control monitoring indicators for REA to assess their effectiveness. These indicators were provided for the Secretariat-General and DG BUDG in the context of the AWP 2018 preparations. REA's intranet was updated with new pages displaying the revised control principles, based on the pages developed by DG BUDG. During 2018, these indicators will be fine-tuned taking into account comments made by DG BUDG and internal discussions with the relevant services.

For 2017, REA management decided not to perform another internal control assessment exercise (ICAT). The change from internal control standards to internal control principles had to be prepared with due consideration. In 2017, the focus was on the relevant activities to implement the revised control framework at REA. In this context, an internal control assessment 2017 was performed by the sector responsible for internal control, which collected information through several sources to assess the effectiveness of REA's internal control. This desk review encompassed, among others, an examination of REA's documentation relevant to the operation of control standards, an analysis and mapping exercise between the internal control standards and the internal control principles, the bi-annual AOSD reports, reference documents from DG BUDG, the analysis of REA's exception and non-compliance reports, the implementation of action plans resulting from previous ICAT exercises, and minutes of REA management meetings. The observations and conclusions which are summarised below have been endorsed by REA management.

As regards the state of play of REA's KPIs, as reported in the document, REA has achieved all the objectives set out in its AWP 2017, with the exception of the legality and regularity of part of the FP7 operations. For the latter, REA's results are similar to those of other FP7 implementing bodies, which is a strong indication that, overall, the internal control system is effective and working well.

REA will continue to assess the internal control system regularly. Assurance building for the AAR 2017 is based on the effectiveness of the internal control system and on substantiated conclusions and management actions aimed at reinforcing the internal control system.

REA control system and operating procedures

The operations managed by REA are similar to those in research management carried out by other Commission services. Therefore, REA's internal control system and operating procedures are streamlined with that of the parent DGs. Its internal control template for FP7 and H2020 grant management (Annex 5) is closely aligned to that used within the R&I family of DGs and services.

REA's ICC supervises and coordinates the development of the internal control standards (ICS) structure and systems. It has an adequate internal control system commensurate with its size and the portfolio of tasks it manages. Some key features of this internal control system, contributing to the effectiveness and efficiency of REA's internal controls, are listed below.

Six-monthly reporting of the AOSDs

REA has implemented structured reporting to the Director from the Heads of Unit, in their capacity as AOSD, endorsed by the Heads of Department on:

- activities assigned from REA's AWP 2017;
- implementation of the internal controls within their unit (in accordance with the overall design of REA as a whole), non-compliance events, exceptions and/or internal control weaknesses reported during the reporting period;
- new risks related to the activities under their control;
- possible issues which may impact on the Annual Declaration of Assurance.

No significant issues which might affect the Director's Declaration of Assurance (DAS), other than those already noted in this report, were indicated via the 2017 AOSD reports.

Register of exceptions, analysis of internal control weakness or control failures recorded in 2017

REA units must report on all exceptions, internal control weaknesses and non-compliance events, potentially leading to weaknesses, through a dedicated procedure and using pre-defined templates. A central register is reviewed regularly by the ICC, the IAS and, in the course of the DAS procedure, by the ECA.

In 2017, 17 non-compliance reports, four exceptions and no internal control weaknesses were recorded.

Exceptions (1): The first exception was made for an MCSA project addressing 'women disabilities in social engagement' to use part of the budget to cover the cost of providing assistance to the disabled staff to be seconded to carry out the project. This exception is in line with the proposed introduction in the draft MSCA WP-2018-20 of allowances for researchers with special needs.

(2) The second exception concerned the H2020 LEAR appointment procedure to identify the legal representative. Due to the difficulties in obtaining the signature of the US Secretary of State, an exception note has been signed by REA's Director in order to accept the LEAR documents signed by the Deputy Under Secretary of the Directorate for Science and Technology.

(3) The third exception concerned the extension of the final date for implementation of two individual commitments, which had already expired, for over six months, in order to transfer an additional final payment.

(4) The fourth exception was an approval request to continue issuing contracts beyond the balance available on the commitment which had to be made available so as not to delay ongoing and future evaluations pending additional commitment appropriations.

Non-compliance events: For 2017, a total of 16 non-compliance reports were registered in the central database. The unit in charge of managing the experts has sent nine quarterly reports to the Director to report non-compliance events regarding the expert process: the non-compliance events referred to in four reports concerned the "extension of working days", and in two reports, cases were highlighted where "experts started working without a valid contract". Two cases concerned "IT issues", and one dealt with the "payment specified in the contract but without a corresponding payment rate".

From the operational units, six non-compliance cases were reported to the Director relating to project management issues. Three of them dealt with the Participant Guarantee Fund's intervention in projects managed by operational units in the event of the bankruptcy of a beneficiary. Two cases were about the non-identified ineligibility of researchers in the context of secondments, and one non-compliance case reported the waiving of a debt recovery because the period for enforced recovery had expired.

One non-compliance case was reported for the administrative budget where the amount to be reimbursed was higher than the ceiling under the procurement rules.

No **internal control weakness** was reported to the Director in 2017.

None of these cases and events resulted in significant financial exposure for REA, and mitigating measures have been put in place to address the exceptions and non-compliance events reported.

REA's risk-assessment exercise

A risk-assessment exercise is performed at REA level on a yearly basis in preparation for the following year's AWP. In 2017, three significant risks were identified for the AWP 2018 and reported to the central services and REA's Steering Committee.

The first risk concerns (1) the assumption for the SEDIA project's cost-benefit-analysis (CBA) assumptions. The potentially incorrect estimation of resources needed had already been identified in previous years. It was decided to keep this as a risk for 2018. The second risk (2) concerns Brexit and its related consequences. The third risk (3) identified that the specific financial statement (SFS) accompanying the Commission's decision on the extension of REA's mandate for the period 2014-2020 had been calculated on constant prices, which resulted in budget shortfalls during the final years of the programming period. The risks are encoded in the central risk register, and the mitigating measures will be monitored and followed-up regularly.

Assessment of the functioning of the internal control system

REA has implemented the 16 internal control standards and has a control environment fully aligned with the Commission. Throughout 2017, REA was in compliance with all ICS.

Internal control topics are regularly discussed during the Agency's management meetings, between the Director and Heads of Department, the Heads of Department and their Heads of Unit, and in dedicated REA networks and key user groups. REA's internal control system was further strengthened in 2017 by implementing recommendations issued by the IAS. Improving the effectiveness of all procedures and internal controls is a constant process which will remain high on the agenda of REA's management.

The effectiveness of the internal controls within the Agency is the result, among others, of the strong supervisory arrangements made by senior management and parent DGs.

Taking into account the results of the assessment of effectiveness, internal and external audit recommendations, the Internal Control Assessment Exercise (ICAT), the AOSD reports and the annual risk-assessment, REA concludes that the controls in place are working as intended and its internal control system is providing an effective framework for managing any risks to achieving its objectives. Therefore, the assurance is not negatively impacted.

The opinion of the ICC on REA's state of control

Throughout 2017, REA's ICC supervised the implementation of the internal controls across the Agency. The ICC has provided REA's Director with a formal opinion on the state of control within REA for 2017, concluding that there are no critical weaknesses in its internal control system which would jeopardise the achievement of its business objectives.

In conclusion, the ICS are being implemented and are functioning effectively.

REA assessed the internal control system during the reporting year and has concluded that the internal control standards are being implemented and are functioning as intended.

2.1.4 Conclusions as regards assurance

This section reviews the assessment of the elements reported above (in sections 2.1.1, 2.1.2 and 2.1.3) and draws conclusions supporting the declaration of assurance and whether it should be qualified with reservations.

The information reported in section 2 stems from the results of monitoring management and auditors, based on a systematic analysis of the evidence available. They fully support the Declaration of Assurance with respect to the use of resources for the intended purpose and are in line with the principles of sound financial management, legality and regularity. This approach gives a true and fair view, and sufficient guarantees regarding the completeness and reliability of the information reported and results in the complete coverage of the budget delegated to the REA Director.

The assessment by the management, the analysis of the results of the controls in place (along with the indicators outlined throughout this report) and examination of the evidence available suggest that REA's management is in a position to provide reasonable assurance in the following areas:

- expenditure implemented under direct grant management for the H2020 Framework Programme;
- expenditure implemented under direct grant management for the People programme (Marie Curie Actions) in FP7 Framework Programme;
- expenditure implemented under the single budget line for H2020 experts;
- payments relating to administrative expenditure.

Based on the rate of residual errors with regard to the accuracy of cost claims in FP7 grants, the assurance relating to the following part of the 2017 expenditure is qualified with a reservation:

- expenditure implemented under direct grant management for the Space and Security themes in the FP7 Cooperation Specific Programme;
- expenditure implemented under direct grant management for the SME actions

in the FP7 Capacities Specific Programme.

Indeed, REA maintains the reservations made in its AAR 2016 as regards the material impact of residual errors in the SME actions and the Space and Security themes financed under FP7, both exceeding the materiality level of 2 %. This is in line with the general reservation made by DG RTD for the R&I family, which states that the rate of residual errors with regard to the accuracy of cost claims in FP7 grants is expected to remain above 2 %, given the inherent risks related to the funding modalities.

These results are also corroborated by the ECA's Annual Report on the implementation of the budget for the financial year 2016, which concluded that the most likely error rate for the total expenditure in the area of the EU activity 'Competitiveness for growth and jobs' was between 2.1 % (lower error limit) and 6.1 % (upper error limit).

As a follow-up to the previous reservations, REA pursued reasonable efforts to reduce the errors in cost claims. Details are disclosed in Annex 10. Nevertheless, following the near closure of the last FP7 ex-post audit campaign, no further information will be available for assessing the impact of those actions. Moreover, errors in FP7 payments will have a limited impact on future declarations of assurance, given the significant decrease of this programme's share in the total expenditure.

In summary, and according to the figures provided in Table 3, 'Conclusion on the control effectiveness as regards legality and regularity' summarised below in Table 14, 'relevant expenditure' with a material error rate in 2017 represents 17 % of the total. The overall amount of risk at closure represents 2.02 % of the implemented budget. Taking into account the different materiality criteria to apply to its components, this result is not to be interpreted as above the materiality threshold.

Table 14: Summary of the estimated impact of errors in the 2017 relevant expenditure

Expenditure items	Relevant expenditure (M€)	% of the total relevant expenditure	Amount at risk at closure (M€)	% of the total relevant expenditure
qualified with a reservation				
FP7 Security and Space themes and SME actions	242.53	17.32 %	10.07	
without reservation				
FP7 MCA	522.70	37.33 %	8.10	
H2020	517.49	36.95 %	9.49	
Expert related payments	51.55	3.68 %	0.26	
Administrative budget	66.12	4.72 %	0.33	
<i>Subtotal</i>	<i>1,157.86</i>	<i>82.68 %</i>	<i>18.18</i>	
Total	1,400.39	100.00	28.25	2.02 %

In conclusion, under the prevailing risk environment and considering the balance between all the control objectives examined under chapter 2.1, the REA AOD's professional judgment regarding the assurance remains positive – even with a reservation for the FP7 Space and Security themes and for FP7 SME actions.

Overall conclusion

In conclusion, management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are being appropriately monitored and mitigated; and necessary improvements and reinforcements are being implemented. The Director, in his capacity as Authorising Officer by

Delegation has signed the Declaration of Assurance albeit qualified by a reservation concerning the FP7 Space and Security themes and the research for the benefit of SMEs actions.

Table 15: Reservations and overall conclusion on assurance

Budgetary expenditure (million €)	Scope of reservation	CRaS/ Detected error rate (DER- %)	Control approach	Amount at risk		
				Million €	Residual error rate (RER- %)	
(1) Legacy of the FP7 Cooperation Specific Programme – Space and Security themes						
<i>Material residual errors with regard to the accuracy of cost claims impacting on granted EU funding</i>						
Space	9.09	53.24	4.95 %	Multi-annual	1.7	3.19 %
Security	45.45	115.04	4.95 %	Multi-annual	4.07	3.54 %
Total	54.54	165.39		Multi-annual	5.67	
(2) Legacy of the FP7 Capacities Specific Programme– Research for the benefit of SMEs						
<i>Material residual errors with regard to the accuracy of cost claims impacting on granted EU funding</i>						
	14.54	74.25	6.12 %	Multi-annual	4.3	5.79 %

2.1.5 Declaration of Assurance and reservations

DECLARATION OF ASSURANCE

I, the undersigned,

Executive Director of the Research Executive Agency

In my capacity as authorising officer for the operating (administrative) budget and authorising officer by delegation for the operational budget

Declare that the information contained in this report gives a true and fair view⁶⁶.

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

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

Confirm that I am not aware of anything not reported here which could harm the interests of the Research Executive Agency or those of the Commission.

However the following reservations should be noted:

- *For the FP7 Cooperation Specific Programme – Space and Security themes*
- *For FP7 Capacities Specific Programme – Research for the benefit of SMEs*

Brussels, 27 March 2018

Signed

Marc TACHELET

⁶⁶ True and fair in this context means a reliable, complete and correct view on the state of affairs in the DG/Executive Agency.

Reservation 1

Agency	Research Executive Agency
Title of the reservation, including its scope	Reservation concerning the rate of the residual errors with regard to the accuracy of cost claims impacting on granted EU funding for the Space and Security themes of the Cooperation Specific Programme financed under the Seventh Framework Programme for Research and Technological Development (FP7).
Domain	Direct management of grants in FP7.
Programme and amount affected ('scope')	FP7 Cooperation Specific Programme – Space and Security themes Payments made in 2017 (excluding expert payments): EUR 54.54 million, including EUR 9.09 million for Space and EUR 45.45 million for Security. The amount at risk is calculated on the basis of the amount paid, pre-financing excluded, increased with the amounts of the pre-financings cleared or EUR 53.24 million for Space and EUR 115.04 million for Security or EUR 168.28 million in total.
Reason for the reservation	At the end of 2017, the residual error rate is not below the materiality threshold laid down for the multi-annual period.
Materiality criterion/criteria	The materiality criterion is the residual error rate (as defined in Annex 4), i.e. the level of errors that remain undetected and uncorrected, by the end of the management cycle. The control objective was to ensure that the residual error rate on the overall population is below 2 % at the end of the management cycle. As long as the residual error rate is not (yet) below 2 % at the end of a reporting year within the FP's management lifecycle, a reservation would (still) be made. The risk profiles for the Space and Security themes are similar and do not differ from the mainstream collaborative research. This is the reason why the CRaS error rate is used to calculate the residual error rate affecting the payments processed. However the subpopulations may differ and justify the calculation of different residual error rates for each theme since the correction of the systemic errors in the audited population may differ. The calculated residual error rates are as follows: - 3.19 % for the Space theme - 3.54 % for the Security theme
Quantification of the impact ('exposure')	The maximum impact is calculated by multiplying the residual error rate calculated on the basis of the CRaS by the 'relevant' amount of FP7 payments. For 2017, EUR 168.28 million relate to intermediate and final payments and EU funding accepted and cleared against previously paid pre-financing – this is the total for both Space and Security themes. In 2017, for the Space theme the estimated impact is around EUR 1.70 million; for the Security theme, the estimated impact is around EUR 4.07 million.
Impact on the assurance	Legality and regularity of the affected transactions, i.e. only payments made against cost claims.

<p>Responsibility for the weakness</p>	<p>The main reason for errors are:</p> <ul style="list-style-type: none"> - the complexity of the eligibility rules as laid down in the basic acts decided by the legislative authorities, based on the reimbursement of actual eligible costs declared by the beneficiaries; - the fact that there are many thousands of beneficiaries making claims, and not all can be fully controlled. <p>The different control provisions set out by REA/Commission services, along with the audit certificates on financial statements and ex-post audits, can mitigate these risks to a certain extent, but can never be carried out on 100 % of the cost claims received.</p>
<p>Responsibility for the corrective action</p>	<p>The possibilities to simplify the FP7 rules have been exhausted, and the FP7 audit campaign is now closed. The remaining scope to reduce errors will be addressed in particular through the following actions:</p> <ul style="list-style-type: none"> - continuing ongoing efforts to give guidance and feedback to the participants and certifying auditors to prevent errors occurring; - continuing ex-ante control and audit implementation work in order to reduce the financial impact of errors. <p>REA will maintain a reservation as long as there is significant FP7 expenditure. It is REA's opinion, based on its own experience, that the residual error rate will remain above 2 % and that it would not be effective in terms of costs and image to firmly step up the audit campaigns to bring it below the 2 %.</p>

Reservation 2

Agency	Research Executive Agency
Title of the reservation, including its scope	Reservation concerning the rate of the residual errors with regard to the accuracy of cost claims impacting on granted EU funding for Research for the benefit of SMEs actions in the Capacities Specific Programme financed under the Seventh Framework Programme for Research and Technological Development (FP7).
Domain	Direct management of grants in FP7.
Programme and amount affected ('scope')	FP7 Capacities – Research for the benefit of SMEs Payments made in 2017 (excluding expert payments): EUR 14.54 million The amount at risk is calculated on the basis of the amount paid, excluding pre-financing, increased with the amounts of the pre-financings cleared in total EUR 74.25 million in total.
Reason for the reservation	The rationale for the reservation is that the results obtained in the context of ex-post control specifically targeting the SME actions indicate an error rate which is above the materiality criterion. Considering the estimated residual error rate of 5.79 % the risk exposure resulting from SME participations is significantly higher than the FP7 average. Taking into account the need to balance legality/regularity with other objectives, such as attractiveness and success of the EU research policy, the wish to encourage SME participation, and the cost of controls, the ex-post controls cannot be increased significantly. Therefore, by the end of the programme period, it is not expected that the residual error rate will be below the materiality threshold defined in Annex 4.
Materiality criterion/criteria	The overall materiality criterion is the residual error rate, i.e. the level of errors that remain undetected and uncorrected, at the end of the management cycle. The control objective is to ensure that the residual error rate on the overall population is below 2 % at the end of the management cycle. As long as the residual error rate is not (yet) below 2 % at the end of a reporting year within the FP's management life cycle, a reservation would (still) be made.
Quantification of the impact ('exposure')	The maximum impact is calculated by multiplying the residual error rate by the 'relevant' amount of FP7 payments. For 2017, EUR 74.25 million relate to intermediate and final payments and EU funding accepted and cleared against previously paid pre-financing. This residual error rate takes as its starting point the errors detected in favour of REA and resulting from randomly selected audits and audits of beneficiaries with high-value participations, while excluding audits selected on the basis of risk identification. The detected error rate for 2017 is 6.12 %, while the residual error rate is 5.79 %. On the basis of the 5.79 % estimated residual error rate the impact is estimated at EUR 4.3 million.
Impact on the assurance	Legality and regularity of the affected payments made against cost claims.

<p>Responsibility for the weakness</p>	<p>The main reasons for errors are:</p> <ul style="list-style-type: none"> - the complexity of the eligibility rules as laid down in the basic acts decided by the legislative authorities, based on the reimbursement of actual eligible costs declared by the beneficiaries; - the fact that most participants are non-recurrent beneficiaries. - SMEs are prone to errors as experience gained through the ex-post controls demonstrates (frequency and magnitude of errors in costs declared by SMEs is higher than average across FP7); - the fact that there are many thousands of beneficiaries making claims, and not all can be fully controlled. <p>The different control provisions set out by REA/Commission services, along with the audit certificates on financial statements and ex-post audits, can mitigate these risks to a certain extent, but can never be carried out on 100 % of the cost claims received.</p>
<p>Responsibility for the corrective action</p>	<p>The possibilities to simplify the FP7 rules have been exhausted, and the FP7 audit campaign is now closed. The remaining scope to reduce errors will be addressed in particular through the following actions:</p> <ul style="list-style-type: none"> - continuing ongoing efforts to give guidance and feedback to the participants and certifying auditors to prevent errors occurring; - continuing with its ex-ante control and audit implementation work in order to reduce the financial impact of errors. <p>REA will maintain a reservation as long as there is significant FP7 expenditure. It is REA's opinion, based on its own experience, that the residual error rate will remain above 2 % and that it would not be effective in terms of costs and image to firmly step up the audit campaigns to bring it below the 2 %.</p>

2.2 Other organisational management dimensions

In this subsection, REA reports on key achievements in the fields of human resources, information management and external communication.

A complete report on all outputs identified and all objectives and indicators of AWP 2016 is available in Annex 2.

2.2.1 Human resources management

REA's overall objective regarding human resources management is to recruit, train, assess, motivate and retain highly qualified staff with a view to ensuring an effective and efficient operation as well as the promotion of equal opportunities within the Agency.

The Agency's 2017 administrative budget provides for an establishment plan of 167 temporary staff (TAs), of whom 42 are seconded Commission officials, and a budget for 530 contract staff (CAs), including 27 contract staff financed from third-country contributions. As in previous years, in 2017, there were no seconded national experts (SNEs) working at REA.

At 31 December 2017, REA had 693 staff within a total staffing plan of 697, which represents a vacancy rate of only 0.57 % at year-end. The average time to recruit a new staff member was six months. In 2017, a new selection procedure was introduced, including a screening of the EPSO database for permanent CASTs. This process is more time consuming compared to the previous procedure and still affected by some technical issues. The target on average time to recruit a staff member has been revised to 5 months in REA's HR Strategy and REA's AWP 2018 has been aligned with it.

In 2017, 91 staff joined REA (of whom 89 were newcomers and two returned from the leave on personal grounds (CCP), while 19 staff left the Agency and 10 new staff decided to take a CCP. In 2017, 26 staff had internal mobility within REA, and no temporary staff left for another agency via inter-agency mobility.

As regards the gender balance in the middle-management team, the share of female managers rose to 35 %. Please note that this indicator is not under the full control of REA as its middle managers are selected and seconded by the Commission.

The reclassification exercise was closed on 6 October 2017: 28 CAs and 27 TAs were reclassified. Four officials seconded to REA were promoted.

In 2017, 13 selection procedures for contract staff ('selection panels') were organised by REA to meet the needs in 2017 and 2018: of these, nine selection procedures had been closed by the end of 2017 and four are ongoing. Recruitment will remain a priority for the Agency and, as from 2018 more specific selections will be organised for CAs.

The REA's selection procedure for CAs was revised in 2017 and adopted on 19 December 2017. The new procedure includes elements of the new General Implementing Provisions (GIPs) which were adopted by the Commission on 16 October 2017 and subsequently adopted by analogy by the REA's Steering Committee on 15 December 2017.

The Agency's policy for internal mobility was revised in October 2017 to further improve the transparency when advertising job opportunities.

In 2016, REA participated in the Commission-wide staff satisfaction survey. The performance in terms of the indicators 'Percentage of staff who feel that the Commission/Agency cares about their well-being' and the 'Staff engagement index' is reasonable with 49 % (against the target of 45 %) for the first one, and 67 % (against the target of 70 %) for the second one. However, REA will continue its efforts to improve

its achievements in terms of staff well-being and engagement, in particular by focusing on the areas of concern identified as areas in the last staff survey. Three focus groups have been set up to address concerns raised on mobility and career opportunities, equal opportunities and work recognition, and internal communication. An action plan was elaborated with the participation of both staff and management. Most of the key actions were implemented during the second semester 2017: more transparency on job opportunities within a unit and within REA; no obligation to move out of the unit after moving to a higher-function group; management to offer additional responsibilities to volunteer staff independently of the grade; launch of participatory leadership groups for managers; management committed to providing regular informal feedback to staff; launch of the REA videos; screens installed on each floor; and the use of the REA slogan 'We are gREAT' promoted for internal communications. Two important actions are still in progress: the launch of a newcomers' 'away day' and exchange programmes between executive agencies and parent DGs for job shadowing.

At the beginning of 2017, the Agency's Learning and Development Framework was reviewed in full to better align the training provision to the new activities delegated to REA. In the last quarter of 2017, a Learning and Development Strategy was drafted; it will be finalised in early 2018 and adopted for 2018 and 2019.

In 2016, REA established the foundations for a competency framework as the cornerstone to enable REA staff to take ownership of their careers, support the management of HR processes based on skills and competencies, and facilitate internal mobility through career paths based on these key competencies. In 2017, REA launched a second phase of the project with the aim, among others, to provide self-assessment tools to allow staff to test their mastery in certain competencies. A service contract was concluded at the end of 2017, aimed at launching a communication campaign in early 2018 to highlight to REA staff the purpose and benefits of the competency framework for their careers. This will include high-level induction sessions (competency labs) for REA staff to inform them on how to make best use of this competency framework.

In 2017, REA harmonised and standardised its job descriptions: as a result, the list of standard job profiles was reduced considerably (from 67 to 46) while nevertheless allowing some degree of flexibility. At the end of 2017, around 85 % of the job descriptions were harmonised and published on Sysper. The remaining 15 % will be finalised by the end of the first quarter in 2018.

Four meetings were held between the Staff Committee and the REA's senior management during 2017 (9 March, 23 June, 6 October and 8 December).

The social dialogue was further enhanced by the participation of REA, , with observer status, on behalf of all executive agencies, in the Commission's 'Comité pour la Prévention et la Protection au Travail'. This initiative will lead the way for the executive agencies in Brussels to create their own joint consultative committee on this issue during 2018.

2.2.2 Information management aspects

REA has established appropriate processes and procedures to ensure a comprehensive, secure and efficient organisation of information management complying with the applicable Commission rules.

In 2017, four **new versions of ARES** were deployed and information sessions, guidelines and training sessions were provided for REA users.

In collaboration with the respective system developers and with the aim of improving the current situation, efforts were made towards the integration of **SEP, EMI and PDM in HAN** (Hermes-Ares-Nomcom). Despite substantial improvements made in 2017, these integrations are not yet fully compliant with the e-Domec rules and further developments must be implemented.

Following the **IAS audit on the closure of FP7 projects**, the document-management team reviewed guidelines and manuals related to the archiving/closure of REA's official files. The staff concerned were reminded of the archiving rules, and the units were supported in the archiving exercises which progressed well (in 2017, 1,667 files were transferred to REA's central archives). By the end of the year, all the actions agreed with IAS had been addressed.

In April, a **change was implemented in the mail distribution process**. Mail is no longer delivered directly to staff offices (except for unit REA.C2). There is one delivery point for each unit where staff have an in-tray. Outgoing mail and files are to be deposited at the same location in the unit's central outbox. This new approach reflects the wider use of e-documents and follows Commission efforts to achieve synergies and efficiencies.

Regarding the management of security-sensitive projects, technical and administrative arrangements for **EU restricted documents** were finalised thereby ending the process which started in 2016. For the handling of information classified as EU confidential, which REA will begin in 2018/2019, preparatory arrangements are under way.

An **assessment of the REA filing plan** was completed in June. The purpose was to identify files that could be made more widely accessible to both REA and Commission staff. The analysis showed very little margin for further increasing the share of open files. Nevertheless, discussions are ongoing with the CSC to provide access to operational files in the context of the HORUS/OSIRIS project. This may not lead to an opening of the files as such, but it would enable the Commission services, in line with the Commission strategy on data, information and knowledge management, to use a dedicated tool to exploit the relevant content of these files and maximise the use of data for better policy-making. A number of data-protection aspects still need to be clarified, involving the Executive Agencies' DPOs, before any accesses can be granted.

To ensure a correct implementation of the e-Domec policy within the REA units, several **e-Domec correspondents' network meetings** took place. In parallel, the usual **ARES helpdesk tasks** were continued and the **library activities** ran smoothly.

As regards the **results against the three performance indicators** in the AWP 2017, the percentage of registered documents not filed (indicator number 1) is once again very low (0.02 %) and well within the target (< 0.1 %). This is the second best performance throughout the entire Commission.

With respect to the performance on the other indicators related to the sharing of files in the Agency (indicator number 2) and with other DGs (indicator number 3) the results (3.68 % and 0.72 % respectively) declined compared to 2016. This is due to the fact that the files related to the validation of participants (PDM/ERIS files), and expert-related files (mainly contracts and payment transactions) must be restricted to protect personal data.

These files represent a large majority of REA files (> 96 %) and their share continues to increase. As such, the relevant share of REA files accessible to all REA units should exclude validation- and expert-related files. It should be noted that the majority of the remaining files with 'limited' access (\pm 6 %) have been protected for justifiable reasons of confidentiality (i.e. HR, legal, anti-fraud or audit related).

2.2.3 External communication activities

The DGs and Agencies share the common goal of effective communication on Horizon 2020 and work together to fully exploit communication potential while keeping in mind their different roles. The R&I DGs, coordinated by DG RTD's Communication Unit, are jointly responsible for the common Horizon 2020 policy on communication to the press and the general public.

In 2017, a total of **170 projects** were proposed to DG RTD as success stories and promising projects to be covered in articles published in the Info-centre and promoted via DG RTD social media. This is considerably higher than the target of **90 projects** set out in the AWP 2017. In addition, **49 REA**-managed projects have featured in **42** articles published in the Horizon Magazine.

As far as social media is concerned, each project on research published in the Info-centre (around **100** in 2017) on Europa is automatically fed into DG RTD Facebook and Twitter accounts. The same applies to articles featured in the Horizon Magazine.

In the first half of 2017, a video was produced showcasing the REA's evaluation facilities. This video, which targeted the experts coming to Covent Garden for evaluations, has been uploaded on the experts' page of the Participant Portal. In the second half of 2017, three animated experts' briefings were produced to support the MSCA IF and COFUND evaluations. These were uploaded on the Europa portal. Moreover, an update of the FET-Open Research and Innovation Gatekeepers video promoting the FET-Open programme has been produced and shared on EU YouTube, in the DG CNECT-FET Newsletter, as well as via social media through DG CNECT and DG RTD's channels.

As regards communicating with applicants and beneficiaries, REA organised and/or participated in information days and coordinators' days. Overall, there were 23 events for beneficiaries, potential applicants and experts, to promote the programmes managed by REA and ensure their smooth implementation. Moreover, REA provided input for or co-organised 10 conferences or workshops, thereby contributing to successful communications about the Framework Programme.

In February 2017, the MSCA were present at the MIT Career Fair in Boston to promote research careers in Europe. This event is considered to be one of the highest impact events for the MSCA. Therefore, REA will be present to promote the MSCA at the 2018 event.

The MSCA were also promoted during another international event – Naturejobs Career Expo in New York (November 2017), where over 1,000 participants, mainly PhD students and postdocs, were able to learn about career opportunities on offer through the MSCA.

During the Commission's Open Doors event, in May 2017, five out of eight projects featured on the R&I stand (under the responsibility of DG RTD), were from REA. Moreover, REA staff helped to manage the stand and to interact with the audience to promote the results of the EU-projects featured at the event.

2.2.4 Specific efforts to improve 'economy' and 'efficiency' of spending and non-spending activities

According to the Financial Regulation (Article 30), the principle of economy requires that the resources used by the Agency in the pursuit of its activities shall be made available in due time, in appropriate quantity and quality and at the best price. The principle of efficiency refers to the best relationship between resources employed and results achieved.

Respect of these principles is continuously pursued through the implementation of internal procedures and predefined practices. These procedures ensure that activities are executed in an efficient manner (e.g. the different work flows contribute to the efficient cooperation between staff/units) and according to the principle of economy. REA is continuously fine-tuning its internal arrangements in order to improve the efficiency and economy of its operations.

Therefore, in its AWP 2017, REA set the goal to develop new actions to simplify the validation procedures and boost the quality and efficiency of the evaluations, in particular with respect to the detection of potential conflicts of interest for experts involved in the evaluating proposals.

Simplified procedures for participant validation

REA's support services serve the Commission services beyond the Research family by validating the legal entities participating in several EU-funded programmes as well as supporting the assessment of their financial capacity. The provision of these services which, as of 2018 will become fully corporate and will encompass participants both in grant and procurement (SEDIA), has contributed to the acquisition of a unique know-how by REA's support services, staffed with a highly specialised team.

The corporate dimension and degree of specialisation in the provision of these services has resulted in improvements in the efficiency of the working practices as well as facilitating the identification of actions whose implementation translates into efficiency gains.

In particular, in 2017, preparatory actions for the implementation of SEDIA merged with the stocktaking of the procedures for validating legal entities. The following simplification measures were identified:

- The replacement of paper (blue-ink signed) documents by their electronic (scanned) counterparts;
- The removal of the obligation to provide certified official translations of documents in non-EU languages;
- The identification of default lists of roles/jobs/functions that could be recognised as legal representatives without requiring further proof documents.

These measures, approved by the Legal Service in 2016 and endorsed by the Grant and Procurement Steering Board (GPSB) are helping to reduce the administrative burden on applicants for grant and procurement procedures as well as for validation services. In addition, they have become a key enabler for the transition from paper-based validation procedures into fully electronic processes thereby helping to reduce the overall time required to carry out validations.

Efforts made to harmonise the different financial assessment methodologies have also crystallised into the use of a harmonised set of core financial data which are gathered from the supporting documents provided by the participants only once. This unique set of

data supports the needs of the different Commission services for any grant or procurement procedure. This standardised solution represents a significant simplification measure as it brings further transparency for clients and avoids the repeated submission of data to different services by ensuring the reusability of core financial data.

Greater efficiency has also been achieved in relation to the entities with the SMEs status (small and medium-sized enterprises). The SME tool, which helps entities to determine whether or not they qualify as an SME, has been upgraded. Previous experience indicated that there are errors in the data encoded in the SME tool. Therefore, this tool has been revised to better assist entities in this process. As a consequence, a more-user friendly application has been developed, providing clearer guidance to users and preventing encoding errors. This self-assessment tool has become clearer and more transparent to users and might bring as well efficiency gains in the context of the ex-post audit on the SME status.

At the current stage of the project, it is not possible to draw decisive conclusions on quantifiable gains in budgetary or staffing terms. The simplified procedures were mainly meant to produce benefits for the participants.

Evaluation of proposals: measures to improve the detection of possible conflict of interest

As regards the quality and efficiency of the evaluations, REA is taking specific measures to automate and improve the detection of possible conflicts of interest for experts.

Following proposal submission and before the start of evaluations, REA's operational units check for possible conflicts of interest among the selected experts in relation to the proposals to be evaluated. This check complements the self-declaration by each expert on the absence of conflicts of interest. The consortia participants (partner legal name, address, weblink; department name, address; project representative name, address, email) and the content of the proposals in Part B (e.g. quoted scientific publications, etc.) are crosschecked in relation to the names of the respective experts (on the basis of email addresses, employers, etc.), in order to identify elements which might indicate a possible conflict of interest.

The new IT system currently being tested (ARIS) aims to provide automatic and streamlined detection, whereby text-mining is applied to the list of participants submitting proposals and to the pool of experts linked to a certain call. This will allow potential links to be identified, thereby pointing to a possible conflict of interest. The new process should be faster, more effective, more consistent and less prone to error compared to manual cross-checking. The first version of the tool was incorporated in the SEP evaluation tool in summer 2017 and is playing an important role in streamlining the working methods during the evaluation process for all REA's operational units. The pilot indicated that the system is not yet performing optimally (too many false positives). However, the new tool is now part of the procedures and the tests on this support tool will continue during 2018.