



2018

Annual Activity Report

**DG Communications
Networks, Content
and Technology**



Foreword

This Annual Activity Report for the year 2018 covers the activities of the Commission's Directorate-General for Communications Networks, Content and Technology (DG CONNECT).

Thanks to the commitment and strong efforts of its staff and the fruitful cooperation with all internal and external stakeholders, DG CONNECT has delivered on the Connected Digital Single Market (DSM) priority of President Juncker. In line with the Commission's 2015 DSM Strategy, important pieces of legislation have already been adopted by the legislator.

The DSM continues to deliver for the benefit of the European citizens: after abolishing mobile roaming charges and unjustified geoblocking, Wifi4EU will enable citizens and visitors to benefit from free wifi in public spaces in some 2800 municipalities all over Europe, with more to come.

The European Parliament and the Council adopted the revised Audiovisual Media Services Directive, the European Electronic Communications Code, the new Regulation establishing the Body of European Regulators for electronic Communications (BEREC) and reached political agreements on important initiatives, such as the cybersecurity act, the copyright reform, rules on the re-use of public sector information, new rules on fairness in platform-to-business relations and the new Digital Europe Programme.

In addition, the Commission adopted several legislative proposals and initiatives prepared by DG CONNECT, including the proposal for a European Cybersecurity Industrial, Technology and Research Competence Centre and the Network of National Coordination Centres, and two major recommendations on measures to tackle disinformation and illegal content online and a Communication on artificial intelligence.

Equally important, the new European High Performance Computing Joint Undertaking was set up and will pool resources from 25 European countries to build supercomputing and data infrastructure, and support research and innovation in this field. It will give European public and private users better access to supercomputing which is essential to support competitiveness and innovation.

DG CONNECT implements innovative programmes which are geared to support the Digital Single Market and the Commission's objective to boost jobs, growth and innovation: the ICT part of the Research Framework Programme Horizon 2020, the telecommunications strand of the Connecting Europe Facility (CEF) and the MEDIA subprogramme of Creative Europe. In early 2018, the Commission proposed successor programmes to all of them, namely Horizon Europe, CEF 2 and Creative Europe with a strong MEDIA part.

In addition, as digital transformation holds the key to unlocking future growth in Europe, the Commission has proposed a new Digital Europe programme with an overall budget of EUR 9.2 billion to shape and support the digital transformation of Europe's societies and economies. The programme will boost investments in areas of strategic importance such as supercomputing, artificial intelligence, cybersecurity and advanced digital skills and establish additional capacities in these areas in Europe.

Part 1 of the report sets out in detail the key policy achievements of the DG and our contribution to boost jobs, growth and investment with digital technologies improving people's lives and increasing the competitiveness of the European economy. Part 2 provides information on the management of resources allocated to the DG and describes the balance that the DG found between trusting and controlling beneficiaries that it funds, and the costs and benefits of controls.

I hope that the report offers a good overview of the various operations of the DG and helps in understanding the added value that information and communication technology can bring to the EU citizens. For more information please visit our website: <https://ec.europa.eu/digital-single-market/dg-connect>

*Roberto Viola
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THE DG IN BRIEF

DG CONNECT conceives and implements the policies required to create a Digital Single Market for more growth and jobs, where citizens, businesses, and public administrations can seamlessly and fairly access and provide digital goods, content and services.

We foster a modern, secure, open, and pluralistic society building on our values such as democracy, freedom of expression and tolerance and Europe's cultural diversity, creativity and respect of creators' rights.

We help drive the digital transformation of European industry and public services through the use of innovative digital technology and support for the development of digital skills.

We strive to develop a long-term vision investing in potential technology breakthroughs and flagships, which can improve peoples' lives and to increase the competitiveness of the European economy at large and its key sectors.

We live our values as a creative, responsible and result-oriented European Union public service. We work on the best available evidence, and we cooperate closely with our stakeholders, our international partners and other EU institutions. We seek value for the taxpayer's money in all we do.¹

The impact of policy work in DG CONNECT is measured, planned and monitored by aligning it to the Commission priorities and Work Programme and by ensuring compliance with the Better Regulation principles.

DG CONNECT communicates and cooperates with institutional and non-institutional stakeholders at national, EU and international level in the implementation of the DSM Strategy and research programmes. Under the auspices of the College, the DG works with the College and other Commission services to implement actions defined in the Digital Single Market Strategy. In this context we deliver major policy and legislative initiatives in light of dynamic technological and market developments. This involves evaluating, reviewing, and consolidating existing legislation and proposing new rules. Close relations with the Commission's institutional partners and the Member States facilitate agreement by the co-legislators and implementation of European policies, including the swift transposition of new European rules into national law. Internally, key partner services are the Secretariat General, the Legal Service, the Research Family DGs, in particular DG Research and Innovation, and other DGs involved in the Digital Single Market, in particular DG Internal Market, Industry, Entrepreneurship and SMEs, DG Justice and Consumers, DG Competition and DG Mobility and Transport. We cooperate closely with major policy initiatives and partnerships, such as the Digital Skills and Jobs Coalition, the European Blockchain Partnership or the European Innovation Partnership on Smart Cities.

DG CONNECT ensures that its priorities and the international dimension of policy work are reflected in the relations with international partners, and that our policy and research activities are compliant with the Union's international commitments. This implies establishing Commission positions on bilateral level with countries and regions outside the Union, and in multilateral and international fora, including G7 and G20. To this end, DG CONNECT ensures close cooperation with the European External Action Service and other DGs on international aspects of digital policies, including countries in the EU Eastern Partnership and in the Western Balkans.

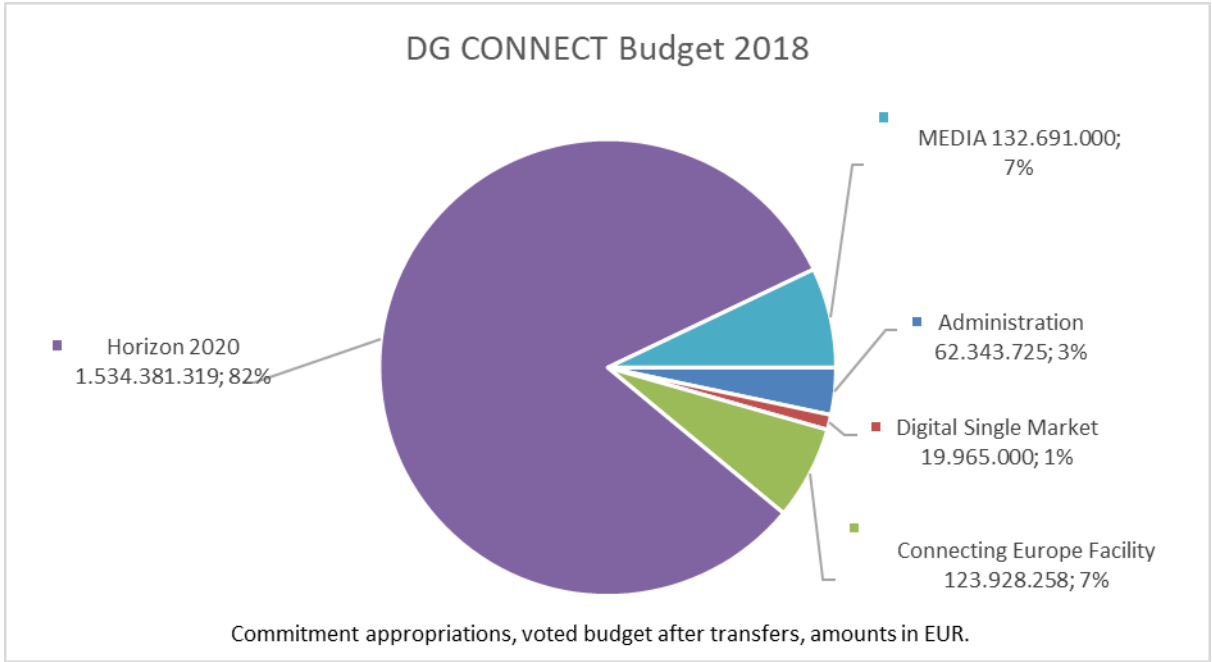
¹ DG CONNECT's mission statement.

As part of its overall remit, DG CONNECT implements EU research policy and supports the development of the European Research Area mainly through the Research Framework Programme Horizon 2020 (2014-2020), while the Seventh Framework Programme (2007-13) research projects have come to an end by now. The Commission proposal for the new Research Framework Programme, Horizon Europe, have been adopted in early 2018 and are being discussed by the legislator.

DG CONNECT supervised and governed four executive agencies: the Research Executive Agency (REA), the Innovation and Networks Executive Agency (INEA), the Executive Agency for Small and Medium-sized Enterprises (EASME) and the Education, Audiovisual and Culture Executive Agency (EACEA). It also was in charge of the Electronic Components and Systems for European Leadership (ECSEL) Joint Undertaking and prepared the setting up of the European High Performance Computing (EuroHPC) Joint Undertaking. DG CONNECT also holds responsibility for the Active and Assisted Living (AAL) Joint Programme, the European Union Agency for Network and Information Security (ENISA) and the Body of European Regulators for Electronic Communications (BEREC and the BEREC Office). The DG also acted as the designated service under a delegation agreement with the European Investment Bank (EIB) in the context of the CEF Financial Instruments and under a delegation agreement with the European Investment Fund (EIF) for the Cultural and Creative Sectors Guarantee Facility.

The DG carries out an integrated, digital-first communication strategy, shaping views on complex issues and sharing the knowledge within the DG and using the full panoply of tools to present them to the various external audiences in an open manner that encourages engagement, including communication to non-experts.

The DG has successfully implemented the requirements resulting from the Synergies & Efficiencies Review in accordance with the yearly targets set by DG Human Resources and Security. A limited change to its organisational chart in 2018 allowed DG CONNECT to further focus resources on core priorities by reducing support staff and contributed to the implementation of the political agreement to gradually increase Commission staff and services in Luxembourg.



EXECUTIVE SUMMARY

The Annual Activity Report is a management report of the Director-General of DG CONNECT to the College of Commissioners. Annual Activity Reports are the main instrument of management accountability within the Commission and constitutes the basis on which the College takes political responsibility for the decisions it takes as well as for the coordinating, executive and management functions it exercises, as laid down in the Treaties².

a) Key results and progress towards the achievement of general and specific objectives of the DG (executive summary of section 1)

1) General Objective 'A Connected Digital Single Market'

Since May 2015, the Commission has submitted all proposals and policy initiatives announced in its Digital Single Market Strategy. It has presented 35 proposals and policy initiatives which all seek to remove existing online barriers and allowing citizens, business and governments to benefit from the growing connected online digital market place. Overall, good progress has been made and agreements between the European Parliament and the Council have been reached on most of these proposals.

DG CONNECT took action in the three main areas for which the mid-term review of the strategy had shown the need of further EU action, namely to develop the European Data Economy to its full potential, to protect Europe's assets by tackling cybersecurity challenges, and to promote the online platforms as responsible players of a fair internet ecosystem. DG CONNECT also put emphasis on the policy areas that were identified as critical for unlocking the true value of the data economy: digital skills, digitising industry and services (e.g. connected cars), high-performance computing, artificial intelligence, modernising public services and e-government and digital health and care.

Digital goods and services are available to consumers and businesses across Europe

Two major regulations directly benefitting European consumers became fully applicable in 2018, namely the 2017 Regulation on **cross-border portability of online content services**, which allows Europeans to travel and enjoy online content services across borders and the **Regulation to put an end to unjustified geo-blocking** which has been formally adopted in April 2018 obliging companies to remove such discrimination, improving access to information and wider choice.

Political agreement was reached on 13 December 2018 on a Directive on **online transmissions and retransmissions of radio and TV programmes**. The new rules will contribute to a wider distribution of radio and TV programmes across the EU, making it easier for European broadcasters to make certain programmes available online and for retransmission operators to offer more radio and TV channels from different Member States. Right holders will be adequately remunerated where their works are used in programmes transmitted through direct injection, and broadcasters and distributors involved in the process will enjoy legal certainty.

Following intensive negotiations on the proposal for a Directive on **copyright in the Digital Single Market** a political agreement was reached in early 2019, which would adapt certain key exceptions to copyright to the digital and cross-border environment,

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

improve licensing practices and ensure wider access to content; and realise a well-functioning marketplace for copyright.

The MEDIA sub-programme **strengthens the capacity of the audiovisual industry** to take advantage of the digital single market through cross-border collaboration, circulation and access, thus overcoming national fragmented markets.

Electronic communications networks and services, digital content and innovative services benefit from favourable conditions and compete on a level playing field

Securing network and information systems in the EU is essential to keep the online economy running and to ensure prosperity. Based on the 2017 Commission 'cybersecurity package', the co-legislator achieved a political agreement on the so called **Cybersecurity Act** in December 2018. This is a significant step towards enhancing the EU's cybersecurity and user and business trust in digital technologies. The **European Union Agency for Network and Information Security (ENISA)** will have more powers to assist Member States in effectively responding to cyber-attacks with a greater role in cooperation and coordination at Union level. The new **European cybersecurity certification framework** offers the possibility to establish multiple tailored schemes specifying product/service/processes categories, evaluation criteria and security requirements, as well as assurance levels. Member States' experts and market stakeholders will be involved in developing these schemes that will be prepared by ENISA and adopted by the Commission.

On 19 September 2018, the Commission proposed a **European Cybersecurity Competence Network and Centre**, to help the EU retain and develop the cybersecurity technological and industrial capacities necessary to secure its Digital Single Market. It should help the EU and Member States take a proactive, longer-term and strategic perspective to cybersecurity industrial policy going beyond research and development only. This approach should help not only to come up with breakthrough solutions to the cybersecurity challenges which the private and public sectors are facing but also support the effective deployment of these solutions. It will allow relevant research and industrial communities as well as public authorities to gain access to key capacities such as testing and experimentation facilities, which are often beyond the reach of individual Member States due to insufficient financial and human resources.

On 6 November 2018, the legislator adopted the revision of the **Audiovisual Media Services Directive**. The new rules, once transposed into national law, will pave the way to a fairer regulatory environment for all players in the audiovisual sector and. They will provide more flexibility to broadcasters in terms of advertising, will protect minors and tackle hate speech in all audiovisual content, will better promote European audiovisual productions and will ensure the independence of audiovisual regulators.

On 15 June 2017 **roaming surcharges for all travellers in the EU** came to an end. DG CONNECT prepared the interim report to the EP and Council adopted by the Commission in December 2018, which concludes on an overall good implementation of 'Roam-like-at-home' rules and massive benefits by end-users: data traffic while roaming in the European Economic Area (including the EU) increased five times on average and minutes of calls made have doubled.

“We are improving the daily life of our citizens, be it end of roaming charges or safer online environment. By completing all our digital initiatives we will bring even more positive change to consumers and businesses alike.”

Mariya Gabriel

The digital economy can develop to its full potential underpinned by initiatives enabling full growth of digital and data technologies

On 25 April 2018, the Commission adopted a **Communication on artificial intelligence for Europe**, proposing a European approach to make the most out of the opportunities offered by artificial intelligence, while addressing the new challenges AI brings, by increasing public and private investments, preparing for socio-economic changes brought about by artificial intelligence, and ensuring an appropriate ethical and legal framework. On 7 December 2018, the Commission presented the **Coordinated Plan on Artificial Intelligence** prepared together with Member States, which defines a series of joint actions to increase investment, make more data available, foster talent, and ensure trust in artificial intelligence.

On 13 February 2019, the co-legislator secured a political agreement on the first-ever rules on **fairness in platform-to-business relations** proposed in April 2018. The new regulation aims at creating a fair, transparent and predictable business environment for businesses and traders when using online platforms. It will create a more predictable and transparent trading environment online, and will offer new possibilities for resolving disputes and complaints. Small businesses will in particular benefit from a ban on certain unfair practices and greater transparency in online platforms. In parallel, the Expert Group for the Observatory for the Online Platform Economy started its work in October 2018.

The adoption by the co-legislators of the **European Electronic Communications Code and the BEREC Regulation** in December 2018 has been a major breakthrough as the new rules will improve the conditions for investment in very-high-speed connectivity, contribute to the levelling of the playing field and facilitate the development of new services for business and users.

High-performance computing (HPC) is the use of super computers and parallel processing techniques for solving complex computational problems. In the digital era, it is a strategic resource for Europe's future. High-performance computing, enabling the processing of large amounts of data, is at the core of major advances and innovation in the digital age. The establishment and the start of operations of the **EuroHPC Joint Undertaking** in 2018 is a major achievement **in view of the political objective to rank the EU amongst the top three world supercomputing powers**. 24 Member States and Norway joined the Joint Undertaking, which provides a legal and co-funding framework mobilising near EUR 1 billion (EU and national funding) during 2019 and 2020, to deliver a world leading-class supercomputing infrastructure and a competitive European HPC ecosystem.

On **Cooperative, Connected and Automated Mobility**, 27 Member States plus Norway and Switzerland signed the 2017 Letter of Intent on cross-border demonstration and testing, which resulted in the establishment of eight test sites ('corridors'), of which four, including Metz-Merzig-Luxembourg, Porto-Vigo, Evora-Merida and the Brenner path between Bologna and Munich, are funded under H2020.

The 2017 Commission Communication on Building a European Data Economy looked at proven or potential blockages to the free movement of data and presents options to remove unjustified and or disproportionate data location restrictions in the EU. The **Regulation on a framework for the free flow of non-personal data in the EU** was adopted on 14 November 2018 and will apply as of 28 May 2019, when Member States will have two years to repeal or justify any existing data localisation restrictions. Removing data localisation restrictions is considered the most important factor for the data economy to unlock its full potential, and to grow up to EUR 739 billion in 2020, doubling its value to 4% of GDP. Moreover, removing existing data localisation measures will drive down the costs of data services, provide companies greater flexibility in organising their data management and data analytics, while expanding their use and choice of providers.

To use the full potential of digital technology, Europeans need **digital skills** and the Commission continued its support to several initiatives in this field: The Digital Skills and Jobs Coalition reached over 10 million EU citizens including 7.4 million training modules and 1.9 million certifications. The Digital Opportunity Traineeships initiative has already enabled 1800 students to undertake an internship in another European country to improve their digital skills on the job, and the 2018 edition of Code Week saw participation more than double.

All Europeans enjoy effective world-class connectivity through future-proof and ubiquitous digital networks and service infrastructures as underlying basis for the digital society and data economy

As part of the next long-term EU budget 2021-2027, the Commission proposed to renew the **Connecting Europe Facility**, with EUR 3 billion to support investments in the European digital infrastructure networks. The Facility will support state-of-the-art digital infrastructure, focussing on key strategic projects with high impact on the Digital Single Market, such as 5G cross-border corridors along major transport paths, 5G and Gigabit connectivity to critical socio-economic drivers in the education and health sectors, and their surrounding areas; and backbone networks of strategic importance such as certain submarine cables or terabit capacity links to major computing centres.

The Commission's Data Package adopted in 2018 focused on the further opening up of data produced by public or publicly-funded entities. Consequently, DG CONNECT prepared a proposal for a revision (recast) of Directive 2003/98/EC on the **re-use of public sector information**, which the Commission adopted on 25 April 2018.

The first **WiFi4EU** call resulted in the award of 2800 vouchers of EUR 15 000 value each to municipalities across the EU and will support installation of free public Wi-Fi hotspots in those local communities.

Through the **Fintech Action Plan** adopted in March 2018, the Commission puts forward a set of initiatives that will encourage a wider and more balanced uptake of technological innovation in the financial sector for the benefit of financial services providers and investors, while preserving financial stability, and ensuring consumer and investor protection. The actions mainly aim to enhance supervisory convergence and prepare the EU financial sector to better embrace the opportunities brought by new technologies.

A modern, open and pluralistic society building on Europe's cultural diversity, creativity and respect of creators' rights and its values in particular democracy, freedom of expression and tolerance

On 1 March 2018, the Commission issued a **Recommendation on measures to effectively tackle illegal content online**, which builds on the 2017 Communication on tackling illegal content online, towards enhanced responsibility of online platforms. In setting out clear legal guidance, the Commission has made clear which types of processes platforms should put in place, in order to speed up the detection and removal of illegal content, and thus curb the spread of such material, while also offering a set of robust safeguards. Online platforms need to exercise a greater responsibility in content governance. The recommendation proposes a common approach to swiftly and proactively detect, remove and prevent the reappearance of illegal content online.

In view of the challenge that disinformation presents to our society and its democratic functioning, the Commission adopted on 26 April 2018 the Communication on **Tackling online disinformation: a European Approach**. This Communication comprises a set of actions to be taken by the social media operators and advertising industry, and the creation of a fact checkers network in Europe and increased media literacy activity. It was complemented by a **Code of Practice, a voluntary self-regulatory measure**, signed by the major social media networks and advertising industry representatives, by

an action plan outlining the next steps in the process. 10 Horizon 2020 projects targeting disinformation were launched. Building on this work, the Commission and the High Representative adopted a Joint Communication on the **Action Plan against Disinformation** in December 2018. It sets out a number of additional actions to strengthen the capabilities of the EU and Member States to fight disinformation and improve the cooperation between Member States and the EU institutions in tackling the disinformation challenge.

Europeana is the Commission's digital platform for cultural heritage, through which citizens and the cultural and creative industries can access European culture for the widest possible variety of purposes. The deployment and maintenance of the Europeana Platform under the Connecting Europe Telecom Programme has been secured until 31 August 2020. The Commission report on Europeana evaluated the latter's achievements and shortcomings in terms of scope, funding and governance.

The **Cultural and Creative Sectors' Guarantee Facility** showed that the traditional gap between the financial sector and SMEs from the cultural and creative sectors can be addressed in a concrete way. Given the strong market demand, the European Fund for Strategic Investment has already enhanced its participation in the facility up, which now has an overall size of EUR 181 million.

2) General Objective 'A New Boost for Jobs, Growth and Investment'

On 6 June 2018, the Commission proposed to create the first ever **Digital Europe Programme** (2021-2027) with EUR 9.2 billion to support the digital transformation of Europe's societies and economies, boosting investments in areas of strategic importance such as high performance computing, artificial intelligence, cybersecurity and advanced digital skills and establishing additional capacities in these areas. The digital transformation impacts all sectors of the economy and society and transforms the way we live, work and communicate. The current EU investment framework covers important aspects of these pillars and notably research and innovation. On top of this, as shown by the mid-term evaluation of the H2020 and CEF-Telecom programmes as well as of the Digital Single Market Strategy, building or strengthening capacities in key areas of rapidly developing technology fields is instrumental for generating value while at the same time addressing public sector needs. The proposed Programme complements and works together with other instruments: the Connecting Europe Facility 2, the European Regional Development Fund, the European Social Fund and notably Horizon Europe.



On 7 June 2018, the Commission adopted its proposal for **Horizon Europe**, an ambitious EUR 100 billion research and innovation programme that will succeed Horizon 2020. The Programme's general objective is to deliver scientific, economic and societal impact from the Union's investments in Research and Innovation to strengthen the scientific and technological bases of the Union and foster its competitiveness, deliver on the Union strategic priorities, and contribute to tackling global challenges. Horizon Europe will be particularly relevant for the upcoming digital challenges in Europe and contribute to the needed investments in research and innovation strategies in core digital technologies that will be crucial to prepare for the digital and industrial transformation of our society and economy and address major sustainability challenges.

Europe maintains its position as a world leader in the digital economy, where European companies can grow globally, drawing on strong digital entrepreneurship and performing start-ups and where industry and public services master the digital transformation

The 2016 **Communication on 'Europe's next leaders: the Start-up and Scale-up Initiative'** has been implemented through a reinforced Startup Europe initiative. Startup Europe has taken a leading role in coordinating policies and programmes developed by other DGs, in particular DG Research and Innovation and DG Internal Market, Industry, Entrepreneurship and SMEs.

On 25 April 2018, the Commission adopted a **Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society**, co-led by DG CONNECT with DG SANTE and DG Research and Innovation. This communication sets out the Commission's objectives in this area: improving citizen's secure access to and sharing of health data; better data to promote research, disease prevention and personalised health and care, and improving digital tools for citizen empowerment and for person-centred care.

Europe's research finds investment opportunities for potential technology breakthroughs and flagships, in particular through the Horizon 2020 programme and using Private-Public Partnerships

Future Emerging Technologies (FET) Flagships are ambitious, highly-risky, long term and large scale research and innovation initiatives pursuing grand interdisciplinary scientific and technological challenges. The **Graphene Flagship** makes great progress to bring this very promising material to industry and reports close to 2500 top-class scientific publications, 9 spin-out companies, 115 patent applications and more than 55 new products on the market. The **Human Brain Project Flagship** has released its first platforms, such as a Brain Atlas continuously getting enriched with human brain data on the different scales and levels. Also, the researchers have moved a good step towards improving our understanding on consciousness by investigating brain activity in coma patients. The **Quantum Technologies Flagship** is now in the middle of its ramp up phase, implementing the FET 2018-20 Work Programme. In October 2018, 20 projects started implementing the long-term vision of the Flagship, namely to develop in Europe a 'quantum web', where quantum computers, simulators and sensors are interconnected via quantum communication networks.

Contractual Public-Private Partnerships (cPPPs) play a strategic role and are of key importance in the support to ICT. In total, seven PPPs are now supported entirely or partly through the Horizon 2020 ICT part of Leadership in Enabling and Industrial Technologies: 5G, Photonics, Robotics, Big Data, Factories of the Future, High Performance Computing and Cybersecurity. In addition to the cPPPs, DG CONNECT continues financing the **Electronic Components and Systems for European Leadership (ECSEL) Joint Undertaking**.

The Commission has found that the **integrated project for research and innovation in microelectronics** qualifies as an Important Project of Common European Interest. France, Germany, Italy and the UK will provide up to EUR 1.75 billion in funding for this project that aims to unlock an additional EUR 6 billion in private investment.

A CONNECTED DIGITAL SINGLE MARKET

SPECIFIC OBJECTIVE 1.1

Digital goods and services are available to consumers and businesses across Europe

SPECIFIC OBJECTIVE 1.2

Electronic communications networks and services, digital content and innovative services benefit from favourable conditions and compete on a level playing field

SPECIFIC OBJECTIVE 1.3

The digital economy can develop to its full potential underpinned by initiatives enabling full growth of digital and data technologies

SPECIFIC OBJECTIVE 1.4

All Europeans enjoy effective world-class connectivity through future-proof and ubiquitous digital networks and service infrastructures as underlying basis for the digital society and data economy

SPECIFIC OBJECTIVE 1.5

A modern, open and pluralistic society building on Europe's cultural diversity, creativity and respect of creators' rights and its values in particular democracy, freedom of expression and tolerance

DG CONNECT STRATEGIC PRIORITIES 2016-2020

A NEW BOOST FOR JOBS, GROWTH AND INVESTMENT

SPECIFIC OBJECTIVE 2.1

Europe maintains its position as a world leader in the digital economy, where European companies can grow globally, drawing on strong digital entrepreneurship and performing start-ups and where industry and public services master the digital transformation

SPECIFIC OBJECTIVE 2.2

Europe's research finds investment opportunities for potential technology breakthroughs and flagships, in particular through the Horizon 2020 programme and using Private Public Partnerships

b) Key Performance Indicators (KPIs)

This subsection shows the five KPIs most relevant for DG CONNECT as set out in the Strategic Plan 2016-2020, i.e. the indicators which measure the most critical aspects of its performance and gives useful insights into its most significant achievements. The fifth KPI is control related, reflecting sound financial management.

| KPI 1: Increased portability of online content service | |
|--|---|
| Target 2017 | Latest known results |
| 100% paid-for subscriptions for online content services portable across borders 1 year after the adoption of the Regulation on portability (start of application in 2018). | The Portability Regulation was adopted on 14 June 2017 and applies since 1 April 2018, with all paid-for online content services being now obliged to provide cross-border portability to their subscribers. A Eurobarometer survey will be carried out in Q1 2019 in order to assess consumers' experience with the new rules. |

| KPI 2: Deployment of network infrastructure promoting a Gigabit society | | |
|---|---|---|
| Interim milestone (2020) | Target (2025) | Latest known results (July 2018) ³ |
| <p>a) 100% coverage at 30 Mbps (EU citizens, DAE target⁴)</p> <p>b) 50% take-up at 100 Mbps (households, DAE target)</p> | <p>c) Coverage of all main socio-economic drivers (such as schools, transport hubs and main providers of public services as well as digitally intensive enterprises) with Gigabit connectivity allowing 1 Gbps download, 100 Mbps upload and very low latency.</p> <p>The targets for coverage were determined in September 2016 in the context of the Gigabit Communication adopted as part of the Telecom review.</p> | <p>a) The total fixed broadband coverage is 83.1%.</p> <p>b) The total EU average ultrafast broadband penetration is 19.9%.</p> <p>c) Data not yet available.</p> |



Fixed internet connection



- In 2018, **83%** of European households had access to a **fast fixed internet connection (NGA)**
- But this goes down to **53%** for households in rural areas
- **Ultrafast broadband** (Fibre to the Premises and Docsis 3.0 cable) is available in **60%** of EU households
- Some MS are amongst **global leaders in very high capacity** while others have focused on **incremental upgrades**

4G mobile coverage

- In 2018, the EU average of **4G mobile coverage** is **98%** but **90%** for households in rural areas



³ Source: Broadband coverage in Europe, IHS and Point Topic, Commission Services.

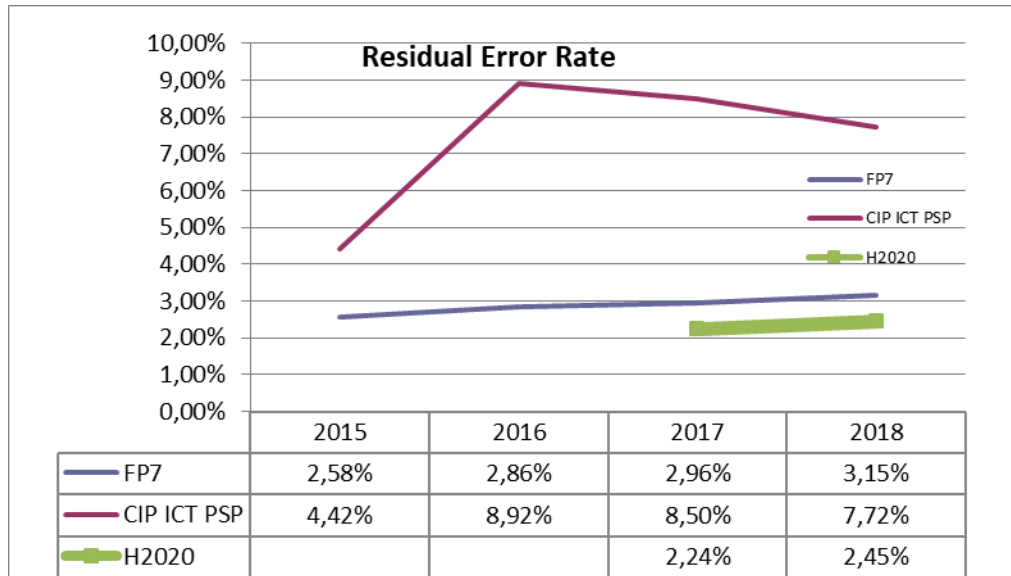
⁴ The Digital Agenda for Europe (DAE) is part of the Commission 2010 Europe 2020 strategy. It defined a set actions to contribute significantly to the EU's economic growth and spread the benefits of the digital era to all sections of society. One of the seven DAE's priority areas of actions is to develop faster internet access.

| KPI 3: Leveraging private investment through Private Public Partnerships | | |
|---|--|---|
| Interim Milestone (2017) | Target (2020) | Latest known results |
| Additional private funding matching at least EU funding (i.e. EUR 1.3 billion). | Private investment at least 3 times the total EU funding for the contractual private public partnerships (cPPP). | <p>2017 leverage information is based on the published cPPP reports. All cPPPs clearly exceed the 2020 leverage target of 3.</p> <p>a) 5G cPPP: leverage factor of 7⁵; b) Cyber: leverage factor above 5; c) Big Data Value cPPP: leverage factor of 6.95; d) Factories of the Future cPPP: leverage factor rate of 4.65; e) High Performance Computing cPPP: leverage factor above 5; f) Photonics cPPP: leverage factor estimated to 4.</p> |

| KPI 4: Patent applications and patents awarded as a result of H2020 grants for Future and Emerging Technologies (FET) and Leadership in Enabling and Industrial Technologies (LEIT) | |
|--|---|
| Target as defined in the Horizon 2020 Specific Programme | Latest known results (source: CORDA (31.12.2018)) |
| <p>Target at the end of H2020:</p> <p>a) LEIT ICT: 3 patent applications per EUR 10 million funding</p> <p>b) FET: 1 patent application per EUR 10 million funding</p> | <p>a) LEIT ICT: 158 patents applications (= 0.35 per EUR 10 million funding), of which 40 patents awarded.</p> <p>b) FET: 29 patent applications (= 0.2 per EUR 10 million funding), of which 22 patents awarded.</p> <p>Output data is collected through the continuous project reporting of beneficiaries under their own responsibility. At this early stage of data reporting, no systematic data quality check has been performed, hence data is solely based on self-declarations of project coordinators. The preliminary statistics for LEIT ICT show progress in the number of patents applications and patents awarded. However, as many projects are in their early phases, they have not yet produced large numbers of patents as patenting and commercial exploitation often take a long time.</p> |

⁵ The methodology used for calculating the leveraging factor is not fully consistent with the methodology used for other partnerships. The leveraging factor of 7 corresponds to EU actors only. When applied to all actors, including non-EU actors that have significant Research & Innovation investment in 5G, the leveraging factor would be in the order of 21.

KPI 5: FP7 and CIP ex-post control residual error rate



Horizon 2020: At this stage of the programme lifecycle, cost claims totalling 9 billion euro of requested funding had been received by the services by the end of 2018. The first Horizon 2020 audits were launched in the middle of 2016. The residual error rate for the Research and Innovation Family is 2.22 % (2.20% for DG CONNECT alone), expected to rise to around 2.45% when taking into account the draft audit reports (2.39% for DG CONNECT alone).

FP7 (2007-13): The residual error rate of the Seventh Research Framework Programme (FP7) amounts to 3.15% and is above the 2% materiality threshold. DG CONNECT therefore issues a reservation as in the past years and in line with similar reservations expressed by the other DGs of the Research Family.

CIP-ICT-PSP (2007-13): The residual error rate for the Competitiveness and Innovation Programme (CIP) ICT PSP amounts to 7.72%. DG CONNECT therefore also expresses a reservation on the legality and regularity of these payments as in the past years. The residual error rate should be considered with caution. Contrary to FP7, the CIP error rate calculations are based on a more limited number of audits. In 2018, the 10 audits with the highest adjustments account for 60.88% of the total amount adjusted. Without these audits, the detected error rate would be 4.15% which is similar to the FP7 representative error rate (5.26%). Given the similarity of the control systems of the FP7 and CIP ICT PSP programmes, such error rate would be plausible.

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

In accordance with the governance arrangements of the European Commission, the staff of DG CONNECT 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 principles, based on international good practice, aimed to ensure the achievement of policy and operational objectives. The financial regulation requires that the organisational structure and the internal control systems used for the implementation of the budget are set up in accordance with these principles. DG CONNECT has assessed the internal control systems during the reporting year and has concluded that the internal control principles are implemented and function as intended. Please refer to AAR section 2.1.3 for further details.

In addition, DG CONNECT has systematically examined the available control results and indicators, including those aimed to supervise entities to which it has entrusted budget implementation tasks, 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 the achievement of control objectives. Please refer to Section 2.1 for further details.

In conclusion, management has reasonable assurance that, overall, suitable controls are in place and working as intended; risks are being appropriately monitored and mitigated; and necessary improvements and reinforcements are being implemented. The Director General, in his capacity as Authorising Officer by Delegation has signed the Declaration of Assurance albeit qualified by a reservation concerning the rate of residual errors with regard to the accuracy of cost claims in the Seventh Research Framework Programme's and the ICT PSP part of the Competitiveness and Innovation Framework Programme's grant agreements.

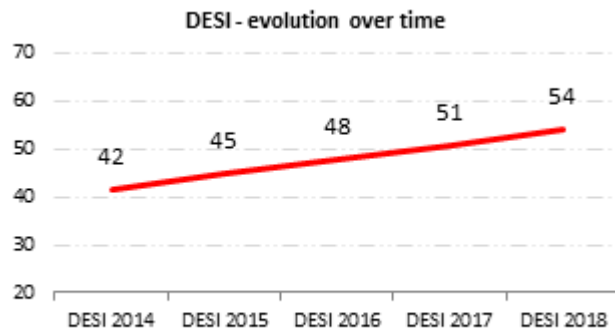
d) Provision of information to the Commissioner(s)

In the context of the regular meetings during the year between the DG and the Commissioner on management matters, also the main elements of this report and assurance declaration, including the reservations envisaged have been brought to the attention of Commissioner Mariya Gabriel, responsible for Digital Economy and Society.

1. KEY RESULTS AND PROGRESS TOWARDS THE ACHIEVEMENT OF GENERAL AND SPECIFIC OBJECTIVES OF THE DG

Relevant general objective: A Connected Digital Single Market

The impact indicator for the Connected Digital Single Market is the aggregate score in the Digital Economy and Society Index (DESI). As digital technologies are changing very quickly, the methodology to calculate the index is reviewed every year. The indicator list has therefore slightly changed; in addition, the 0-1 scale was replaced by a 0-100 scale. According to the 2018 data, the score has increased from 45 to 54 between 2015 and 2018.



In its 2016-2020 Strategic Plan, DG CONNECT defined as a target that all 28 EU Member States should reach a DESI score of 0.6 by 2020 with the 2014 baseline indicating 13 Member States above this target value. Following change of methodology, to obtain the same 2014 baseline of 13 Member States, the target value corresponds to a DESI score of 43 and 25 EU countries are already above this target in 2018.

The DESI is also the main analytical tool providing evidence for the contributions of DG CONNECT into the European Semester exercise in which the DG advocates for higher levels of digitisation and related investments in EU countries.

**Specific objective 1.1:
Digital goods and services are available to consumers and businesses across Europe.**

Related to spending programme:
Creative Europe MEDIA

The Commission has assisted the co-legislators in the discussions on the proposal for a **Regulation on online transmissions and retransmissions of radio and TV programmes**. Six trilogues took place in 2018, leading to a political agreement on 13 December 2018. A final adoption by the co-legislators is on track for Q1 2019. The new rules will contribute to a wider distribution of radio and TV programmes across the EU, making it easier for European broadcasters to make certain programmes available online and for retransmission operators to offer more radio and TV channels from different Member States. Right holders will be adequately remunerated where their works are used in programmes transmitted through direct injection, and broadcasters and distributors involved in the process will enjoy legal certainty.

The Commission has assisted the co-legislators throughout the negotiations on the proposal for a **Directive on copyright in the Digital Single Market**, which aims to: (i) adapt certain key exceptions to copyright to the digital and cross-border environment; (ii) improve licensing practices and ensure wider access to content; and (iii) realise a

well-functioning marketplace for copyright. After 5 trilogues meetings between the European Parliament, the Council and the Commission in 2018 leading to significant progress, a final meeting in February 2019 secured political agreement paving the way for formal adoption under this legislature.

The **.eu Top Level Domain name** is designed to contribute to the development of the Digital Single Market and to underpin a European online identity. To ensure that the .eu legal framework still serves its intended purpose and values, the Commission proposed a Regulation on the implementation and functioning of the .eu Top Level Domain name on 27 April 2018. Following political agreement between Council and Parliament in December 2018, a final adoption by the co-legislators is on-track for Q1 2019.



In 2018, the Commission has been closely involved in the discussions on **reform of the WHOIS policy by the Internet Corporation for Assigned Names and Numbers (ICANN)**, with a view to ensuring effective access to non-public WHOIS data for the purposes of law enforcement, cybersecurity and intellectual property rights protection, in full respect of EU data protection rules.

The **Portability Regulation**, which has been applicable since 1 April 2018, constitutes a key achievement of the Digital Single Market strategy. Thanks to the new rules, Europeans who buy or subscribe at home to online content services - to watch films or sporting events, listen to music, download e-books or play games - are now able to continue accessing these services without additional costs when they travel or stay temporarily in other EU countries.



The regulation on **geoblocking** entered into force on 22 March 2018 and applies since 3 December 2018. The Commission has engaged with a wide range of stakeholders and Member States to ensure the smooth entry into effect of the legislation, publishing an extensive Q&A document and monitoring monitoring the implementation and enforcement of the Regulation by Member States, as well as the adaptations implemented by eCommerce sellers.

The prototype **Directory of European Films** presented at the Lyon Film Festival in October 2018 was a key achievement. The Directory is one of the flagship actions of the Digital4Culture Strategy and has been supported by MEDIA. It will be an online transparency tool providing constantly updated data on European films and their availability online in video-on-demand (VOD) services in Member States. The Directory will contribute to the visibility of European films on the VOD market and thus help the circulation of films as well as facilitate compliance with the revised AVMS Directive. The Commission has entrusted the European Audiovisual Observatory with the development of the Directory of European Films, based on its unique experience and wealth of data on the audiovisual market in Europe.

**Specific objective 1.2:
Electronic communications networks and services,
digital content and innovative services benefit from
favourable conditions and compete on a level playing
field.**

Related to
spending
programme(s):
Horizon 2020

On 10 December 2018, the negotiators of the European Institutions reached a political agreement on the **Cybersecurity Act**. The adoption of the Cybersecurity Act is a significant step towards enhancing EU's cybersecurity as well as user and business trust in digital technologies. The Regulation gives a permanent mandate to the EU Agency for Cybersecurity, ENISA, to replace its limited mandate that would have expired in 2020, as well as more resources allocated to the agency to enable it to fulfil its goals. There is a stronger basis for ENISA and more power to assist Member States in effectively responding to cyber-attacks with a greater role than is currently already the case in cooperation and coordination at Union level, including in the newly established **European cybersecurity certification framework**. With the entry into force of the Cybersecurity Act, there will be one European cybersecurity certification framework with the possibility to establish multiple tailored schemes specifying product/service/processes category, evaluation criteria and security requirements, as well as assurance level. Member States' experts and market stakeholders will be involved in developing these schemes that will be prepared by ENISA and adopted by the Commission. The certification will be voluntary, unless otherwise specified in national or EU law. The certification framework will be based on international / European standards where possible. Under the current mandate, ENISA was already able to assist the Commission in some of the negotiation forums.



ENISA was directly supporting and implementing EU cybersecurity policy objectives through actions and outputs in the jointly defined activity areas, including

- providing expertise by anticipating and supporting Europe in facing emerging network and information-security challenges;
- promoting network and information security as an EU policy priority;
- capacity-building by contributing to maintaining state-of-the-art network and information-security capacities;
- community-building by fostering the emerging European network and information-security community.

Building on the ambitious cybersecurity initiatives announced in 2017, DG CONNECT prepared the **Commission proposal for a Regulation setting up a European Cybersecurity Industrial, Technology and Research Competence Centre with a Network of National Coordination Centres** adopted in September 2018. The aim is to help the Union retain and develop the cybersecurity technological and industrial capacities necessary to secure its DSM. This goes hand-in-hand with the key objective to increase the competitiveness of the



Union's cybersecurity industry and

turn cybersecurity into competitive advantage of other European industries. The Competence Centre and Network, and with it the Digital Europe and Horizon Europe programmes in the next multi-annual financial framework 2021-2027, will also be crucial in supporting the implementation of the NIS Directive and the cybersecurity certification framework in the Cybersecurity Act. The Commission proposal also invites Member States to set up support structures for cybersecurity capacities at national level and integrate those into a European context, which in turn is guided by a governance involving all relevant stakeholders.

On 26 April 2018, the Commission had proposed the first-ever rules on **fairness in platform-to-business relations** aimed at creating a fair, transparent and predictable business environment for businesses and traders when using online platforms. On 13 February 2019, the co-legislators secured a political agreement. The new regulation will create a more predictable and transparent trading environment online, and will offer new possibilities for resolving disputes and complaints. Small businesses will in particular benefit from a ban on certain unfair practices and greater transparency in online platforms. In parallel, the Expert Group for the Observatory for the Online Platform Economy, set up by the Commission to gather further evidence and analysis on emerging issues met for the first time in October 2018.

DG CONNECT supported the negotiations with the co-legislators for the European **Electronic Communications Code and the Regulation on the Body of European Regulators for Electronic Communications (BEREC)**, which led to a political agreement in June 2018. Further to their formal adoption by the co-legislators, both instruments entered into force on 20 December 2018. The new rules will improve the conditions for investment in very-high-speed connectivity, contribute to the levelling of the playing field and facilitate the development of new services for business and users.

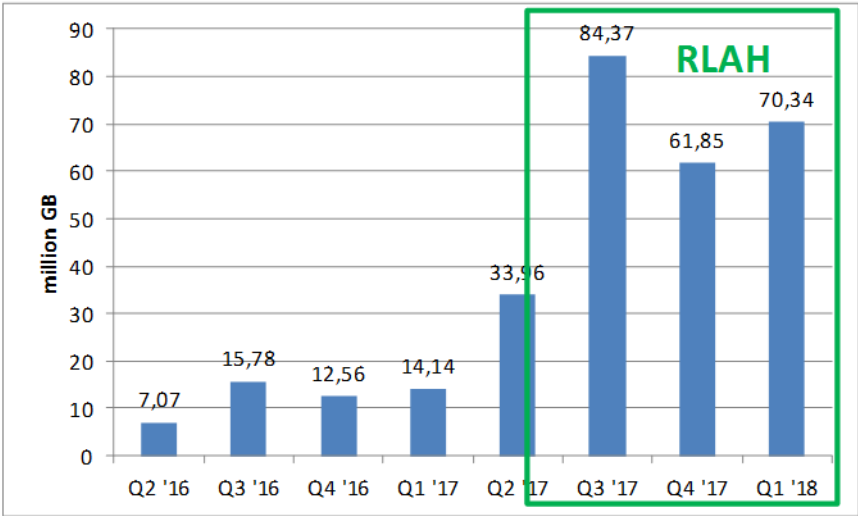
In 2018, BEREC continued to facilitate the consistent application of the electronic communication framework throughout the EU, notably via reports and opinions on the implementation of Union law in the area. It also responded to requests for assistance in the context of the legislative process that led to the adoption of the Electronic Communications Code and the new BEREC Regulation.

Termination rates are wholesale rates charged by operators for terminating voice calls that originate in another operator's network. Published on 26 November 2018, the evaluation of the Commission's Recommendation on **fixed and mobile termination rates** showed the latter's contribution to greater consistency of regulatory approaches, addressing the issue of cross-subsidisation between fixed and mobile operators and between small and larger operators. However, asymmetric non-cost oriented rates, which can result in cross-subsidies between operators in different Member States when customers make intra-EU calls, still persist due mainly to differences in the application of the recommended cost methodology for the calculation of the rates. The Commission's initial proposal to set a single rate for fixed and mobile termination services became obsolete since the co-legislators included, in the Electronic Communications Code, a delegated act setting single maximum EU-wide mobile and fixed voice termination rates to be adopted by the Commission by 20 December 2020. These cost-oriented rates will promote the Digital Single Market by removing cross-subsidisation between operators in different Member States. The Commission is developing cost models that will estimate the efficient costs to provide fixed and mobile voice call termination in each EU country.

DG CONNECT, in close collaboration with the national regulatory authorities, continued a tight monitoring of the implementation of the 2017 **Roam-Like-At-Home (RLAH) rules**

and prepared the interim Report to the EP and Council adopted by the Commission in December 2018, which concludes on an overall good implementation of the rules and massive benefits for end-users who now use much more extensively than before their mobile phone while roaming in the EU/European Economic Area: roaming data traffic increased five times on average and duration of roaming calls have doubled.

Retail roaming data traffic (European Economic Area, millions of gigabytes (GB)):



The **Broadband Cost Reduction Directive** aims to facilitate and incentivise the roll-out of high-speed electronic communications networks by lowering the costs. It is also helping achieve the EU’s strategic objectives for a gigabit society by 2025. The implementation report adopted by the Commission in June 2018 concludes that some progress has been achieved regarding access to physical infrastructure but that there is room for improvement as regards coordination of civil works and easing civil work permits procedures as well as access to buildings for the installation of in-building infrastructure. The report also establishes a baseline scenario against which an evaluation can be carried out in the future and indicates recommended actions that the Member States could take to maximise the effective implementation of the Directive, in particular by ensuring better transparency and enhancing regulatory certainty.

The investments necessary to build future-proof networks in the EU need a stable and predictable regulatory framework, which is, inter alia, based on the **Significant Market Power** (SMP) regime as a threshold for ex ante regulatory intervention. SMP Guidelines set out the principles to be applied by national regulatory authorities for the analysis of markets and SMP under the Framework, and it is a crucial tool to develop a coordinated approach. The changes in the markets with a greater infrastructure competition of various types, and the adoption by the Commission of various more specific ‘soft law’ instruments were taken into account in the revised SMP Guidelines. Thus the guidelines adopted in 2018 exclusively focus on market definition, single and joint SMP.

In assessing the notifications from national regulatory authorities and in particular the cost orientation remedies, the Commission services have observed significant discrepancies in the approaches estimating the Weighted Average Cost of Capital (WACC). The national regulatory authorities should ensure that there is sufficient economic margin between the wholesale and retail prices Significant Market Power operators set, including an estimation of the reasonable rate of return allowed on regulated services, which is typically measured through the WACC. Following a targeted consultation and a workshop with the national authorities, the Commission prepares

guidance on the methodology for calculating the WACC.

The 700 MHz band has so far been assigned in five Member States, and eight Member States have scheduled auctions of this band in 2019 or 2020. As regards spectrum enabling early 5G deployment in the Union, the 3.4-3.8 GHz band, or parts of it, has been assigned in most Member States. In six Member States, the licence conditions are aligned with the new technical conditions recommended in the CEPT Report 68, which has been included in the Commission Implementing Decision (EU) 2019/235 of 24 January 2019 prepared by DG CONNECT. Four Member States have already scheduled auctions for 2019.


Regarding **availability of spectrum for 5G** at frequencies above 6 GHz, the relevant opinion of the Radio Spectrum Policy Group, which is a Commission expert group, has identified at least 1GHz common band across Europe at 26.5-27.5 GHz. Only one Member State, Italy, has so far assigned 1 GHz of this band (the auction took place in September 2018). A number of Member States are planning the assignment process of at least 1 GHz of spectrum in this band to take place in 2019-2020, or are having public consultations on it, but without firm schedules yet. Full availability of the band is expected in 2020, pursuant to a harmonisation decision due to be adopted in early 2019.

Since 2017 the FIWARE Foundation, which is a legal independent body, has been managing the **FIWARE curated framework of open source platform components** to accelerate the development of smart solutions. It has focussed its activities on increasing FIWARE's penetration in three markets: smart cities, smart industry, smart agrifood. The smart energy market has been added as the fourth focus market in 2018. The new Connecting Europe Facility building block 'Context Broker', launched in 2018, is based on FIWARE's technical specifications and standards.


2018 marked two important milestones for the **Directive on security of network and information systems** (NIS Directive), the first EU-wide cybersecurity law aiming at achieving a high level of network and information security across the EU. By 9 May, Member States had to transpose the Directive into national law and, by 9 November, notify the Commission the identification of the 'operators of essential services'. To date, 25 Member States have notified full transposition of the Directive, while one has partially transposed. DG CONNECT is following up with the infringement procedures in all relevant cases. The second milestone concerned the notification by Member States of the results of the process of identification of the operators of essential service, which are those economic entities operating in sectors of critical importance for the society that, pursuant to the NIS Directive, are subject to specific security requirements and have to notify significant cybersecurity incidents to their national authorities. So far, DG CONNECT has received feedback from 20 Member States and relevant information on the relevant thresholds from 18. The information received feeds into a report assessing the consistency with the identification of operators of essential services. The cooperation fora established by the NIS Directive, the **Cooperation Group and the Computer Security Incident Response Teams (CSIRTs) Network**, are active since 2017. In particular, the NIS Cooperation Group has met 9 times and has adopted its first biennial work programme (2018-20) in February 2018. So far, the Cooperation Group has endorsed 9 deliverables, 7 of them were published on the Group's webpage. Guidance concerns both the implementation of the NIS Directive (i.e. identification of operators, security and incident notification requirements) and wider cybersecurity policy issues (e.g. security of election technology, blueprint, cross border dependencies).

In January 2017, the Commission proposed the **Regulation on Privacy and Electronic Communications**. In October 2017, the European Parliament was ready to start negotiations, following the general line and approach of the Commission's proposal, but negotiations in the Council are ongoing. The current Council text would – compared to the Commission proposal – notably allow for more exceptions to process electronic communications data and remove the facilitation of privacy settings. The Romanian Presidency's objective is to secure a negotiation mandate for trilogues with a view to reaching a political agreement under the current Commission's mandate or by the end of 2019.

Benefits for citizens and businesses



Users must be in control about their device and need to be asked for consent before cookies are stored to monitor their online behaviour.



By replacing the current ePrivacy Directive by a directly applicable Regulation, citizens and businesses benefit from one single set of rules instead of 28 different ones. This creates more legal certainty and reinforces trust in the internal market.

In parallel, DG CONNECT is assessing whether the current transposition of the ePrivacy Directive takes into account the changes caused by the General Data Protection Regulation, notably related to the definition of consent.

DG CONNECT supported the negotiations with the co-legislators for the revised **Audiovisual Media Services Directive (AVMSD)**, which led to a political agreement in June 2018, formal adoption in late 2018, and entry into force on 18 December 2018. The new rules pave the way to a fairer regulatory environment for all players in the audiovisual sector. They will provide more flexibility to broadcasters in terms of advertising, will protect minors and tackle hate speech in all audiovisual content, will better promote European audiovisual productions and will ensure the independence of audiovisual regulators.

As of 29 September 2018, the **mutual recognition obligation of notified electronic identifications (eIDs) for public services** applied across the EU. By the end of 2018, 8 Member States had notified their eID schemes, 3 others had pre-notified or were in various stages of the peer review process and other Member States are expected to pre-notify in the course of the coming months. This means that by the end of 2019 more than half of the population of the EU may use eIDs notified under eIDAS for accessing online public services abroad. All Member States committed in the 2017 Tallinn ministerial declaration on e-government to speed up the preparations for implementing and promoting the widespread use of eIDAS across sectors.



The Connecting Europe Facility's (CEF) building blocks have seen a strong acceleration of their re-use in 2018, supporting the implementation of European standards and the eIDAS Regulation. The number of projects re-using building blocks has increased from 42 projects at the end of 2017 to 108 projects at the end of Q3 of 2018. All Member States are now re-using at least one of the building blocks, with most of them re-using several ones. All sector-specific digital service infrastructures supported under the 2018 CEF Telecom Work Programme (eProcurement, Business Registers Interconnection System, Electronic Exchange of Social Security Information,

Online Dispute Resolution, eJustice Portal) are re-using one or more building blocks. Furthermore, three new building blocks were added in the second half of 2018: eArchiving, Context Broker and the Big Data Test Infrastructure.

In 2018, the Commission published its second evaluation of the 1996 **Database Directive**, which protects databases by copyright if they are original. It also protects non-original databases if the investment in obtaining, verifying and presenting the data was substantial. In line with the Better Regulation rules, the evaluation assessed the effectiveness, efficiency, relevance, coherence and EU added value of the Directive, analysing whether it remains fit for purpose in the new legal, economic and technological environment. The analysis shows that the Database Directive has effectively harmonised the existing national protection regimes. While the *sui generis* right continues to have no proven impact on the production of databases, the limited scope of protection ensures a relatively appropriate balance between rights and interests of database makers and users.

**Specific objective 1.3:
The digital economy can develop to its full potential
underpinned by initiatives enabling full growth of
digital and data technologies.**

Related to spending
programme(s):
Horizon 2020, CEF

On 10 April 25 European countries signed a **Declaration of cooperation on Artificial Intelligence**. On 25 April 2018, the Commission adopted the **Communication on artificial intelligence for Europe**, proposing a European approach to make the most out of the opportunities offered by artificial intelligence (AI), while addressing the new challenges AI brings, by increasing public and private investments, preparing for socio-economic changes brought about by AI, and ensuring an appropriate ethical and legal framework.

In line with the Communication, a new **High Level Expert Group on Artificial Intelligence** has been set up and its work resulted in a first **draft ethics guidelines for trustworthy Artificial Intelligence**, which provide key guidance to all stakeholders developing, deploying or using AI for ensuring ethical purpose, realising and assessing trustworthy AI. The document was published for consultation on 18 December 2018 and received more than 500 comments from a wide array of European and international stakeholders. In parallel, the Group is also working on recommendations on policy and investment. The **European Artificial Intelligence Alliance**, a platform establishing a forum for all stakeholders in AI, was launched. A group with Member States representatives was set up to develop cooperation on AI, resulting in the communication on the '**Coordinated Plan on Artificial Intelligence**' of 7 December 2018, which defines a series of joint actions to increase investment, make more data available, foster talent, and ensure trust in artificial Intelligence. The AI-on-demand-platform, a EUR 20 million flagship project, aiming at creating a single point of access to all AI resource in Europe, has been selected for funding.

“Artificial Intelligence can solve many societal challenges but it is also becoming a societal challenge itself. That is why I think European values and principles have to be embedded in every application of this technology. It is crucial to keep these aspects in mind when discussing possible policy actions.”

Roberto Viola

The focus area on 'Digitising and transforming European Industry and Services', the

Working Group on Digital Innovation Hubs and a specific training programme for organisations of EU13 countries called Smart Factories in new EU countries resulted in convergence on the concept of a **Digital Innovation Hub** (DIH), with 10 Member States having a strategy for DIHs and others supporting the concept. Also many regions are investing in DIHs and several organisations in EU13 countries are starting activities. At the end of the year, the Catalogue of Digital Innovation Hubs hosted in the Smart Specialisation Platform showed 240 Hubs (of various sizes and geometries) in 120 different NUTS 2 regions.

On 1 April 2018, 21 Member States and Norway signed a Joint Declaration creating the **European Blockchain Partnership** officially starting cooperation in the development of a European Blockchain Services Infrastructure that will support the delivery of cross-border digital public services, with the highest standards of security and privacy. Since then, 8 countries have joined the Partnership. The Partnership identified and agreed on cross-border digital public sector services to be deployed through the Blockchain Services Infrastructure, and a shared governance model made up of the Commission and the Member States. The implementation of the Infrastructure starts in 2019 for an initial set of cross-border digital public services, supported by the Connecting Europe Facility - Telecom. These services include EU customs and tax data reporting, notarisation and verification of documents for auditing EU-funded projects, cross-border certification of diplomas and qualifications, and a European self-sovereign identity initiative building on Regulation (EU) No 910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS).

The **European Open Science Cloud** (EOSC) is a fit for purpose pan-European federation of research data infrastructures, with the objective to interlink publicly funded research data and provide state-of-the-art data and computing services to any researcher in the EU. The implementation roadmap, developed with DG RTD, gives an overview of the necessary actions, the links to the European Data Infrastructure, and the gradual opening of its user base to the public sector and industry. The first version of the EOSC portal was presented in November 2018, and is now accessible to the European research community. Through the portal, researchers can access open and seamless services, data, and other resources from a wide range of national, regional and institutional public research infrastructures across Europe.

The revised **Recommendation on access to and preservation of scientific information**, published on 25 April 2018, reflects technical and policy developments on open access to publications and data. It offers guidance to Member States on implementing open access policies in line with open science objectives, research data and data management, the creation of a European Open Science Cloud, and text and data-mining. It also highlights the importance of incentives, rewards, skills and metrics appropriate for the new era of networked research.



The establishment and the start of operations of the **EuroHPC Joint Undertaking** in 2018 is a major achievement in view of the political objective to rank the EU amongst the top three world supercomputing powers. In 2018, 24 Member States and Norway joined the EuroHPC JU. The JU provides a legal and co-funding framework mobilising near EUR 1 billion (EU and national funding) during 2019 and 2020, to deliver a world leading-class supercomputing infrastructure and a competitive European HPC ecosystem. The EuroHPC JU Governing Board met for the first time in November 2018 and started the

process to acquire two EU-owned world-class supercomputers by 2020. EuroHPC will also support the excellence of European HPC applications and the development of a competitive and independent source of key HPC technologies in Europe, including low-power microprocessors.

The **Quantum Technologies Flagship** started implementing Horizon 2020 projects with the long-term vision of the Flagship, namely to develop in Europe a so-called quantum web, where quantum computers, simulators and sensors are interconnected via quantum communication networks. This vision is developed through (i) the consolidation and expansion of the European scientific leadership and excellence in quantum research, including education and training for developing the relevant know-how and skills; (ii) the start of a competitive European industry in quantum technologies in order to position Europe as a leader in the future global industrial landscape; and (iii) the building of Europe as a dynamic and attractive region for innovative research, business and investments in quantum technologies, thus accelerating their development and take-up by the market. In parallel, DG CONNECT prepared the setup of the **Strategic Advisory Board**, which will be composed of high-level independent quantum experts from academia and industry, whose mandate is to monitor progress in state of the art developments worldwide, as well as the Flagship's progress and provide strategic advice and recommendations to the Board of Funders on the further development of the Flagship in Europe.

A clear and stable legal framework will help stimulate investment and bring the benefits of these technologies to every business and citizen. The Staff Working Document on **liability for emerging digital technologies** provided a first mapping of liability challenges that occur in the context of emerging digital technologies and the basis for the work of an Expert Group on 'Liability and New Technologies'.

On 17 May 2018, the Commission adopted a **Communication on Connected and Automated Mobility (CAM)** as part of the third Commission Mobility Package. It sets out a clear, forward looking and ambitious European agenda and includes the adoption of a Recommendation to be addressed to the Member States and industry actors. DG CONNECT has prepared the Recommendation for adoption in 2019, which will focus on in-vehicle data access issues, CAM security and mitigation of cybersecurity risks and specific principles on spectrum to ensure a technology neutral approach. 27 Member States plus Norway and Switzerland signed the 2017 Letter of Intent on cross-border demonstration and testing, which resulted in the establishment of eight test sites ('corridors'), of which four, including Metz-Merzig-Luxembourg, Porto-Vigo, Evora-Merida and the Brenner path between Bologna and Munich, are funded under H2020.

Through the **Fintech Action Plan** adopted in March 2018, the Commission puts forward a set of initiatives that will encourage a wider and more balanced uptake of technological innovation in the financial sector for the benefit of financial services providers and investors, while preserving financial stability, and ensuring consumer and investor protection. The 19 actions mainly aim to enhance supervisory convergence towards technological innovation and prepare the EU financial sector to better embrace the opportunities brought by new technologies. This should enable innovative FinTech products and solutions to be rapidly rolled out across the EU to benefit from the scale economies of the single market. It combines both supportive measures to ease the uptake of FinTech solutions, and proactive measures designed to stimulate new solutions, or address risks that emerge. The Commission will promote innovative FinTech solutions by working with standard setting bodies and promote common standards and interoperability. Better knowledge on FinTech among regulators and supervisors as well

as closer cooperation between supervisors and innovative firms e.g. in the form of 'innovation hubs' and 'regulatory sandboxes', as well as a European Blockchain Initiative are other priorities. As a first major deliverable, the Commission has put forward new rules that will help crowdfunding platforms to grow across the EU single market.

The 2017 Commission Communication on **Building a European Data Economy** looked at proven or potential blockages to the free movement of data and presents options to remove unjustified and or disproportionate data location restrictions in the EU. The **Regulation on a framework for the free flow of non-personal data** in the EU was adopted on 14 November 2018 and entered into force on 18 December 2018. It will apply as of 28 May 2019, when Member States will have two years to repeal or justify any existing data localisation restrictions. Data driven innovation is a key enabler of growth and jobs and has the potential to significantly boost European competitiveness in the global market. In order to make the most of the data economy, it is essential to enable data to flow across borders and to use data beyond national borders. Removing data localisation restrictions is considered the most important factor for the data economy to unlock its full potential, and to grow up to EUR 739 billion in 2020, doubling its value to 4% of GDP. Moreover, removing existing data localisation measures will drive down the costs of data services, provide companies greater flexibility in organising their data management and data analytics, while expanding their use and choice of providers.

The digital revolution is built on data



The Commission's Data Package adopted in 2018 focused on the further opening up of data produced by public or publicly-funded entities. It included the proposal for a **revision (recast) of Directive 2003/98/EC on the re-use of public sector information** – the cornerstone of the EU's Open Data strategy. Following the adoption of the Commission proposal on 25 April 2018, political agreement between the European Parliament and Council was secured in early 2019.

Facilitated and harmonised access to European public information continued to be supported by the Digital Service Infrastructure on Public Open Data under the CEF telecom programme. The process for activating a Support Centre for data sharing was launched and will become operational in 2019, providing practical advice, best practices, methodologies and model contracts for data sharing.

On 17 April 2018, the new **DSM Cloud Stakeholders Platform** with two self-regulatory cloud stakeholders working groups was launched. One group is developing Codes of Conduct on data portability and switching between cloud service providers, the other one is developing a possible candidate EU-level cloud security certification scheme, as input to the new certification process established by the Cybersecurity Act. Membership is geographically balanced, with cloud users and providers.

The **Digital Education Action Plan** was adopted in January 2018. It pursues three priorities, namely a) making better use of digital technology for teaching and learning, b) developing relevant digital competences and skills for the digital transformation and c) improving education through better data analysis and foresight. The action plan announced an EU-wide awareness-raising campaign targeting educators, parents and learners to foster online safety, cyber hygiene and media literacy, which was launched in

February 2018 on the Safer Internet Day, and will continue into 2019. **Safer Internet Centres** across Europe supported under the CEF telecom programme are developing many resources and organising numerous activities to raise awareness of the topics of the initiative, thus acting as main multipliers of the campaign. A study assessed progress in mainstreaming ICT in education, entitled '2nd Survey of Schools: ICT in education'. The Commission continued to support to several initiatives concerning **digital skills**: The Digital Skills and Jobs Coalition reached over 10 million EU citizens including 7.4 million training modules and 1.9 million certifications. The Digital Opportunity Traineeships initiative has already enabled 1800 students to undertake an internship in another European country to improve their digital skills on the job, and the 2018 edition of Code Week saw participation more than double to 2.7 million, with over 44 000 events taking place in 72 countries worldwide.

In April 2018, the **Women in Digital Strategy** was launched. Women are starkly under-represented in the digital economy, resulting in a digital gender gap, which is mirrored in the low and decreasing numbers of girls taking up STEM studies (Science, Technology, Engineering, and Mathematics), of women choosing ICT-related professions, in women's under-representation in management in the ICT industry and in the number of women-led and founded tech companies. Numerous DG CONNECT actions tackle specific aspects of the problem in digital skills, research and innovation, digital entrepreneurship and hardware manufacturing. DG CONNECT supports the unlocking of the growth potential women can bring to the digital economy by combating stereotypes in the media and promoting role models, promoting digital skills and education for women and enhancing female digital entrepreneurship and innovation.

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| <p>Specific objective 1.4: All Europeans enjoy effective world-class connectivity through future-proof and ubiquitous digital networks and service infrastructures as underlying basis for the digital society and data economy.</p> | <p>Related to spending programmes: CEF/EFSI/ESIF</p> |
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As part of the next long-term EU budget 2021-2027, the Commission proposed to renew the **Connecting Europe Facility (CEF2)**, with EUR 3 billion to support investments in the European infrastructure networks for digital. As an enabler for the launch of digital services and technologies, CEF2 will provide grant support to Member States to support the deployment of 5G ready very high capacity networks in areas where the business case needs to be supported. CEF2 will focus on key strategic digital infrastructure projects with high impact on the Digital Single Market, such as:

- 5G cross-border corridors along major transport paths,
- 5G and Gigabit connectivity to critical socio-economic drivers in the education and health sectors, and their surrounding areas;
- Backbone networks of strategic importance such as certain submarine cables or terabit capacity links to major computing centres.

CEF2 will therefore support state-of-the-art digital infrastructure, which lays the foundation for a functioning Digital Single Market.

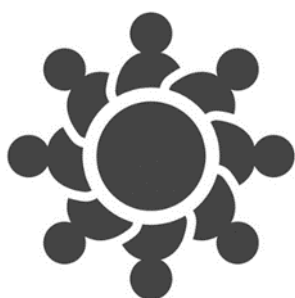
Until 2018 there has been steady growth of 4G in Europe with about 45% of connections covered by 4G, expected to become 63% in 2025. Clarification of 5G deployment

conditions through the European Electronic Communication Code has led to the prediction of about 210 million 5G connections in 2025 (29%).

Initiatives in 2018 in the area of **5G experimentation** in Europe mainly focused on implementing the trial roadmap developed by the 5G Private-Public Partnership and launching a set of 5G projects under H2020 aiming at validating 5G technology in the context of use cases in industrial sectors, in view of fostering the 5G readiness of European actors beyond the classical telecom actors. Regarding the fully-fledged 5G deployment including use cases in vertical industrial sectors beyond 2020, the **5G Private-Public Partnership** has put in place a comprehensive end-to-end trial platform for 5G vertical users in 2018 and will be extensively used in 2019, with a total investment of EUR 200 million for trials as part of the 5G Private-Public Partnership phase 3 investments.

Coordination work with Member States led to the adoption of the COCOM18-06 - Report on the exchange of Best Practices concerning **national broadband strategies and 5G 'path-to-deployment'**, on 25 September 2018. This report outlines extensive best practices and common elements across Member States targeting framework conditions on 5G deployment in Europe and addressing mainly spectrum harmonisation, infrastructure financing, small cell deployment facilitation from a regulatory perspective and applications of public interest.

In order to provide more systematic data and analysis on the availability of 5G networks and technologies in Europe, the Commission launched the **5G European Observatory** in September 2018.



As regards broadband infrastructure financing, the **Connecting Europe Broadband Fund**⁶ was successfully launched on 27 June 2018, securing the participation of one private investor at first closing for EUR 25 million. Negotiations to agree on and finalize the governance structure of the Fund (in particular, the Board of Directors of the Fund) between all the anchor investors took time, and slowed down to a certain extent the work of the investment manager. As of mid-December 2018, the project pipeline comprised 31 projects, evidencing high-quality projects with a sound geographical balance across EU territories, including one project in the final stages of negotiations with the project promoter. The investment manager will resume fundraising efforts as soon as the first project has received financial support from the Fund, so as to evidence the Fund's capacity in identifying and effectively financing projects, which are attractive to private investors.

DG CONNECT is also working on a set of indicators for the **Rural Action Plan**. The indicators have been defined to measure Next Generation Internet Access overall coverage and in rural areas as well as the availability of funds and the operational capacity, in particular for the agreed five priority Member States.

⁶ More details on the Fund and the CEF Work Programme and related EU added value are available in the CEF Programme Statement of the Draft General Budget of the European Union for the Financial Year 2020.

The Commission adopted Implementing Decision (EU) 2018/637 amending the designation of the 900 MHz and 1800 MHz **frequency bands** under harmonised technical conditions. The decision enables more flexibility and increased spectrum efficiency and contains provisions for machine-to-machine communications based on cellular Internet of Things technology. DG CONNECT had also prepared the Implementing Decision (EU) 2018/1538 to harmonise the use of radio spectrum within the 874-876 and 915-921 MHz frequency bands. The decision will also make available additional spectrum for Internet of Things applications based on short-range devices related to smart cities, smart homes, smart farming, transport and logistics and industrial production.



The 2018 CEF Work Programme adopted in February 2018 and amended in November 2018 is supporting the deployment, operation and evolutive maintenance of **sixteen digital infrastructures**. The support provided is building on the investment done in previous years in particular in the areas of **eIdentification, eSignature, eDelivery, eInvoicing, Public Open Data, Automated Translation, Cybersecurity, eProcurement, On-line Dispute Resolution (ODR), Business Registers Interconnection System (BRIS), eHealth, Electronic Exchange of Social Security Information (EESSI), the European e-Justice portal, Safer Internet and Europeana**. In addition, three new building blocks were added to the CEF ecosystem, namely **eArchiving, the Context Broker, and Big Data Test Infrastructure** (the last two being embedded into Public Open Data DSI).

In effect, EUR 84 million were allocated to the deployment of the Generic Services through calls for proposals managed by the Innovation and Networks Executive Agency (INEA) and EUR 44 million to the Core Platforms supported mostly through calls for tenders. For Generic Services 41 new projects are supported in the areas of eID, eSignature, Europeana and Safer Internet, with further 17 projects expected in the areas of Automated Translation, eDelivery and eInvoicing. The last three calls are currently being evaluated. In addition, CEF supported the technical assistance facility for broadband.

CEF also catered for the **WiFi4EU initiative** in continuation to the activities started in 2017. In May 2018, a first call for applications was issued. However, due to security and technical problems, the internet portal for submission of applications had to be put offline and in consequence the call was cancelled. A new call for proposals was launched in autumn of 2018, which registered a massive participation with 99.6% of the 2800 vouchers with an overall amount of EUR 42 million exhausted within the first hour.

Underwater fibre optic cable connecting Europe and Latin America will provide reliable high capacity connectivity that will boost business, scientific and cultural exchanges between the two continents. In 2018, the BELLA (Building Europe Link to Latin America) consortium, whose leading investors are the Commission and EllaLink, a private consortium, signed a contract to launch the deployment of such cable. This new digital data highway is scheduled to be ready in 2020 and will guarantee high capacity transmission and run between Portugal and Brazil, with plans to extend connectivity to both Latin America and within the EU. This transatlantic link will provide researchers and companies with an essential facility for the development of the data economy and will significantly strengthen the links between research and education networks on the two continents, enabling new collaborative activities.

Specific objective 1.5:
A modern, open and pluralistic society building on Europe's cultural diversity, creativity and respect of creators' rights and its values in particular democracy, freedom of expression and tolerance.

Related to spending programmes: Horizon 2020, Multimedia Actions, Creative Europe MEDIA

On 1 March 2018, the Commission issued a **Recommendation on measures to effectively tackle illegal content online**, which builds on the 2017 Communication on 'tackling illegal content online, towards enhanced responsibility of online platforms' and translates the political commitment set out in the [Communication](#) into a non-binding recommendation, prepared by DG CONNECT. In setting out clear legal guidance in the form of a Recommendation, the Commission has made clear which types of processes platforms should put in place, in order to speed up the detection and removal of illegal content, and thus curb the spread of such material, while also offering a set of robust safeguards. [Online platforms](#) need to exercise a greater responsibility in content governance. The recommendation proposes a common approach to swiftly and proactively detect, remove and prevent the reappearance of illegal content online recommending clearer 'notice and action' procedures; more efficient tools and proactive technologies, stronger safeguards to ensure fundamental rights, special attention to small companies, as well as closer cooperation with authorities. As a follow-up to this Recommendation, DG CONNECT conducted an impact assessment on further legislative measures to tackle illegal content online, which served as a basis for the **proposal of a Regulation on preventing the dissemination of terrorist content online** on 12 September 2018 (with DG HOME in the lead). In preparation of the proposed Regulation, the Commission had carried out a Eurobarometer survey and a public consultation on illegal content online.

IMPROVE DETECTION, ANALYSIS AND EXPOSURE OF DISINFORMATION

- Invest in digital tools, data analysis skills and specialised staff within the EU institutions and in Member States
- Assess reach and impact of disinformation

MOBILISE PRIVATE SECTOR TO TACKLE DISINFORMATION

- Implementation of EU-wide Code of practice on disinformation
- Major online platforms such as Google, Facebook, Twitter and Mozilla have signed up
- Regular reporting as of January 2019 and possible regulatory action in case of unsatisfactory results

In view of the challenge that disinformation presents to our society and its democratic functioning, the Commission adopted a Communication on **Tackling online disinformation: a European Approach** on 26 April 2018. This Communication comprises a set of concrete actions to be taken by the social media operators and advertising industry, and creates a fact checkers network in Europe and increased media literacy activity. It was followed in October by the publication of a **Code of Practice**, a voluntary self-regulatory measure, signed by the major social media networks and advertising industry representatives, along with the initiation of European fact checking collaboration, and in December by an action plan drafted in collaboration with the European External Action Service outlining next steps. In addition, the Commission launched under the its Horizon 2020 LEIT ICT Work Programme ten new projects which focus on different methodologies and tools for content verification, creation of platforms or observatories for fact checking professionals and researchers to operate on, or on setting of an ecosystem for professionals working in the field of disinformation.

For the implementation of the 2016 **Web Accessibility Directive** the Commission adopted Implementing Decision (EU) 2018/1523 establishing a model accessibility statement of 11 October 2018; Implementing Decision (EU) 2018/1524 establishing a monitoring methodology and the



arrangements for reporting by Member States of 11 October 2018; and the Implementing Decision (EU) 2018/2048 on the harmonised standard for websites and mobile applications of 20 December 2018. The Directive sets the transposition deadline to 23 September 2018. DG CONNECT has started the transposition checks showing that, at the end of 2018, 11 Member States had notified full transposition and 6 Member States partial transposition. 11 Member States had not communicated any transposition measures.

The 2018 Communication **A New European Agenda for Culture** outlines the **Digital4Culture** strategy which builds on existing actions to provide a more coherent framework to strengthen our efforts to support cultural and creative sectors. A number of actions aim at helping these sectors to overcome challenges brought by digitisation and globalisation, and to help them to make better use of opportunities provided by the digital shift. Actions include setting up a network of Competence centres for Cultural heritage across the EU, and proposing the next steps for Europeana.

The Report from the Commission to the European Parliament and the Council on the evaluation of **Europeana** and the way forward outlines the results of the independent evaluation of Europeana as a European cultural and digital innovation project; and the Commission's vision on the way forward for the future development of Europeana.⁷ The open tender for the Deployment and Maintenance of Europeana Core Service Platform under the CEF telecom programme was carried out successfully and resulted in a contract with a consortium led by the Europeana Foundation for the period from 1 September 2018 until 31 August 2020.

The **Recommendation on digitisation, online accessibility and digital preservation of cultural material** (2011/711/EU) was monitored through the Expert Group on Digital Cultural Heritage and Europeana, and through the progress reports submitted by the Member States for the period 2017-19. A Consolidated Commission Report on Member States' progress will be published in 2019.

2018 was the European year of Cultural Heritage. A number of high-level events were organised such as the Horizon 2020 Conference on Innovation and Cultural Heritage, the Presidency Conference '2025 vision for European (digital) cultural heritage, Europeana' in Varna and the Fair of Innovators on Cultural Heritage in Brussels. These events were highly successful, bringing together various stakeholders (such as researchers in ICT/science, social sciences, arts, history) to discuss how to better protect, valorise, innovate through digital.

The Commission proposed the **successor to the Creative Europe Programme** in May 2018, building on the achievements to date and scaling up efforts to safeguard cultural diversity and strengthen competitiveness of the cultural and creative sectors. Discussions in the European Parliament and the Council show broad support for the Commission's proposal. The future Creative Europe MEDIA would play a direct role in accompanying the implementation of the revised Audiovisual Media Service (AVMS) Directive adopted in November 2018. In particular, MEDIA would place new emphasis on audiences, collaboration and networking, promotion and innovation. The dialogue with stakeholders in the European Film Forum has been supportive of the vision for the next Creative Europe MEDIA and has brought the need for greater collaboration to the fore.

⁷ COM(2018) 612 final. The report is accompanied by a Commission Staff Working Document on the evaluation of Europeana (SWD(2018)398).

Events were held in Berlin, Cannes, Annecy, Barcelona, Venice, Lyon and Tallinn.

The infographic features a light blue background with a faint map of Europe. On the left, it states 'MEDIA is a part of the Creative Europe programme, investing in Europe's cultural and creative sectors, which represent:'. Below this, it highlights '8 million jobs' and '4.5% of EU GDP'. On the right, it describes the 'A Cultural and Creative Sectors' Guarantee Facility' launched in 2016, which helps SMEs access finance and expects to generate over 1 billion euros in loans. The Creative Europe MEDIA logo is at the bottom right.

MEDIA helps European films be visible and find audiences despite the dominance of Hollywood studios and the fast growth of US online platforms.⁸ It supported the distribution of over 400 films across European borders so that they could be watched by about 70 million people. MEDIA also supported a network of over 1000 cinemas in 34 countries which give prominence to European films. The implementation of MEDIA was significantly simplified and streamlined as regards the support to the theatrical distribution of films, which represents over 30% of the MEDIA budget. The modalities of the Automatic Distribution support were streamlined, with small grants given to the same distributor being grouped together to reduce administrative costs. Whilst the overall volume of support will be stable, the number of grants is expected to fall from over 1000 to about 300. Also, under the Selective Distribution support, pan-European distribution of about 20 selected films will be coordinated through a grant per film, covering multiple territories, reducing the number of grants from over 400 to about 25, whilst maintaining the overall volume of support.

This infographic is framed by a yellow film strip border. It contains three key points: 1. 'Investment in content and people helps to make the audiovisual sector more competitive and to establish co-productions between countries.' 2. 'Co-produced films have 2-3 times higher circulation potential than films produced by one country.' 3. 'The EU helps to reach audiences on various screens.' Below these, it states 'Every €1 invested in the Europa Cinemas network generates an estimated €13 for the audiovisual sector through additional audiences.'

The **Cultural and Creative Sectors' Guarantee Facility** is an innovative market led instrument that addresses the financing gap for SMEs in these sectors, aiming to generate over EUR 1 billion in loans for cultural and creative sectors by end 2024. The new instrument has been well received by the market and by the end of quarter 3 in year 2018 the Cultural and Creative Sectors' Guarantee Facility had signed 10 guarantee agreements with 9 financial intermediaries from Spain, France, Romania, Czech Republic, Belgium, Italy and Poland. Two additional agreements are already approved and will be signed in early 2019. Overall over 630 loans were made under the scheme to final beneficiaries, of which 60% from the audiovisual sector and 40% from other cultural sectors. These results are very encouraging as they indicate that the traditional gap between the financial sector and the cultural and creative sectors can be addressed in a concrete way. Given the strong market demand, the European Fund for Strategic Investment has been mobilized to top-up the Facility by EUR 60 million, equivalent to 50% of the first budget. The second top-up of additional EUR 70 million is being prepared. In addition, the Capacity Building Scheme which offers a technical assistance to financial intermediaries is operational since mid-2018.

⁸ More details on the Creative Europe MEDIA sub-programme and related EU added value are available in the Creative Europe Programme Statement of the Draft General Budget of the European Union for the Financial Year 2020.

**Relevant general objective:
A New boost for Jobs, Growth and Investment**

On 6 June 2018, the Commission proposed to create the first ever **Digital Europe Programme** as a central element of the Commission's comprehensive response to the challenge of digital transformation as part of the Multiannual Financial Framework (MFF) proposal for 2021-2027. The Digital Single Market Strategy has put in place a robust framework. The Digital Europe Programme will constitute an equally robust investment scheme with a proposed envelop of EUR 9.2 billion to provide both the funding and the instruments to tackle the fragmentation and low investments level in critical key areas underpinning the digital transformation of the economy and society. The proposed programme consequently focuses on reinforcing Europe's capacities in high performance computing, artificial intelligence, cybersecurity and advanced digital skills and ensuring their wide use across the economy and society. Fostered simultaneously, these will help create a thriving data economy, promote inclusiveness and ensure value creation. The pillars are closely interlinked and interdependent: for instance, artificial intelligence needs cybersecurity to be trustable, cybersecurity needs high performance computing to process the massive amount of data to be secured, digital services up to future standards need all three capacities; finally, all the above need the right advanced skills.



Most importantly, the programme will concentrate on the areas where no Member State or business acting alone can make critical digital investments at the scale required or scale them up to a successful level. If the EU does not engage, these investments will not happen to the extent needed and the EU risks losing its competitiveness. The intervention at the EU level is thus necessary to plan, jointly finance, and coordinate actions on a scale capable of meeting these challenges, and ensure that the benefits of new digital technologies are fully shared across Europe, not reaped exclusively in a few Member States. Multi-lateral coordinated action can also avoid duplication, capitalise on synergies by linking funding with framework conditions, safeguard interoperability, and avoid blind spots or a major geographical digital divide. Focus will also be placed on those areas where public spending has the highest impact, notably on improving efficiency and quality of services in the areas of public interest such as health, justice, consumer protection and public administrations, and helping small and medium-sized enterprises (SMEs) in adapting to digital change.

The main aim is therefore to:

- Build-up and strengthen the **EU's high performance computing** and data processing capacities, and ensure their wide use both in areas of public interest such as health, environment and security, and by industry, notably SMEs.

- Build-up and reinforce core **artificial intelligence** capacities such as a data resources and libraries of artificial intelligence algorithms and make them accessible to all businesses and public administrations, as well as reinforce and foster links between existing testing and experimentation facilities in Member States.
- Ensure that the essential capacities needed to secure the EU's digital economy, society and democracy are present and accessible to the EU's public sector and businesses, and improve the competitiveness of the EU's **cybersecurity** industry.
- Ensure that the labour force can easily acquire **advanced digital skills, notably in high performance computing, artificial intelligence and cybersecurity**, by offering students, graduates, and existing workers the means to acquire and develop these skills, no matter where they are situated.
- Expand the best use of digital capacities across the economy, in areas of public interest and society, including the deployment of **interoperable solutions in areas of public interest** and facilitate access to technology and knowhow **for all businesses, notably SMEs**.



DG CONNECT started with the preparations for the implementation of the Digital Europe Programme by a dedicated cross-DG group.

The Digital Europe Programme complements and works together with a number of other instruments proposed in the post-2020 multiannual financial framework, notably: Horizon Europe, the Connecting Europe Facility, the European Regional Development Fund and the European Social Fund.

On 7 June 2018, the Commission adopted its proposal for **Horizon Europe** (2021-2027), an ambitious EUR 100 billion research and innovation programme that will succeed Horizon 2020. The Programme's general objective is to deliver scientific, economic and societal impact from the Union's investments in Research & Innovation so as to strengthen the scientific and technological bases of the Union and foster its competitiveness, deliver on the Union strategic priorities, and contribute to tackling global challenges. Horizon Europe will be particularly relevant for the upcoming Digital Challenges in Europe and digital is present in the Programme both as a dedicated and focal area but also as a transversal element. Horizon Europe will contribute to the needed investments in research and innovation strategies in core digital technologies that will be crucial to prepare for the digital and industrial transformation of our society and economy and address major sustainability challenges. DG CONNECT has been preparing the different elements of the programme, ranging from strategic orientations, possible Missions and Partnerships and has been very active in many cross-DG working groups besides supporting the inter-institutional negotiation process.

The last period of the ICT part of Horizon 2020⁹ is covered by the Work Programme 2018-20 for ICT, which was updated in 2018.

⁹ More details on Horizon 2020 achievements, EU added value of the programme and Work Programme are available in the H2020 Programme Statement of the Draft General Budget of the European Union for the Financial Year 2020.

Specific objective 2.1:

Europe maintains its position as a world leader in the digital economy, where European companies can grow globally, drawing on strong digital entrepreneurship and performing start-ups and where industry and public services master the digital transformation.

Related to
spending
programme:
Horizon 2020

The European Commission's **Startup Europe initiative** presented its future priorities at its summit in Sofia on 15 November 2018 in the presence of 4 Prime Ministers and many ministers and secretaries of state. At the summit, the Central and Eastern Europe network and the Western Balkans networks were launched to strengthen evolving startups ecosystems in these areas and a discussion was held to define policy priorities for the future College. 'International missions' were organised to Silicon Valley, Africa, Latin America with the aim of building bridges to help new business ventures in their expansion process. Seven Horizon 2020 projects were launched to connect Startup Cities across 25 cities and for the creation of Startup Europe Ambassadors in 24 Member States that will support the connection between Startups anywhere in Europe and the Commission's initiative. The projects supported 1700 ventures to raise EUR 450 million. The One Stop Shop (www.startupeuropeclub.eu) reached 30000 unique visitors per month and is also very active on social media.

The public **Innovation Radar** platform was launched at the Digital Day 3 in April 2018. On the same day Ministers from 17 countries signed the Innovation Radar declaration to demonstrate their support and their commitment to work with the Commission to enhance it and increase its uptake. Four additional countries have since signed the declaration. Two meetings with signatory countries took place in 2018 and identified a path of cooperation. Two support projects for the Innovation Radar (MERLIN & IRSUS) were launched in January 2018.

On 25 April 2018, the Commission adopted a Communication on enabling the **digital transformation of health and care in the Digital Single Market**; empowering citizens and building a healthier society, where DG CONNECT co-led alongside DG Health and DG Research and Innovation. This communication sets out the Commission's objectives in this area: improving citizen's secure access to and sharing of health data; better data to promote research, disease prevention and personalised health and care, and improving digital tools for citizen empowerment and for person-centred care.

The **Declaration on genomics cooperation** 'Towards access to at least 1 million sequenced genomes in the EU by 2022', launched by the Commission on Digital Day 2018 in April 2018 was signed by 13 Member States, which were joined by further 7 later on. The Member States commit to collaborate to develop secure and authorised access to national and regional banks of genetic data and other data relevant for health, which supports the Commission's digital health agenda by developing the accessibility and use of genetic data to support research, disease prevention and health care treatment. In the kick-off meeting on 21 September 2018, ten working groups were set up to make sure that a research cohort of at least 1 million sequenced genomes will be accessible in the EU by 2022.

The Commission stepped up its efforts to develop the **interoperability of electronic health records across the EU** in line with its digital health objective to improve citizen's secure access to their health records. In particular, the Commission has explored how to give citizens better access to their electronic health records while in another Member State. To this end, the Commission has worked intensively with Member States

and stakeholders to develop a Commission Recommendation on a European Electronic Health Record exchange format, which was adopted in February 2019.



A focus of the H2020 Societal Challenge – **Health, Demographic Change and Wellbeing** part has been set on supporting the management of health and wellbeing while empowering the participation of citizens and facilitating the transformation of health and care services to more digitised, person-centred and community-based care models, aiming at better access to healthcare and the sustainability of health and care systems. Secure and interoperable data as an enabler together with state of the art technologies such as AI and Big Data analytics are essential building blocks for this digital transformation of health and care. Supported actions are in areas such as adaptive smart working and living environments supporting active and healthy ageing; exploiting the full potential of in-silico medicine research for personalised diagnostics and therapies in cloud-based environments; and prototyping a European interoperable Electronic Health Record exchange.

Moreover, the Commission co-funds the **Active and Assisted Living (AAL) Joint Programme**. The AAL, which is a response to the demographic challenges of an ageing population is a joint research and innovation programme that pools national resources, leverages EU funding, and allows stakeholders (including SMEs and end-users) to participate according to national rules. It supports projects developing ICT solutions for ageing well with a 2-3 years to market time horizon. The Programme involves 17 Member States (Austria, Belgium, Cyprus, Denmark, France, Hungary, Italy, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden, UK) as well as Norway, Switzerland and Canada. The annual EU contribution amounts to EUR 175 Mio for the period 2014-20 and is maximum 50% of the annual national commitments. As just one example, the **CapMouse project** can be cited which has led to the development of a hands-free technology that allows the elderly disabled to use computers via lip movements. Having secured EU and US patents, the team is now making moves to push this technology into the newly emerging augmented reality market.

As regards **smart cities**, the following achievements can be noted:

- Within Commission's smart cities framework, SAREF, a computer language used by smart appliances to communicate with energy management systems was developed.
- 27 smart city use cases have been identified and developed, complemented by 5G technology trials and testbeds in more than 16 EU cities.
- A supply-side group of 93 industrial players – joint under a Memorandum of Understanding – delivered reference architecture & design principles (standard DIN 91357) to enable portable urban services avoiding vendor lock-in and comprehensive documentation on relevant standards.
- 370 projects with 4.000 partners from 31 countries have committed themselves to

the European Innovation Partnership on Smart Cities. Lighthouse projects supported by Horizon 2020 implement different applications and services.

- A demand-side group of 110 cities – committed by a letter of intent – delivered city requirements for urban platform software, a guide to facilitate the buy-in from the city decision makers and a management framework to help cities with the implementation.



There have been three amendments to the Horizon 2018-20 LEIT ICT Work Programme, most importantly to include the topic 'Establishing and operating a pilot for a Cybersecurity Competence Network to develop and implement a common Cybersecurity Research & Innovation Roadmap' and to take into account the transfer of High Performance Computing activities to the EuroHPC Joint Undertaking.

Under the Horizon 2020 Societal Challenge – **Europe in a changing world – Inclusive, innovative and reflective societies** call, four projects related to the integration of migrants and two concerning the transformative impact of disruptive technologies in public services for example in the field of blockchain were selected. The second call, addressing the same topics as well as 'New forms of delivering public goods and inclusive public services' and 'Pilot on using the European Cloud infrastructure for public administrations' is currently open.

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| Specific objective 2.2: | |
| Europe's research finds investment opportunities for potential technology breakthroughs and flagships, in particular through the Horizon 2020 programme and using Private Public Partnerships. | Related to spending programme: Horizon 2020 |

In 2018, 671 eligible proposals were submitted within the Horizon 2020 thematic priority **Future and Emerging Technologies** (FET) with an overall success rate of 16.7%, resulting in 132 grants, for a total amount of EU contribution of more than EUR 638 million, including the FET Flagships (Quantum, Human Brain Projects, Graphene), FET High Performance Computing, FET Open (research and innovation; challenging current thinking), FET Innovation Launchpad, FET Proactive (emerging paradigms and communities, neuromorphic computing). Amendments of the Horizon 2020 FET Work Programme had introduced notably a new topic for Community building and roadmapping for high performance and smart electrochemical energy storage and took into account the transfer of High Performance Computing activities in 2019 and 2020 to the EuroHPC Joint Undertaking.

FET Flagships are ambitious, highly-risky, long term and large scale research and innovation initiatives pursuing grand interdisciplinary scientific and technological challenges. The two **Flagships, Graphene and the Human Brain Project (HBP)** have

been producing outstanding results since their start in 2013. Graphene makes great progress to bring this very promising material to industry. It reports close to 2500 top-class scientific publications, 9 spin-out companies, 115 patent applications and more than 55 new products on the market. HBP has released its first platforms, such as a Brain Atlas continuously getting enriched with human brain data on the different scales and levels. Also, the researchers of the HBP have moved a good step towards improving our understanding on consciousness by investigating brain activity in coma patients based on a theoretical framework on brain networks.

The **Quantum Technologies Flagship** is now in the middle of its ramp up phase, implementing the FET 2018-2020 Work Programme. In October 2018, 19 research and innovation actions as well as a second coordination and support action (with a EUR 132 million envelop) kick started.

Building on the experience and concept of FET Flagships, progress was made in identifying new fields that necessitate a similar level of investment: i) **a major initiative in the field of Future Batteries Technologies** was announced in May 2018 in the Commission [Strategic Action Plan for Batteries](#) published in the context of the [EU Battery Alliance](#) initiative; ii) **six one-year preparatory actions for potential major future research initiatives** were selected as a result of a two-stage call, 2 in each of the following fields: *ICT & Connected Society, Health and the Life Sciences and Energy, Environment & Climate Change*. In addition, a coordination and support action will support the roadmapping of research in the field of future batteries technologies.

Under the **Robotics calls**, 4 large innovation actions and 1 coordination and support action on Digital Innovation Hubs networks in robotics were selected, for a total budget of EUR 66 million. In addition, one large **Artificial Intelligence** project of EUR 20 million will be funded, which aims to become the reference for all AI resources in Europe. The **Partnership for Robotics in Europe (SPARC)** is a contractual PPP committed to maintain and extend Europe's leadership in robotics. The Digital Innovation Hubs projects in robotics will play a major role in structuring the community, fostering the deployment in the application areas prioritised by SPARC. First steps for the preparation of a potential future PPP in Artificial Intelligence, Data and Robotics resulted in the signature of a Memorandum of Understanding between the two most important cPPPs in setting up this future cPPP, namely the Big Data Value Association and euRobotics (which is the association representing the private partners in the SPARC) on 5 December 2018.



The **Factories of the Future** Private-Public Partnership is co-managed by DG Research and Innovation and DG CONNECT, with the latter investing in digital manufacturing. During 2018, EUR 48 million have been invested in digital industrial platforms in the area of manufacturing. They are essential for the integration of different key digital technologies into real-world applications, processes, products, and services, and they are key to maintain a European leadership in digital technologies. The leverage factor of Factories of the Future is 4.65, implying that in total EUR 223 million will be invested in this important area for European manufacturing companies.

The two calls for **Photonics** (Manufacturing Pilot Lines for Photonic Components and Devices; and Photonics based manufacturing, access to photonics, datacom photonics and connected lighting) resulted in 14 projects for a total of EUR 85 million. The mid-term review of the contractual Public Private Partnerships (cPPPs) under Horizon 2020

highlighted the Photonics PPP as being the best among the 9 cPPPs co-funded by the Union, being well on track in 10 out of the 11 dimensions of this analysis.

To reinforce research and technology development partnerships in **cloud computing and software technologies**, aiming at technological capacity building, the digital single market and the digital transformation and uptake, a total of 67 research and innovation actions were funded up to 2018. Eleven of these projects are specifically supporting international cooperation in these domains. These research projects were structured into 4 clusters: software engineering for services and applications; inter-cloud challenges; infrastructure services; and data protection, security and privacy in the cloud.

The high leveraging factor experienced by the **5G Private-Public Partnership** is the combined result of an acceleration of 5G developments across multiple industrial segments and the leveraging of Member States' investments, considering that several of them have invested in 5G testbeds and pilots infrastructures. Also the leveraging factor is amplified by the Partnership's move towards large scale trials and pilots, considering that these initiatives are more capital intensive than traditional Research & Innovation and hence involve more direct investments from industry. At the 'Beyond 5G level', the issue is of global interest. EU actions are mirrored by actions in other regions of the world, and form the basis for future work expansion in the last Work Programme of Horizon 2020.

The **Next Generation Internet initiative (NGI)** aims to build the key technology building blocks of the internet of tomorrow and shape its development towards an internet of humans. An internet that responds to our fundamental needs, including trust, security and inclusion, and reflects the values and the norms that we enjoy in our societies. The promotion of the NGI initiative has been intensified during 2018, from presence in high-level events (e.g. Internet Governance Forum, Digital Assembly) and big conferences (e.g. Mobile World Congress, Web Summit, ICT Vienna) to many NGI specific national and regional workshops throughout Europe. The result is an increasing NGI awareness and a growing NGI community. The first funding opportunities for Internet innovators became available at the end of 2018, with a budget of more than EUR 75 million being available under Horizon 2020 for support to internet innovators, be it individual researchers, developers, start-ups, or innovators focusing on social innovation.

The **Electronics Components and Systems for European Leadership (ECSEL) Joint Undertaking** (JU) contributes to the development of a strong and competitive electronics components and systems industry in the Union by ensuring the availability of key technologies for global markets and by addressing societal challenges. ECSEL aims to keep Europe at the forefront of technology development, bridging the gap between research and exploitation, strengthening innovation capabilities and creating economic and employment growth in the Union. The JU implements part of Horizon 2020, 'Leadership in Enabling and Industrial Technologies'. Its tri-partite structure allows the EU to align strategies with Member States to attract private investment and contribute to the effectiveness of public support by avoiding an unnecessary duplication and fragmentation of efforts and by facilitating the participation of actors involved in research and innovation.

The ECSEL JU not only launched an Innovation Action and a Research and Innovation Action call, but also coordination and support actions for its first two Lighthouse Initiatives, *Mobility.E* and *Industry 4.E*. Lighthouse initiatives focus on achieving concrete socio-economic objectives along an agreed approach, improving and accelerating the impact of ECSEL JU by engaging all needed actors in the supply/value chain and by

connecting investment in R&I in ECSEL JU with investments in other application areas or with other policy measures such as standardisation, deployment or regulatory measures. The Governing Board of ECSEL also decided to start a new Lighthouse Initiative in the area of health.

The Commission has found that the **integrated project for research and innovation in microelectronics**, which is a key enabling technology, is in line with EU state aid rules and qualifies as an Important Project of Common European Interest (IPCEI). The notifying Member States, namely France, Germany, Italy and the UK, will provide up to EUR 1.75 billion in funding for this project that aims to unlock an additional EUR 6 billion in private investment and should be completed by 2024. DG CONNECT worked closely with DG Competition on the assessment of the innovation aspects at the project and partner levels and will represent the Commission in the IPCEI Supervisory Board.

High-level representatives of companies and research and technology organisations active in semiconductor technologies prepared a **strategic document on nanoelectronics**. The report 'Boosting European Electronic Value-chains' containing a set of key recommendations of the stakeholders was delivered to the Commission on 19 June 2018.

Glossary

A

AAL= Active and Assisted Living
AAR= Annual Activity Report
ABB= Activity Based Budgeting
AFS= Anti-Fraud Strategy
AI= Artificial Intelligence
AMC= Account Management Centre
AOD= Authorising Officers by Delegation
AOSD= Authorising Officers by Subdelegation
AVMS= Audiovisual Media Services

B

BCO= Broadband Competence Offices
BELLA= Building Europe Link to Latin America
BEREC= Body of European Regulators in Electronic Communications
BRIS= Business Registers Interconnection System

C

CAD= Connected and Automated Driving
CAM= Connected and Automated Mobility
CAR= Communication Automotive Research and innovation
CAS= Common Audit Service
CCS GF= Cultural and Creative Sectors Guarantee Facility
CEBF= Connecting Europe Broadband Fund
CEF= Connecting Europe Facility
CEPT= European Conference of Postal and Telecommunications Administrations
CERTs= Computer Emergency Response Teams
CIP= Competitiveness and Innovation Programme
CMU= Central Management Unit
cPPP= Contractual Public Private Partnership
CRAS= Common Representative Audit Sample
CRS= Common Representative Sample
CSC= Common Support Centre
CSIRTs= Cooperation Group and the Computer Security Incident Response Teams
CWP= Commission Work Programme

D

DAE= Digital Agenda for Europe
DEI= Digitising European Industry
DESI= Digital Economy and Society Index
DG= Directorate-General (Commission)
DG AGRI= DG Agriculture and Rural Development
DG DIGIT= DG Informatics
DG EAC= DG Education and Culture
DG ECFIN= DG Economic and Financial Affairs
DG EMPL= DG Employment, Social Affairs and Inclusion
DG ENER= DG Energy
DG FISMA= DG Financial Stability, Financial Services and Capital Markets Union
DG GROW= DG Internal Market, Industry, Entrepreneurship and SMEs
DG HOME= DG Migration and Home Affairs
DG HR= DG Human Resources and Security
DG JUST= DG Justice and Consumers
DG MOVE= DG Mobility and Transport
DG REGIO= DG Regional and Urban Policy
DG RTD= DG for Research and Innovation
DI= Debt Instrument
DIH= Digital Innovation Hub
DMO= Document Management Officer

DPC= Data Protection Coordinator
DSI= Digital Service Infrastructure
DSM= Digital Single Market

E

EACEA= Education, Audiovisual and Culture Executive Agency
EASME= Executive Agency for Small and Medium-sized Enterprises
EC= European Commission
ECA= European Court of Auditors
ECPMF= European Centre for Press and Media Freedom
ECSEL= Electronic Components and Systems for European Leadership
ECSO= European Cybersecurity Organisation
EDES= Early Detection and Exclusion System
EEAS= European External Action Service
EECC= European Electronic Communications Code
EESSI= Electronic Exchange of Social Security Information
EFSI= European Fund for Strategic Investments
EGI= European Grid Infrastructure
EIB= European Investment Bank
EIC= European Innovation Council
eIDAS= electronic IDentification, Authentication and trust Services
eIDs= electronic identifications
EIF= European Investment Fund
EIP SCC= European Innovation Partnership on Smart Cities and Communities
ENISA= European Union Agency for Network and Information Security
EOSC= European Open Science Cloud
EP= European Parliament
ESIF= European Structural and Investment Funds
ESTAT= Eurostat
ETSI= European Telecommunications Standards Institute
EuroHPC= European High Performance Computing

F

FAFA= Financial and Administrative Framework Agreement
FAIR Committee= Fraud and Irregularities in Research Committee
FET= Future Emerging Technologies
FI= Financial Intermediaries
FP= Framework Programme
FP7= Seventh Research Framework Programme
FR= Financial Regulation
FTE= Full Time Equivalent
FTTH= High-quality fiber-to-the-home

G

GB= Governing Board
GSMA= Global System for Mobile Association

H

H2020= Horizon 2020
HAN= Hermes-Ares-Nomcom
HBP= Human Brain Project
HPC= High Performance Computing
HR= Human Resources

I

IAS= Internal Audit Service (Commission)
ICANN= Internet Corporation for Assigned Names and Numbers
ICC= Internal Control Coordinator
ICMC= Internal Control Monitoring Criteria
ICT= Information and Communication Technologies

IFI= International Financial Institution
IMSB= Information Management Steering Board
INEA= Innovation and Networks Executive Agency
IoT= Internet of Things
IPCEI= Important Project of Common European Interest
ITU= International Telecommunication Union

J

JRC= Joint Research Centre (Commission)
JU= Joint Undertaking

L

L&D= Learning & Development
LEIT= Leadership in Enabling and Industrial Technologies
LTE= Long-Term Evolution

M

Mbps= Multiple of the unit bit for digital information
MFF= Multiannual Financial Framework
MHz= Megahertz

N

NBP= National Broadband Plans
NCPs= National Contact Points
NGA= Next Generation Internet Access
NGI= Next Generation Internet
NIS= Network Information Security
NPBIs= National Promotional Banks and Institutions
NRAs= National Regulatory Authorities
NUTS= Nomenclature of Territorial Units for Statistics

O

ODR= On-line Dispute Resolution
OLAF= European Anti-Fraud Office
OSP= Open Service Platforms

P

PBI= Project Bond Pilot Initiative
PPP= Private Public Partnership
PRACE= Partnership for Advanced Computing in Europe
PSP= Policy Support Programme

Q

Q= Quarter

R

R&D= Research and Development
R&I= Research and Innovation
RAFS= Research Anti-Fraud Strategy
REA= Research Executive Agency
REFIT= Regulatory Fitness and Performance programme
RLAH= Roam-Like-At-Home
RSM= Risk-Sharing Mechanism

S

SAREF= Smart Appliances REference
SMART= Specific, Measurable, Achievable, Realistic, Time-related
SMEs= Small and medium-sized enterprises

SMP= Significant Market Power
SOP= Standard Operating Procedures
SPARC= Partnership for Robotics in Europe
SRM= Stakeholders Relations Management
STEM= Science, Technology, Engineering, and Mathematics
SVoD= Subscription Video on Demand
SWD= Staff Working Document

T

TLD= Top-Level Domain
TTG= Time-to-grant
TTP= Time-to-pay
TVoD= Transaction Video on Demand

W

WACC= Weighted Average Cost of Capital

2. ORGANISATIONAL MANAGEMENT AND INTERNAL CONTROL

This section explains *how* the DG delivered the achievements described in the previous section. It is divided into 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 objectives¹⁰. 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 DG.

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-General. The reports produced are:

- The reports submitted by the AOSDs, which include the outcome of the internal control monitoring taking place in each Directorate;
- The reports from Authorising Officers in other Directorates-General managing budget appropriations in cross-delegation;
- The reports on control results from entrusted entities as well as the result of the Commission supervisory controls on the activities of these bodies;
- The contribution of the Director in charge of Risk Management and Internal Control, including the results of internal control monitoring at Directorate-General level;
- The results of the ex-post audits;
- The limited conclusion of the internal auditor 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).

These reports result 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 the Director-General of DG CONNECT.

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 on the impact as regards assurance.

¹⁰ Art. 36.2 Financial Regulation: a) effectiveness, efficiency and economy of operations; b) reliability of reporting; c) safeguarding of assets and information; d) prevention, detection, correction and follow-up of fraud and irregularities; and e) adequate management of risks relating to the legality and regularity of underlying transactions.

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 objectives¹¹. The DG's assurance building and materiality criteria are outlined in the AAR 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 relevant control systems.

DG CONNECT budget is implemented by DG CONNECT and by other DGs and entrusted entities which have budget implementation tasks. The research programmes represent the most important part in quantitative terms. This explains that this report will mostly focus on this part of the budget.

This report will present the elements supporting the assurance on the internal control objectives in two different segments: direct budget implementation by DG CONNECT and budget implementation tasks entrusted to other DGs and entities.

| Budget implemented by DG CONNECT (in EUR) | |
|---|----------------------|
| H2020 | 1 390 625 851 |
| FP7 | 38 624 346 |
| CIP ICT | 3 345 187 |
| CEF | 17 693 551 |
| Creative Europe MEDIA | 20 425 667 |
| Other | 12 473 920 |
| Administrative expenditure | 11 773 685 |
| Budget implementation tasks entrusted to other DGs and entities (in EUR) | |
| 1- Implementing Bodies | |
| ECSEL | 220 359 844 |
| AAL Association | 11 298 846 |
| BEREC Office | 4 331 000 |
| ENISA | 10 777 626 |
| Financial instruments (EIB-PBI, CCSGF, CEBF) | 14 427 770 |
| 2- Cross delegations to DGs | |
| EMPL, ESTAT, GROW, SANTE, OP, RTD, DIGIT, ENER, SANTE, JUST, HR | 9 045 892 |
| TOTAL | 1 765 203 185 |

¹¹ 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 programmes as well as the nature of the payments (Art. 36.2 Financial Regulation).

Furthermore, DG CONNECT was a partner DG for four executive agencies, which processed operational payments for a value of EUR 380.52 million linked to DG CONNECT activities.

| Entity | Operational payments implemented directly by the EAs linked to DG CONNECT activities (in EUR) |
|---|--|
| Innovation and Networks Executive Agency (INEA) | 39 077 553 |
| Research Executive Agency (REA) | 224 836 132 |
| Executive Agency for Small and Medium-sized enterprises (EASME) | 12 999 614 |
| Education, Audiovisual and Culture Executive Agency (EACEA) | 103 605 295 |
| TOTAL | 380 518 594 |

For the CIP, FP7 and H2020 programmes DG CONNECT uses flat rates for indirect costs which exceed the 7% ceiling of the new Financial Regulation (art. 181.6). Such flat rates have been decided to make the preparation of proposals and the management of projects easier. At the same time, the use of flat rates reduces the number of financial errors.

DG CONNECT has no cases of 'confirmation of instructions' (new FR art. 92.3); cases of financing not linked to costs (new FR art. 125.3); or cases of 'Derogations from the principle of non-retroactivity of grants pursuant to Article 193 Financial Regulation' (new FR art. 193.2).

The list of financial Framework Partnerships >4 years (new FR art. 130.4) can be found in Annex 3.

In 2018, DG CONNECT reported the risk linked to the implementation of the WiFi4EU initiative as critical. The WiFi4EU initiative aims to provide free public Wi-Fi connectivity across the EU for citizens and visitors. Selected municipalities will benefit from a EUR 15 000 voucher to be used to install free Wi-Fi hotspots in public places. By 2020, between 6 000 to 8 000 vouchers are expected to be granted. In May 2018, a first call for applications was issued. However, due to security and technical problems, the internet portal for submission of applications had to be put offline and in consequence the call was cancelled on 13 June 2018. A new call for proposals was launched in autumn 2018. Close to 13 200 municipalities applied, of which 4 000 in the first 10 seconds.

The call budget amounted to EUR 42 million resulting in 2 800 vouchers. The winners were announced and notified on 7 December 2018 and to date more than 2 500 grant agreements have been signed and countersigned. A new call is scheduled to be launched in early 2019.

DG CONNECT has assessed the risk linked with the implementation of the WiFi4EU initiative as critical. The risks are linked to the reputational damage in case of unsuccessful launch or poor quality of service, the reliability and security breaches in the technical infrastructure, the risks linked to data protection and the budgetary risks. The risk was closely monitored at senior management level and actions were defined to mitigate and monitor each of the aspects of the risk. In early 2019, the risk related to the execution of the budget did not materialise and was removed from the risk register. The overall risk level will be reassessed after the launch of the new call for proposals in 2019.

Conclusion

DG CONNECT has systematically examined the available control results and indicators, including those aimed to supervise entities to which it has entrusted budget implementation tasks, 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 the achievement of the various internal control objectives mentioned above.

For FP7, as the estimated residual error rate of the financial operations under FP7 is above 2%, which is the materiality criterion for this programme, DG CONNECT, in accordance with the other members of the Research Family, maintains a reservation for FP7 expenditure.

For the financial operations under CIP, the results of the ex-post audits show that the residual error rate is also above 2%. As the 2% residual error rate target will not be attained, a reservation on CIP is also maintained for the reporting period.

For H2020, the first audit results suggest that the detected (and in future 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 will be respected. As a result, DG CONNECT does not consider that a reservation is needed for Horizon 2020 expenditure.

As regards the budget implemented by other DGs and entities, the cross subdelegated AODs, the executive agencies INEA, REA, EASME and EACEA, the ECSEL Joint Undertaking, the Active and Assisted Living Association, the decentralised agencies BEREC Office and ENISA as well as the EIB/EIF, we are well aware of the reservations of REA, EASME and EACEA and do not consider that they represent a failure of our supervision. DG CONNECT recognizes the importance of the Court of Auditor's observations concerning ECSEL's management of procurement procedures for administrative services and as regards the proper documentation in its register of exception.

Consistent with remarks made concerning the error rates for FP7 funds under direct management and in the absence of strong evidence that the residual error rate would be lower than 2%, DG CONNECT includes the related FP7 budget from ECSEL and the AAL Association within the scope and exposure of its reservation for FP7.

From DG CONNECT's own monitoring and supervision work, which includes regular contacts/representation or at least desk reviews of relevant management reports and audit reports, DG CONNECT has not identified any other issues which could impact the management's assurance and there are no indications that the reporting would not be reliable or complete.

Based on the above, in conclusion, DG CONNECT's senior management has reasonable assurance that, overall, suitable controls are in place and working as intended. Risks are being appropriately monitored and improvements and reinforcements have been implemented where necessary.

The table below presents the control results in summary.

| Conclusion on the Internal Control - Summary Table | | | | | | | | | |
|--|------------------------------------|--|--|--|---|--------------------------------|--|--|---|
| DG CNECT | Scope: payments made (MEUR) | Effectiveness = control results and benefits | | | Efficiency = the time-to-... indicators and other efficiency indicators | Economy = the cost of controls | Conclusion on the cost-effectiveness of controls | Information from auditors available | Reservations |
| <i>ABB or other activity-level</i> | <i>as per AAR annex 3, table 2</i> | Conclusion on "Legality and Regularity" | Conclusion on "Fraud prevention, detection and correction" | Conclusion on other Incos | | | | | |
| Budget implemented by DG CNECT | | | | | | | | | |
| H2020 | 1390.63 | Positive, with the exception of FP7 for which the res. error rate is 3,15% and CIP for which the error rate is 7,72% | Positive | Positive | | YES | Positive | YES | YES, for FP7 and CIP |
| FP7 | 38.62 | | | | | | | | |
| CIP | 3.35 | | | | YES | | | | |
| CEF | 17.69 | | | | TTG= 211,4 days, | | | | |
| Creative Europe | 20.43 | | | | TTP = 98,5% on time | | | | |
| Other | 12.47 | | | | | | | | |
| Administrative expenditure | 11.77 | | | | | | | | |
| Budget implementation tasks entrusted to other DGs and entities | | | | | | | | | |
| 1- Implementing Bodies | | Yes, with the exception of the relevant payments to Ecsel and AAL which are covered in the FP7 reservation | Positive | Positive, some specific remarks on Ecsel | YES | YES | Positive | YES (see 2.1 Budget entrusted to other DGs and entities) | Relevant payments to Ecsel, and AAL are covered in the FP7 reservation) |
| ECSEL | 220.36 | | | | | | | | |
| AAL | 11.30 | | | | | | | | |
| Berec Office | 4.33 | | | | | | | | |
| Enisa | 10.78 | | | | | | | | |
| Financial instruments (I) | 14.43 | | | | | | | | |
| 2- Cross delegations to EMPL, ESTAT, GROW, S | | | | | | | | NO | NO |
| TOTAL | 1 775.20 | | | | | | | | |

2.1.1.a Direct budget implementation by DG CONNECT

1. Effectiveness = the control results and benefits

In order to be considered effective, controls are expected to meet the internal control objectives detailed hereafter and result in benefits. These benefits should be explained and quantified if possible.

Legality and regularity of the transactions

Indicators for legality and regularity

DG CONNECT 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 programmes, the main legality and regularity indicator is the error rate detected by ex-post audits

The general control objectives, as stated in Annex 4 to this report, are as follows:

- For the Seventh Framework Programme and the CIP ICT PSP, to ensure that the residual error rate, i.e. the level of errors which remain undetected and uncorrected, does not exceed 2% by the end of the programme management cycle.
- For Horizon 2020, the Commission's proposal for the Regulation establishing the H2020 framework programme¹² refers to a risk of error over the course of the multiannual expenditure period, on an annual basis, within a range of 2-5 %, with the ultimate aim to achieve a residual level of error as close as possible to 2%.

An audit strategy common for all research services was established in 2016. The Common Audit Strategy covers all the implementing bodies for H2020.

For FP7, it only covers the DGs and the Executive Agencies.

For the CIP ICT PSP and Safer Internet programmes, DG CONNECT implements a dedicated multi-annual audit strategy. These audits are performed by an external audit firm contracted by DG CONNECT.

This report will not further address the management of the financial operations under the other programmes because they represent limited amounts as the parts of CEF and Creative Europe MEDIA implemented by DG CONNECT represent about 2% of the total payments.

The Common Representative Sample (CRS) provides an estimate, via a representative sample of cost claims across the Research and Innovation Family, of the overall level of error in the framework programme. The CRS is complemented by 'risk-based' audits; audits selected according to one or more risk criteria.

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

¹² COM(2011) 809/3 Proposal for a Regulation of the European Parliament and of the Council establishing Horizon 2020 – the Framework programme for Research and Innovation (2014-2020), see point 2.2, pp 98-102.

- **Overall Detected Error Rate:** this is the error rate derived from the results of all audits, whether audits on a representative sample of beneficiaries or audits implemented for other reasons (large beneficiaries, preventive audits, risk factors, etc.). Its value is cumulative and can be calculated for a specific implementing body or for the whole Research and Innovation Family.
- **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 framework programme 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 Commission services after the audit, nor does it provide information on the net final financial impact of errors.
- **Residual Error Rate:** the residual error rate, on a multi-annual basis, is the extrapolated level of error remaining after corrections/recoveries undertaken by Commission services following the audits that have been made. The calculation of the residual error rate, as shown in *Annex 4*, is based on the following assumptions:
 1. all errors detected will be corrected;
 2. all non-audited expenditure of audited beneficiaries is clean from systematic material errors so that the residual error rate in this expenditure can be estimated to be equal to the non-systematic part of the representative error rate (for expenditure subject to extension of audit findings this is only assumed when the respective extension procedures have been closed).

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 its ex-post audit strategy, in dealing with errors over a multi-annual basis. However, it remains an estimate as long as not all cost claims have been received and not all cases of extension of audit findings have been fully implemented yet.

H2020

At this stage of the programme lifecycle, cost claims totalling 9 billion euro of requested funding had been received by the services by the end of 2018. The first Horizon 2020 audits were launched in the middle of 2016 and further audits were launched in 2017 and 2018. Two Common Representative Samples (CRS), Common Risk Samples and Additional Samples¹³ have been selected. In total, by December 2018, 2.383 participations had been selected for audit, covering all the services signing grants in Horizon 2020.

In total, the audit of 1.155 participations has been finalised by 31.12.2018 (763 in 2018). This includes 164 out of 303 participations selected in the first 2 CRS.

- **Overall Detected Error Rate** based on 1.155 participations: 1.62%
- **The Detected Error Rate** based on 164 out of 303 participations selected in the first and second CRS is 2.43%. However, if we take into account the draft audit reports, then the expected representative error rate for the full sample will be around 3.32%.

¹³ This sampling accommodates special needs of certain stakeholders with regard to audit coverage and selection method. In addition, top ups, which are participations of selected beneficiaries which are added to the selected participations, are included in the total participations selected.

- **Residual Error Rate for the Research and Innovation Family:** 2.22 % (2.20% for DG CONNECT alone), expected to rise to around 2.45% when taking into account the draft audit reports (2.39% for DG CONNECT alone).

Comments on the control results

As last year, the error rates set out above must still be treated with care. The two first CRS are not yet complete, and so the error rate is not yet fully representative of the expenditure that it covered. 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, also, to help assess whether the simplifications introduced in Horizon 2020 had been effective. The nature of expenditure in the first years of the programme may not be totally representative of the expenditure across the whole period of expenditure. And the programme is in any case multi-annual, so the error rates, and especially the residual error rate, must be considered over time. In particular, the cleaning effect of audits over time will tend to increase the difference between the representative/detected error rate and the residual error rate, with the latter finishing at a lower rate.

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. However, beneficiaries still make a number of errors, sometimes because of a lack of understanding of the rules, sometimes because of a non-respect of the rules.

To improve clarity of the rules and compliance with them, the following actions were taken:

- 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 were considered in a working group, which met on 14 March 2018, bringing together auditors from the Commission and the Court of Auditors to see where additional simplifications and clarifications may be needed.
- Considerable efforts have been made to ensure clear communication of the rules and guidance to participants and their auditors. In 2018, the Common Support Centre has been attending and coordinating 15 events organised by the National Contact Points of Member States and associated members with a total of 1819 participants.
- Lump sum funding has already been used for the SME stage 1 calls grants. Trials of lump sum funding for collaborative projects began in 2018 to evaluate if this form of entitlement funding, which would avoid errors of legality and regularity, is appropriate to achieving all the objectives of research policy. These trials will continue in 2019, and include the extension of lump sum funding to the ERCEA Proof of Concept grants.

Conclusion on the ex-post audits for H2020

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 (and in future 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 will be respected.

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

Seventh Research Framework Programme (FP7)

The audit work for FP7 was almost completed in 2018. The last Common Representative Audit Sample was launched in 2016. By the end of 2018, just three audits of the Common Representative Audit Sample remained open. Against this background, a wrap-up of the FP7 audit campaign is made below, and FP7 audits will no longer be covered in detail in future AARs.

At the end of 2018, the Research and Innovation Family as a whole has 4.520 audits results, covering 64.7% of FP7 expenditure, which exceeds the original target by 11%.

DG CONNECT alone had 883 FP7 audit results completed by the end of 2018, exceeding its target by 5%. Once the FP7 audits still open are closed (25 audit results), the original target for FP7 audits will have been exceeded by 8%.

The percentage of FP7 expenditure covered by the audits (62.8%) refers to the value of the participations of the audited beneficiaries, including both the fully audited participations (8.5%) ('direct' coverage), and the non-audited participations which nevertheless, after the full treatment of audit results, are clean from systematic errors (62.8%) ('indirect' coverage).

The error rates resulting from FP7 audit work are:

- **Common Representative Error Rate: 5.26%**, based on 477 costs statements for which the audit is completed (98 % out of a sample of 486).
- Residual Error Rate: **at this point in time, this error rate amounts to 3.15 % for CONNECT.**

Conclusion on the ex-post audits for FP7

The audit strategy for FP7 has been fully implemented. The Common Representative Error Rate for FP7, calculated on a multi-annual basis, is a bit above 5%. The Residual Error Rate is 3.15% for DG CONNECT. Since only three CRS audits remain open, the final Residual Error Rate will probably be around that figure.

These results are in line with the conclusions expressed in AARs over the years.

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

The reservation in the declaration of assurance for the FP7 expenditure is addressed in Section 2.1.5. The Research DGs made continuous efforts to mitigate the risk of error in FP7 expenditure, including:

- a number of simplifications (for example those contained in the Commission Decision of 2011) 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's auditors as well as those of the European Court of Auditors;
- 883 ex-post audits, together with the recovery of overpayments and the extrapolation of systemic errors¹⁴ to unaudited cost claims of the same beneficiaries in terms.

However it is clear that the 2% residual error target for FP7 will not be attained. Nevertheless, the lessons learned from FP7 audits have been used in the development of Horizon 2020 programme's general framework.

Implementation of audit results

The table below provides the results of the implementation of FP7 direct audits (EUR 49.7 million adjusted).

| Year | | | FP7 Total | |
|------------------------------------|---|--|------------|------------|
| Audit activity | | # audits closed | 881 | |
| | | #participation audited | 1 755 | |
| Results in favour of the EC | | # participations | 914 | |
| | | Adjustments in EUR | 49 735 249 | |
| Open for implementation | | # | 17 | |
| | | EUR | 1 066 354 | |
| Implemented | (registered in contract management system) | Offset from payment | # | 337 |
| | | | EUR | 16 927 863 |
| | | Recoveries | # | 474 |
| | | | EUR | 29 185 841 |
| | | Waived (amounts below materiality criteria) | # | 84 |
| | | | EUR | 2 555 190 |
| TOTAL | (in terms of participations) | Open | 2% | |
| | | Implemented | 98% | |

The level of implementation of ex-post audit results is 98%. The cumulative amount of corrections implemented by extrapolation of systemic errors amounted to EUR 10.2 million. This is EUR 3 million more compared to the end of 2017. The current implementation rate of extrapolations (expressed in number of cases) for FP7 on a cumulative basis is 76.2% compared to 73.58% at the end of 2017.

ICT Policy Support Programme of the Competitiveness and Innovation framework Programme (CIP ICT PSP)

In order to ensure audit coverage on this part of the budget, a specific audit strategy was defined in 2012 and updated in 2015 and 2016. The strategy is almost completed with only 2 audits to be closed.

¹⁴ In case of systemic errors, it is assumed that these errors are present also in the financial statements of the non-audited periods of the audited grant agreements and of the non-audited grant agreements of the same beneficiary. The correction of these errors should therefore also be performed for these financial statements. We refer to this process as the "extension of audit findings" onto the non-audited periods/grant agreements.

The error rates resulting from CIP audit work are:

- **Detected Error Rate:** 9.10%
- **Residual Error Rate:** 7.72%, which is above the 2% materiality criterion.

Conclusion on the ex-post audits for CIP ICT PSP

The above error rates should be considered with caution. Contrary to FP7 for which the calculations of the error rates are based on a representative sample covering audits of 477 cost statements, the CIP error rate calculations are based on a number of audits which is more limited (115 audits at the end of 2018). In 2018, the 10 audits with the highest adjustments account for 60.88% of the total amount adjusted. Without these 10 audits, the detected error rate would be of 4.15% which is similar to the FP7 representative error rate of 5.26%. Given the similarity of the control systems of the FP7 and CIP ICT PSP programmes, such error rate would be plausible.

Given that the residual error rate calculated for the CIP ICT PSP programmes is higher than 2% and that the 2% residual error rate target at the end of the programming period for CIP ICT PSP will not be attained, a reservation on CIP is maintained for the reporting period.

An in depth analysis of the 10 CIP ICT PSP audits with the largest audit adjustments shows that the largest contribution to the overall level of error comes from:

- Incorrectly calculated hourly rates/ productive hours;
- Non-compliance with the requirements for the time recording;
- Non-compliance with the rules for using consultants.

Implementation of audit results

The table below provides the results of the implementation of CIP ICT PSP direct audits (including risk-based audits and audits performed by the European Court of Auditors).

| Year | | | CIP Total | |
|------------------------------------|---|--|------------|-----------|
| Audit activity | | # audits closed | 166 | |
| | | # participation audited | 304 | |
| Results in favour of the EC | | # participations | 203 | |
| | | Adjustments in EUR | 10 258 178 | |
| Open for implementation | | # | 7 | |
| | | EUR | 260 069 | |
| Implemented | (registered in contract management system) | Offset from payment | # | 29 |
| | | | EUR | 717 738 |
| | | Recoveries | # | 165 |
| | | | EUR | 9 279 845 |
| | | Waived (amounts below materiality criteria) | # | 2 |
| | | | EUR | 527 |
| TOTAL | (in terms of participations) | Open | 3% | |
| | | Implemented | 97% | |

The level of implementation of ex-post audit results amounts to 97%. The cumulative amount of corrections implemented by extrapolation of systemic errors amounted to EUR

1 million. This is EUR 100 000 more compared to the end of 2017. The current implementation rate of extrapolations (expressed in number of cases) for CIP is 59% compared to 45% in 2017.

An overview of the DGs estimated overall amounts at risk and their estimated future correction for all types of expenditures of the DG is presented in section 2.1.2.

Fraud prevention, detection and correction

DG CONNECT has developed and implemented its own anti-fraud strategy since 2009, elaborated on the basis of the methodology provided by OLAF. The last updates were in February 2018 taking into account the Commission's overall anti-fraud strategy and methodology guidelines provided by OLAF. The updated DG CONNECT anti-fraud strategy includes several actions which were implemented in 2018; those actions of recurrent nature will continue in 2019 together with a number of new actions decided in February 2018. The DG furthermore follows and implements the Common Anti-Fraud Strategy in the Research Family (RAFS) including its action plan.

The RAFS was first established in 2012 and has been updated in 2015 and in the end of 2018 notably to respond to the new challenges of all the Research DGs and Services. The implementation of the RAFS and in particular the action plan accompanying the RAfs is regularly monitored by the governing board of the Common Support Centre (CSC) and the Fraud and Irregularities in Research (FAIR) Committee, in which DG CONNECT actively participates. In December 2018, all Commission services including DG CONNECT have been formally consulted on the revised Commission Anti-Fraud Strategy which will be proposed for adoption in spring 2019.

At the end of 2017, the Common Support Centre signed a new contract with a provider of an anti-plagiarism tool. To raise staff awareness on fraud risks and its mitigation including the use of plagiarism checks, training has been run by DG CONNECT. In early 2018, more than 40 DG CONNECT staff attended an anti-fraud training course. Furthermore, one training session on anti-fraud in grant management was held, which was attended by 26 staff working in that field.

DG CONNECT continued to transmit information to OLAF about suspicions of fraud and other irregularities. DG CONNECT held several meetings with OLAF concerning ongoing and closed investigations and participated in the Fraud Prevention and Detection Network organised by OLAF.

Overall, given the existing anti-fraud strategies and their implementation along with the other points mentioned it is considered that an effective and adequate fraud prevention and detection system is in place.

| Objective: Minimisation of the risk of fraud through application of effective anti-fraud measures, integrated in all activities of the DG, based on the DG's anti-fraud strategy (AFS) aimed at the prevention, detection and reparation of fraud. | | | |
|---|--|-----------------|--|
| Main output in 2018 | Indicator | Target | Latest known results |
| Implementation of the anti-fraud strategies (RAFS, DG CONNECT) | % of implementation of actions planned for 2018 in the anti-fraud strategies | 100% | 100% |
| Fraud And Irregularities in Research Committee | Number of meetings | 2 by 31.12.2018 | Participation in all three FAIR Committee meetings |
| Anti-fraud awareness | Number of | 50 in 2018 | 67 in 2018 |

| | | | |
|--|--|---|--|
| raising trainings (Recurrent training courses on grants/procurement targeting specific users) | participants from DG CONNECT | | |
| Organisation of an ethics event | Level of participation | Average of 1 staff per unit | The presentation by the Director of the Investigation and Disciplinary Office of the Commission and ensuing discussion with senior management, was followed by discussions stirred by DG CONNECT's compliance unit with all Directors and Heads of Unit. |
| In the context of the revision of the CAFS, review and, if necessary, update of the RAFS and the DG CONNECT Anti-Fraud Strategy. | Timely contribution to the FAIR committee | Q4 2018 | DG CONNECT actively contributed through presence in the Fraud Prevention and Detection Network and FAIR meetings and various inputs/ comments as to the revision of the strategies. The updated RAFS was adopted in March 2019; the adoption of the CAFS is scheduled for spring 2019. |
| Use of the anti-plagiarism tool | Number of requests to use the anti-plagiarism tool | More than 8 requests (increase compared to previous period) | 9 requests, involving 194 documents. |

Other control objectives: safeguarding of assets and information

The assets reported by DG CONNECT in the balance sheet 2018 mainly concern short term and long term pre-financing related to the Horizon 2020 programme and the control system is covered in the section of the management of those programmes. A separate control strategy for safeguarding the assets is not deemed necessary for 2018.

Other control objectives: Off-balance sheet items

The contingent liabilities reported by DG CONNECT in 2018 (EUR 18.8 million) represent the open balance of the guarantee paid to the EIB for the project PBI in 2013 (EUR 7 million) and 2014 (EUR 13 million), later merged and currently called CEF DI financial instrument.

The 'other significant disclosures' (EUR 1 719.7 million) reported in 2018 are related to the RAL for Horizon 2020 projects as well as other and grants and procurements for Horizon 2020, CEF and Creative Europe MEDIA programmes.

A separate control strategy is not deemed necessary for 2018.

2. Efficiency = the Time-to-... indicators and other efficiency indicators

The control system for grant management is divided into four distinct stages – programming, evaluation and selection of proposals (stage 1), contracting (stage 2), monitoring the execution of the projects (stage 3) and ex-post controls and recoveries (stage 4). Key indicators have been defined for each stage of the process.

Stage one: Programming, evaluation and selection of proposals

The first stage concerns the preparation and the publication of the calls for proposals and the subsequent evaluation of the received proposals. The overall control objective of this stage is to ensure that the most promising projects, meeting the policy objectives, are among the selected proposals. In order to ensure this control objective, DG CONNECT has put in place a set of rules and procedures that are objective, transparent and ensure equal treatment of all applicants.

The selection process implies an initial screening of the submitted proposals to assess their admissibility and eligibility. In a second stage the eligible proposals are evaluated by an independent evaluation panel and an adequate evaluation review procedure is put in place in case of complaints regarding the evaluation. The aim of all steps in this process is to ensure a robust and transparent selection which in turn will guarantee the highest value for money return.

The key indicators which can be used to measure the efficiency of this stage are the level of execution of the DG's work programmes, the attractiveness of the calls, the time-to-inform, the time-to-pay evaluation experts and the number of requests for an evaluation review.

Level of execution of the DG's work programmes

DG CONNECT's work programmes for 2018 contained the implementation of 18 calls for proposals for Horizon 2020 and 2 calls coordinated by other DGs or agencies. All of these calls have been successfully implemented.

Attractiveness of the calls

The attractiveness of the DG CONNECT's funded programmes can be measured by the proportion of the proposals received compared to the ones which were effectively selected. In 2018 there were on average 6.6 proposals received for each selected proposal. This demonstrates the attractiveness of the programmes managed by DG CONNECT. The decrease from last year's 9.9 proposals per selected proposal can be explained by the more focussed work programmes.

Average time-to-inform

DG CONNECT complied with this control effectiveness indicator. In 100% of the cases, the applicants were informed of the results of the evaluation within the maximum time-to-inform period of 5 months (average time to inform was 109 days in 2018 compared to 121 days in 2017 and 107 in 2016). The average time to sign grant agreements was 210 days in 2018 compared to 209 days in 2017 and 214 days in 2016. This shows that the evaluation exercises have been carried out in an efficient manner.

Evaluation review procedures

As shown in the table below the number of introduced requests for review (11) is very low compared to the total proposals (1.295; 0.85%). The latter is a good indication for the efficiency of the selection process.

| | TOTAL (2016) | TOTAL (2017) | TOTAL (2018) |
|---|-------------------------|-------------------------|-------------------------|
| Number of proposals received | 1996 | 1637 | 1295 |
| Number of proposals selected | 209 | 150 | 195 |
| Number of evaluation review request received | 14 | 10 | 11 |
| Number of review requests received as % of number of proposals received | 0.7% | 0.61% | 0.85% |
| Number of review cases leading to a re-evaluation | 1 | 0 | 1 |
| Number of reviews leading to a re-evaluation as % of number of proposals received | 0.05% | 0% | 0.08% |
| Number of (successful) evaluation reviews / total number of proposals received | 0 | 0 | 1 |

Time-to-pay evaluation experts

The average time for paying reviews in 2018 is 12.8 calendar days compared to 14.8 days in 2017¹⁵. This is well within the binding deadline of 30 days for payments, imposed by the Financial Regulation.

The evaluation exercise benefits are the selection of proposals that address the objectives and priorities of the work programmes, that due to their high maturity have the best chances for successful completion within the eligibility period, and that provide the highest EU added value for the completion of the respective policy targets. This and the oversubscription described above underlines the importance of the controls in place at this stage of the grant management process.

Stage two: grant preparation/contracting

After a sound and transparent selection process, the next stage consists of formalizing the contractual side of the proposals. The overall control objective of this stage is translating each of the selected proposals into legally binding grant agreements, allowing for the management of both the scientific and financial aspects of the projects and to ensure the best value for money output of each of the contracted projects.

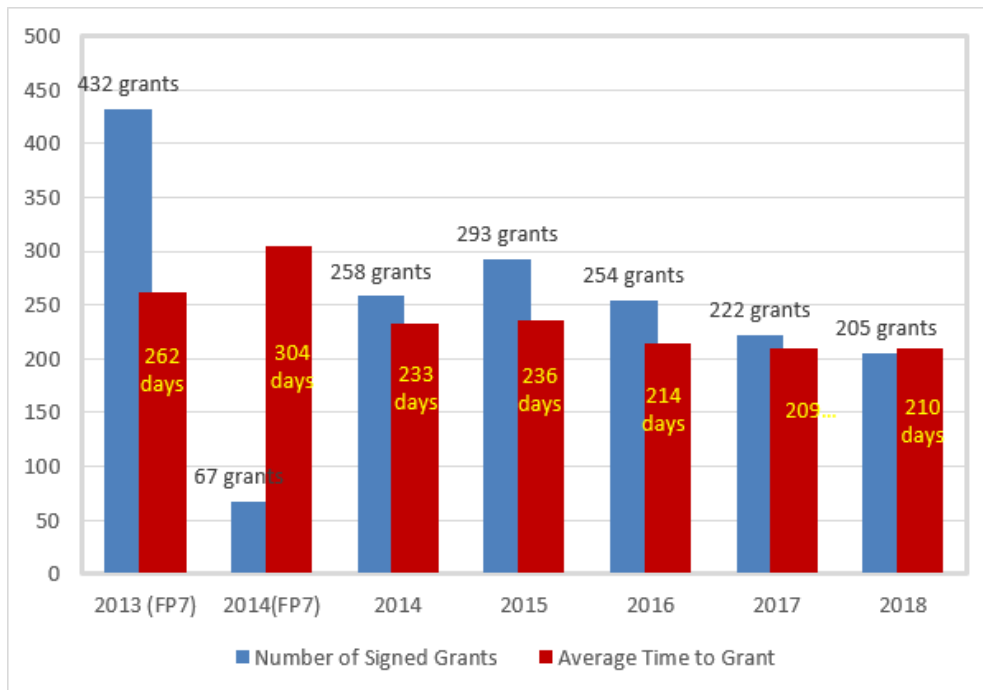
Proposals under Horizon 2020 are expected to be mature and ready to be implemented without the need for substantial adjustments in the scope and repartition of the scientific work, the duration or the maximum financial contribution for the project. Given that no negotiation phase is foreseen for this programme, the difference between the recommended funding and the final grant awarded is negligible.

The key indicator which can be used to measure the performance of this stage is the time-to-grant.

Time-to-grant (TTG)

The time-to-grant is the length of the time between the closure date of the call for proposals and the date of the signature of the grant agreement. The TTG indicator shows the average period between the calls' closure date and the grants' signature. The evolution of the TTG in the last 2 years of FP7 and the first 5 years of Horizon 2020 is shown in the table below.

¹⁵ Data gathered from the CORDA database



In 2018, 205 H2020 projects were signed for a total EC contribution of EUR 1 275.84 million and a total budgeted cost of EUR 1 373.66 million. The average TTG of these projects was 210 days, which is similar to previous years¹⁶. The legal TTG (eight months or 245 calendar days) was complied with in 99.5% of the grants. Nevertheless, it needs to be noted that a short TTG does bring some risks as it reduces the time available for the Commission to carry out extensive checks before signing grants.

The main benefits of the grant preparation/contracting stage consists in translating valuable scientific ideas into legally binding grant agreements in a way that ensures an optimal allocation of EU funds.

Stage three: monitoring the execution

The overall control objective of this stage is to ensure that the projects are performing according to their schedule and that the financial operations comply with regulatory and contractual provisions.

The execution of the projects is monitored through different tools, the ex-ante controls being one of the most important ones at the time of cost claims submitted by the beneficiaries. Other monitoring measures include the assessment of the technical reports, which in some Programmes may have further pre-financing implications and commitments adjustments (only applicable to multi-annual programmes), as well as direct and regular contacts with the beneficiaries and project promoters, technical site visits, project management workshops, among others.

The key indicators which can be used to measure the performance of this stage are the time-to-pay (TTP) and the average project management cost per running project.

The time-to-pay (TTP) indicator:

This indicator gives the percentage of payments made within the binding deadlines. DG CONNECT continued its efforts to maintain the low number of late payments, in line with the tighter deadlines imposed by the Financial Regulation. For the year 2018, 98.5%

¹⁶ Data gathered from the FP7 and H2020 CORDA data warehouse

of the total number of payments were paid on time compared to 97.2% in 2017. The average time for payments made on time is 20.8 days. The overall average payment time is 21.35 days.¹⁷

Table: Evolution of the TTP in DG CONNECT (%)

| 2018 | 2017 | 2016 | 2015 |
|-------|-------|-------|-------|
| 98.5% | 97.2% | 97.6% | 93.4% |

Average project management cost per running project

DG CONNECT estimates that this stage of the process costs around EUR 19.88 million for the normal management of the contracts and ex-ante controls over payment claims. The average project management costs (exclusive of financial management) amount to EUR 18 510 per running project. The average number of projects managed per programme officer was 10.8 in 2018.

Table: Number of running projects in 2018:

| 2018 | Projects | Budget (EUR) | Programme Officers (FTE) | Average Project | Average Budget (EUR) |
|-------|----------|---------------|--------------------------|-----------------|----------------------|
| FP7 | 14 | 123 230 118 | | 0.14 | 1 243 116 |
| CIP | 2 | 18 124 995 | | 0.02 | 182 841 |
| H2020 | 1 058 | 4 989 725 614 | | 10.67 | 50 335 172 |
| Total | 1 074 | 5 131 080 727 | 99.13 | 10.8 | 51 764 129 |

The real benefits of the ex-ante controls cannot be fully quantified. Indeed, many interactions take place between the consortia and the DG's operational services in order to clean the costs statements from substantial errors still before the official submission of the latter. Therefore, the costs accepted for reimbursement are often very close to the one submitted in the 'pre-cleaned' financial statements. As a consequence the difference between the accepted costs and the ones claimed with the latest submission of the financial statements cannot fully measure the 'gain' from the ex-ante control measures. Nevertheless, it can be reported that the rejection of the costs as non-eligible amounts in cost claims at the time of ex-ante controls let to a reduction of EUR 4.8 million of EU contribution in 2018 out of which EUR 4.2 million is related to controls performed in 2018. The remaining difference of EUR 600 000 is related to controls performed during the period 2012-2017.¹⁸

Stage four: ex-post controls

The fourth stage includes the ex-post audits as well as the recovery of any amounts found to have been paid in excess of the amount due. The results of the audits, namely the error rates, are detailed in the section dedicated to the control results in terms of effectiveness as regards legality and regularity. Unlike the other stages of the grant management control system, the scope of the audit stage is wider than just DG CONNECT. The Common Audit Service (CAS) is responsible for representative FP7 audits for all DGs of the Research Family, and for all Horizon 2020 audits (including executive agencies and joint undertakings).

¹⁷ See annex 3 tab 6.

¹⁸ Data gathered from SAP Business Objects - Recovery context – Non-eligible amounts in cost claims.

A detailed analysis of the work performed by the CSC can be found in DG RTD's Annual Activity Report. Per 31 December 2018, DG CONNECT manages 3 FP7 and 1 CIP ICT PSP audits.

The benefit of ex-post controls in terms of adjustment, recoveries and offsetting is set out above; however, the real benefit of the ex-post controls, including the deterrent and training effect, cannot be fully quantified.

Based on an assessment of the most relevant key indicators and control results and in particular the 'time-to-inform', 'time-to-grant' and 'time-to-pay' indicators, it is considered that an efficient control system has been put in place.

3. *Economy = the cost of controls*

The control system for grant management is divided into four distinct stages – programming, evaluation and selection of proposals (stage 1), contracting (stage 2), monitoring the execution of the projects (stage 3) and ex-post controls and recoveries (stage 4). Key indicators have been defined for each stage of the process.

The table below provides an estimate of the total costs of control for direct grant management within DG CONNECT including the costs of the shared services. The estimated cost of controls for each of the four stages was calculated based on the corporate methodology for the estimation, assessment and reporting on the cost-effectiveness of controls.

As the CSC is a corporate service whose work is crucial for the assurance model of all members of the Research Family, its costs are presented in this report as a whole and split at DG level. The support services provided by REA to the Horizon 2020 implementing bodies is part of this family-wide integrated control system as well. The estimated cost of controls of DG CONNECT is given for each of the different grant management stages. The complete picture is shown in the table below.

Table: Overall cost of controls indicator for direct grant management including the shared services costs

| Cost of controls indicator in direct grant management | Costs (EUR million) | | | Operational Payments 2018 H2020 Family Total amount (EUR million) | Overall rate (total costs/total amount paid) % |
|---|---------------------|----------------|--------------------|--|---|
| | Internal costs | External costs | Total | | |
| Common Support Centre | | | | | |
| Ex-ante controls (mainly common services for IT systems and operations, business processes) | 8.7 | 28.2 | 36.9 | 8 080 | 0.46% |
| Ex-posts audits | 7.3 | 2.79 | 10.1 | | 0.12% |
| <i>TOTAL</i> | <i>16.0</i> | <i>31.0</i> | <i>47.0</i> | | <i>0.58%</i> |
| Evaluation Experts costs paid by REA | 8.85 | 47.78 | 56.63 | 6 726 | 0.84% |
| DG CONNECT costs of controls grant management | | | | Operational payments for grants 2018 DG CONNECT | |

| | | | | (H2020, FP7, CIP, etc) | |
|---|-------|------|--------------|------------------------|--------------|
| Stage 1 – programming and evaluation | 3.41 | 0.31 | 3.72 | 1 465.99 | 0.25% |
| Stage 2 – contracting | 2.6 | 0.15 | 2.75 | 1 465.99 | 0.19% |
| Stage 3 – monitoring the execution (financial circuits) | 18.6 | 1.28 | 19.88 | 1 465.99 | 1.36% |
| Stage 4 – ex-post controls and recoveries | 0.77 | 0.0 | 0.77 | 1 465.99 | 0.05% |
| TOTAL | 25.38 | 1.74 | 27.12 | 1 465.99 | 1.85% |
| DG CONNECT share in the costs REA evaluation experts & support services | | | 11.24 | 1 465.99 | 0.77% |
| DG CONNECT share in the costs Common Support Centre | | | 10.12 | 1 465.99 | 0.69% |
| Overall cost effectiveness for grant management in DG CONNECT | | | | | 3.31% |

Common support services provided by the CSC

The costs of common services (in legal support, ex-post audits, IT systems and operations, business processes, programme information and data) represent 0.58 % of the total implemented budget for all research DG's, executive agencies and joint undertakings implementing Horizon 2020 (in terms of payments) in 2018. The part of costs dedicated to ex-post audits represents 0.12%.

Common support services provided by REA

For more efficiency and the cost-effectiveness of the H2020 programme, REA pays the expert evaluators for the whole Research and Innovation Family (except ERCEA). This activity is linked to the first control stage.

The costs of REA for this activity represent 0.84% of the total budget implemented in 2018 by the Research and Innovation Family (in terms of payments).

DG CONNECT costs

The cost of control within DG CONNECT can be evaluated for the 4 stages at approximately EUR 27.12 million. This would correspond to 1.85% of the total operational grant payments made in 2018. With the costs of the common services included, this percentage would go up to 3.31%.

These figures must nevertheless be read with some caution. Some stages are more related to H2020 while others are more related to FP7 and CIP.

Further, the corporate methodology for the estimation, assessment and reporting on the cost-effectiveness of controls was revisited in September 2018 and applied for the first time in the 2018 annual reporting. The difference of the estimated cost of controls as compared to previous year derives also from this new methodology and does not reflect any substantial change in the DG's control strategy.

| DG CONNECT costs of controls | Overall rate 2018 | Overall rate 2017 |
|--|--------------------------|--------------------------|
| Stage 1 – programming and evaluation | 0.25% | 0.25% |
| Stage 2 – contracting | 0.19% | 0.15% |
| Stage 3 – monitoring the execution | 1.36% | 1.15% |
| Stage 4 – ex-post controls and recoveries | 0.05% | 0.05% |
| TOTAL | 1.85% | 1.60% |
| DG CONNECT share in cost of the corporate services | 1.46% | 1.46% |
| Overall cost effectiveness for grant management in DG CONNECT | 3.31% | 3.06% |

Conclusion on the cost-effectiveness of control

Based on the most relevant key indicators and control results, DG CONNECT has assessed the effectiveness, efficiency and economy of the control system and reached a positive conclusion on the cost effectiveness of control.

The benefits of the grant management control system are considered as a whole, as they cannot only be expressed in monetary terms.

The first objective of the control system is to achieve the related policy objective – to create growth and jobs. In this sense, the controls aim to ensure good work programmes, select the best proposals to be funded and verify the scientific deliverables. Thus, the benefits are much wider than the budget implemented in the given year.

The second objective of the control system is to ensure that the EU contribution paid to the beneficiaries is complying with internal control objectives. This means, in short, legal and regular transactions done in a cost-effective way. This report develops at several points how the balance between these two requirements has been found.

The benefits are not always quantitative and a simple cost benefit evaluation would not reflect this reality. Nevertheless, during the different control stages, some economies could be estimated as mentioned in this report.

Overall, it is considered that a cost-effective control system has been put in place given

- the successful policy achievements as set out in Part 1;
- the quantitative and qualitative benefits arising from the control systems adopted;
- the error rates set out above, which are at a level considered as being an appropriate balance between different policy objectives and between trust and control;
- the costs of the control system compared to the level of expenditure;

- the good results as regards the efficiency of the time-to-pay, time-to-inform and time-to-grant indicators.

Considering the above and the fact that the control environment of DG CONNECT did not change in 2018, the control strategy will be maintained.

2.1.1.b: Budget implementation tasks entrusted to other DGs and entities

This section reports and assesses the elements that support the assurance on the achievement of the internal control objectives as regards the results of the DG's supervisory controls on the budget implementation tasks carried out by other Commission DGs and entrusted entities distinct from the Commission.

DG CONNECT has entrusted parts of its budget for implementation to other Commission services, a Joint Undertaking, two decentralised agencies, a body linked to Article 185 initiatives, the European Investment Fund and to the executive agencies. No subsidies were paid to the European Investment Bank in the context of the CEF Financial Instrument in 2018.

| Entity | Legal form | Purpose | Payments made (EUR million) |
|--|----------------------|---|------------------------------------|
| Other Commission Services through a number of cross-subdelegations | EU Institution | In the interests of sound budget implementation, the authorising officer by delegation ('the delegator') may, by way of exception, subdelegate management of a budget line or part of a line to another Director-General or Head of Service ('the delegatee'). DG CONNECT both gives and receives subdelegations. | 12.76 |
| ECSEL | Joint Undertaking | ECSEL is a partnership between the private and the public sectors for electronic components and systems. It, inter alia, contributes to the development of a strong and globally competitive electronics components and systems industry in the EU. | 220.36 |
| BEREC office | Decentralised Agency | BEREC contributes to the development and better functioning of the internal market for electronic communications networks and services. | 4.33 |
| ENISA | Decentralised Agency | ENISA seeks to develop a culture of Network and Information Security for the benefit of citizens, consumers, business and public sector organisations in the European Union. | 10.78 |
| Active and Assisted Living (AAL) Association | Private Law body | The AAL Programme is a funding activity that aims to create better conditions of life for the older adults and to strengthen the international industrial opportunities in the area of information and communication technology. | 11.30 |
| Financial instruments to the EIB established under the CEF | Financial Instrument | To enable long-term capital market financing of infrastructure projects including, but not limited to, those carried out under project finance structures (on a | 0 |

| | | | |
|--|----------------------|---|---------------|
| Broadband (i.e. Project Bond Initiative) | | risk-sharing basis). | |
| The Connecting Europe Broadband Fund ('CEBF' or the 'Fund') | Financial Instrument | The Connecting Europe Broadband Fund ('CEBF' or the 'Fund') is an investment fund which will provide equity and quasi-equity financing to smaller-scale, higher-risk broadband projects, which do not have sufficient access to financing, in (underserved) suburban and rural areas. Cube Infrastructure Managers S.A., an independent investment firm with extensive experience in infrastructure and ICT projects, has been selected to manage the Fund through a public procurement process carried out by the EIB. | 0.92 |
| Cultural and Creative Sectors Guarantee Facility (CCS GF) managed by the EIF | Financial Instrument | The CCS GF is managed by the EIF on behalf of the Commission in the context of the Creative Europe programme. The Facility benefits micro, small and medium-sized enterprises in the cultural and creative sectors, often facing difficulties in accessing loans, based in any of the participating countries. | 13.5 |
| Education, Audiovisual and Culture Executive Agency (EACEA) | Executive Agency | EACEA is responsible for the management of certain parts of the EU funding programmes in the fields of education, culture, audiovisual, sport, citizenship and volunteering and implements parts of the Creative Europe MEDIA subprogramme. | 103.6 |
| Innovation and Networks Executive Agency (INEA) | Executive Agency | INEA officially started its activities on 1 January 2014. For DG CONNECT it implements part of the Connecting Europe Facility (CEF) programme. | 39.08 |
| Research Executive Agency (REA) | Executive Agency | REA manages large parts of the Horizon 2020 Framework Programme which began in 2014 and continues to look after remaining FP7 projects. | 224.84 |
| Executive Agency for Small and Medium-sized Enterprises (EASME) | Executive Agency | The Executive Agency for Small and Medium-sized Enterprises (EASME) has been set-up by the Commission to manage several EU programmes on its behalf. | 12.99 |
| TOTAL | | | 654.46 |

In all cases of indirect management, the supervision arrangements are based on the principle of controlling 'with' the relevant entity. For further details, see the Internal Control Template on indirect management in Annex 5.

1. Effectiveness = the control results and benefits

Legality and regularity of the transactions

Overall, we can conclude that DG CONNECT 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.

The reservation concerning FP7 includes the DG CONNECT FP7 funds entrusted to the AAL Association and ECSEL.

Expenditure cross-subdelegated

As in previous years, DG CONNECT has cross-subdelegated a number of activities to different services within the Commission, in order to arrange the provision of certain operations more efficiently. Being a Commission service itself, the Authorising Officer by delegation (AOD) of the cross-delegated service is required to implement the appropriations subject to the same rules, responsibilities and accountability arrangements.

Control results

The cross-delegation agreements require the AODs of cross-delegated services to report on the use of these appropriations. The reports on the sub-delegations received from other DGs and offices did not provide any indication of any particular unfavourable observation with regard to the regularity and legality of the transactions concerned. As a result, DG CONNECT considers that the control system over expenditure cross-subdelegated has been effective in 2018.

Please see annex 10 for the complete list of DG CONNECT activities covered by cross sub-delegations in 2018.

Executive agencies

In 2018, DG CONNECT was a partner DG of the following executive agencies: the Research Executive Agency (REA), the Innovation and Networks Executive Agency (INEA), the Executive Agency for Small and Medium-sized Enterprises (EASME) and the Education, Audio-visual and Culture Executive Agency (EACEA).

In 2018, the amount of operational appropriations delegated by DG CONNECT to the executive agencies was EUR 380.52 million.

Supervision arrangements

The appropriate monitoring and supervision of the EAs activities are mainly achieved by means of participation of the partner DG(s) in the Steering Committees of the executive agencies. The Agency's Director ensures that the members and observers of the Steering Committee receive all relevant information and reliable control results needed for the appropriate fulfilment of their mandates.

This supervisory role is defined in several legal documents and guidance (the Commission Delegation Act to the agency, the Memorandum of Understanding between the DGs and the agency, the Commission Guidelines on Executive Agencies, etc.). The annual planning and reporting cycle forms the basis of the monitoring and supervision of the Agencies' activities by the Steering Committee. In particular, the Annual Work Programme contains an obligation of assessment of risks and risk exposure, and provides a number of key performance indicators. These constitute the benchmark against which the performance of the EAs is monitored through its interim reporting and AAR. It is complemented by other relevant sources of information such as the reports from the discharge authority, ECA, IAS and OLAF. DG CONNECT uses their reports as an element of the supervision of these bodies. In addition all the executive agencies participate in horizontal governance processes, such as the peer review of critical risks.

Since the entry into force of the new Memoranda of Understanding between the executive agencies and their parent DGs, the executive agencies also report half-yearly to the partner DG on the use of resources. The preparation of the executive agencies' budgets and annual work plans is coordinated with the DGs concerned.

CONNECT actively participated in the working group on supervision of executive agencies established by the Secretariat-General and DG Budget as a follow-up of the IAS audit on grant management at the EACEA. The outcome of the working group – *the Non-paper on Supervision of Executive Agencies and the collection of good practices and proposals of follow-up action* - has been widely distributed and lays the foundation of reinforced and coordinated monitoring with all relevant actors, including operational units, other partner DGs and the EAs.

The cost-benefit analysis for delegation of programmes implementation under the next Multiannual Financial Framework presents a new opportunity for strengthening and clarifying roles in the supervision of executive agencies to which DG CONNECT is already contributing.

Control results

EACEA

The IAS performed two audits¹⁹ in 2017 and 2018 on the Agency's grant management. The audits concluded that there were weaknesses in the systems and issued two critical and several very important recommendations. The residual risks related to these recommendations may affect one or several control principles and/or components. As a result of the 2018 audit, the IAS contribution to the 2018 Annual Activity Report process states that the internal control systems in place for the audited processes of the Agency are overall not effective.

In the meantime, these issues are being addressed through the implementation by the Agency of the recommendations stemming from the phase II audit, in accordance with the action plan that has been submitted and assessed as satisfactory by the IAS. The mitigating actions put in place by EACEA for phase II include the following:

- Better reporting from the AOSDs to the AOD including the key building blocks which support the declaration of assurance on internal control;
- Development of an improved register of exceptions and non-compliances;
- Strengthened procedure for handling exceptions and non-compliance events;
- Provision of training on implementing the internal control framework and on exceptions and no-compliances in particular in collaboration with central services.

As a result of the actions put in place by the Agency in 2018 and 2019 to respond to the audit recommendations, the IAS has closed all the recommendations from the phase I audit and downgraded the critical recommendation from the phase II audit to 'very important'.

In addition, the new Director is planning significant changes in the Agency to further improve the situation. In particular, a structural reorganisation of the Agency is planned that should take effect in the second half of 2019. This will also put EACEA on a sound basis for the next Multi-annual Financial Framework. The Director of EACEA has accordingly made a reservation in EACEA's AAR 2018 for Internal Control Component III "Control Activities" and partially for Component V "Monitoring Activities".

¹⁹ Audit of Erasmus+ and Creative Europe grant management – phase I (from the call to the signature of contracts) and phase II (from project monitoring to payment).

Extensive actions have been taken throughout 2018 and early 2019 to ensure reinforced supervision and that the weaknesses are effectively rectified by the Agency:

- Attendance by DG EAC as observer at every weekly management meeting of EACEA;
- Requiring EACEA to provide reinforced reporting to the parent DGs and Steering Committee on implementation and internal control matters, with a monthly report covering:
 - Calls carried out with examples of consolidated assessments and award decisions available (e.g. via intranet);
 - Contracts signed, exceptions or other issues identified;
 - Monitoring visits carried out, issues identified;
 - Project finalisation, deliverables and performance;
 - Audits carried out, typology of key findings;
 - Resource and organisational issues;
- Participation of parent DGs in meetings between the IAS and EACEA;
- Examination of best practice in other executive agencies, participation in the two 'communities of practice' coordinated by DG Budget;
- Reinforced participation of parent DGs as members of the selection committees of the Agency.

This has ensured a close follow-up of the critical issues and close supervision has been maintained throughout the implementation of EACEA's action plan agreed with IAS.

Assessment

Overall, DG CONNECT considers that its reinforced supervision of the Executive Agency, whose Authorising Officer receives delegation directly from the Commission, has been effective and sufficient in 2018.

All the reports provided for in the Memorandum of Understanding between EACEA and its parent DGs were provided and the reinforced supervision measures implemented. This has enabled DG CONNECT to closely monitor the implementation of the Creative Europe MEDIA subprogramme.

Therefore no reservation is required by the parent DGs.

INEA

INEA maintained in its Annual Activity Report the critical risk related to the delegation of the WiFi4EU scheme. The risk is linked to the establishment of the relevant business processes and procedures along with the determination of the timeline, allocation of the necessary resources and the outstanding issues on the supporting IT infrastructure and developments.

The cost-benefit analysis on the delegation of WiFi4EU to INEA was finalised by DG CONNECT in 2018 reflecting the staffing and cost requirements for the in-house (Commission) and delegation (INEA) scenarios. It showed that the scenario to delegate WiFi4EU to INEA was clearly the most efficient and effective. Consequently, the administrative delegation process was launched and finalised in the first half of 2018.

EASME

In the 2018 AAR of EASME, the agency reported that for the CIP IIE II, CIP Eco-Innovation and the COSME programmes, the cumulative residual error rates at the year-end are above the materiality threshold of 2%. The Agency maintained the reservation for CIP IIE II, CIP Eco-Innovation programme and added one reservation on the COSME programme in its 2018 AAR. However, these reservations concern programmes, which EASME implements for DG ENER, DG ENV and DG GROW respectively.

REA

In its 2018 AAR, REA maintains the reservations made in its AAR 2017 as regards the residual error rate in the SME actions and the Space and Security themes financed under FP7. 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 reservations concern programmes implemented on behalf of DG RTD, DG GROW and DG HOME.

The regular supervision of the executive agencies did not identify any particular events, issues or problems that could have a material impact on assurance or that would need to be included in this report. DG CONNECT is well aware of the reservations made by REA, EASME and EACEA and the critical risk related to WiFi4EU reported by INEA and does not consider that they represent a failure of DG CONNECT supervision. This is also considered in relation to the findings of the IAS regarding the selection process in grant management within EACEA. These findings are addressed by an ambitious action plan of which some actions have already been implemented.

ECSEL Joint Undertaking

ECSEL is a partnership between the private and the public sectors for electronic components and systems. The ECSEL Joint Undertaking is established within the meaning of Article 187 of the Treaty on the Functioning of the European Union for the implementation of a Joint Technology Initiative on 'Electronic Components and Systems for European Leadership' for a period up to 31 December 2024. It was established by Council Regulation (EU) No 561/2014 of 6 May 2014.

Supervision arrangements

The Commission's Internal Audit Service (IAS) performs ECSEL's internal audit function. The European Court of Auditors (ECA) is the external auditor of ECSEL and DG CONNECT receives copies of the reports, for action, if necessary.

Directorate A 'Digital Industry' of DG CONNECT represents the Commission in the Governing Board and the Public Authorities Board of the ECSEL JU. DG CONNECT closely monitors the work of the ECSEL JU²⁰, inter alia by preparing the Commission's position in the Boards referred to above.

In 2018 ECSEL launched four calls for proposals with a total EU estimated contribution amounting to EUR 170 million, leveraging a similar amount from the participating Member States and associated countries and some EUR 340 million in-kind contributions from the private participants.

²⁰ The ENIAC and ARTEMIS Joint Technology Initiatives operated until the 27 June 2014, when ECSEL was established and took over their operations.

As was the case in the context of the 2016 discharge, in the Court's opinion, the JU's accounts for the period of 2017 present fairly, in all material respects, its financial position. However, although recognizing the efforts made by the ECSEL JU to assess the national assurance systems, the Court repeats its qualification on the grounds that it is not possible to calculate a reliable weighted error rate nor a residual error rate on the projects launched under ARTEMIS and ENIAC JUs.

The issue highlighted by the Court will not further impact ECSEL JU operations under Horizon 2020 as the JU funding mechanism is no longer linked to the recognition of costs at national level. The audits will be performed by the Commission and the error rates will be calculated on basis of those audits.

In April 2018, the European Parliament granted discharge on the 2016 budget of the ECSEL Joint Undertaking.

The Commission (DG CONNECT as the partner DG) recognizes the importance of the Court's observation and at the same time takes note of comments annexed to the Council Recommendation on the discharge. Notably, its call on the Joint Undertaking to remedy the shortcomings in its management of procurement procedures for administrative services and to ensure proper documentation in its register of exception management overrides of controls and deviations from established processes and procedures.

The ECSEL interim evaluation report delivered by the Commission to the European Parliament and the Council in 2017 concludes that the combination of EU, national and private investments under a single R&I scheme optimises the leverage of public funding and ensures a strong alignment of effort along a single European strategy. The report also values the progressive integration of related technologies to satisfy the needs of industrial applications as well as of citizen requirements.

Throughout 2018, the Governing Board of the ECSEL JU has established and has been following an action plan to address the recommendations made in this evaluation.

DG CONNECT highlights the increasing importance of the outstanding successes of the initiatives obtained, making the JU vital for the digital future of Europe. DG CONNECT will continue to provide its advice and support to the ECSEL JU in its efforts to address all the concerns of the Court and of the budgetary authorities.

Control results

During the full reconciliation exercise of all operational and administrative accounts, in view of the preparation of a smooth winding-down in the final phase of the JU, the JU office has discovered a shortage of approximately EUR 1 million in its administrative accounts. This has been immediately audited and traced back to a missing payment by one of the private partners of a previous contribution. The private partner was sent a pre-information letter by the Executive Director of ECSEL, requesting that they reimburse the missing amount. ECSEL has now taken measures to strengthen its internal control policy regarding reconciliation of accounts.

In line with the approach of previous years and in the absence of evidence that the residual error rate would be lower than 2%, DG CONNECT includes the related FP7 budget of ECSEL within the scope and exposure of its reservation for FP7.

Overall, DG CONNECT considers that its supervision of the ECSEL JU has been effective and appropriate in 2018. The regular supervision of ECSEL did not identify any particular events, issues or problems that could have a material impact on assurance or that would need to be included in this report.

BEREC Office

The tasks, organisation and operation of BEREC and the Agency for Support for BEREC (BEREC Office) were set out in Regulation (EC) No 1211/2009 of 25 November 2009 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Office. Regulation (EU) 2018/1971 of the European Parliament and of the Council of 11 December 2018 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Agency for Support for BEREC (BEREC Office), amending Regulation (EU) 2015/2120, repealed Regulation (EC) No 1211/2009 as of 20 December 2018.

BEREC consists of the Board of Regulators, a body which is not an EU agency and does not have legal personality. BEREC has the objective of promoting a consistent application of the EU regulatory framework and its tasks are focused on market regulation. It has an advisory role towards the EU institutions and individual national regulatory authorities. The Board of Regulators is composed of the head or a high-level representative of each of the 28 national regulators. The Commission is participating, without voting rights, in the Board. The Board is chaired on a yearly rotating basis by a national regulator.

The BEREC Office is established as an EU agency with legal personality. Its main task is to support and assist BEREC. Regulation (EU) 2018/1971 provided some other new tasks to the Agency, such as development and management of ICT systems and data bases. With 27 staff, it is currently the smallest EU agency. The BEREC Office is managed by a Director under the supervision of a Management Board composed of the Heads of the 28 national regulators and a representative of the Commission with voting rights (one vote).

Supervision arrangements

In 2018 the Director-General of DG CONNECT and the Director for Electronic Communications Networks & Services Directorate represented the Commission in the management body of the Agency respectively as a member and as alternate member. Arrangements are in place within the DG, including the services dealing with financial and human resources, to ensure that all Agency's acts are properly assessed and the Commission's position is agreed.

The Director, who is also the authorising officer of the BEREC Office, produces a consolidated annual activity report, which includes information on the management and internal control systems including a summary of internal audits carried out, a summary of the recommendations made and of the actions taken on these recommendations; any observations of the ECA and the actions taken on these observations. The authorising officer signs a declaration of assurance in line with the one used in the Commission.

The Commission's Internal Audit Service (IAS) performs the BEREC Office's internal auditing function. In April 2018, the IAS conducted an audit on the planning, budgeting and reporting the activity of the Agency. There were no critical recommendations. Several important recommendations were made, which are to be addressed by the Agency via an action plan agreed with the IAS.

The Commission Accounting Officer performs the function of BEREC Office Accounting Officer. As a consequence, in 2018, DG Budget undertook a validation of the Agency accounting system. During the validation process DG Budget undertook a thorough check of the internal controls and concluded that the internal control system was compliant with the Commission standards.

The ECA is the external auditor of the BEREC Office, and DG CONNECT receives copies of the reports, for action, if necessary. The BEREC Office received, for its 2017 accounts, an unqualified opinion (i.e. all transactions are legal and regular, and do not present any major issues) from the ECA on the legality and regularity of the transactions underlying

the accounts. The ECA had some comments, mainly in the area of the procurement, the high staff turn-over at the Agency and the impact of Brexit.

Control results

The reports and other available information did not provide any unfavourable observations with regard to the regularity and legality of the transactions. DG CONNECT has no reason to believe that their reports would be incomplete or unreliable. DG CONNECT concludes from the information available that resources assigned to the activities of BEREC Office have been used for the purpose of achieving its objectives and in accordance with the principles of sound financial management.

In 2018, the BEREC Office reached a budget execution rate of 99.86% in terms of commitment appropriations and 82.68% of the total amount of available payment appropriations (the highest since its establishment). A first estimate of the 2018 surplus that should be reimbursed to the EU budget (as assigned revenue) is EUR 23 491.44. This amount will be recovered by the Commission in 2019 and will be used to pay the 2020 EU contribution.

Overall, DG CONNECT considers that its supervision of BEREC and the BEREC Office has been effective and appropriate in 2018.

ENISA

The tasks, organisation and operation of ENISA are set out in Regulation (EC) No 526/2013 of 21 May 2013 concerning the European Union Agency for Network and Information Security (ENISA). Political agreement was reached on 19 December 2018 on the proposal for a Regulation on ENISA, the 'European Union Agency for Cybersecurity', therefore repealing Regulation (EU) 526/2013.

The Agency is tasked to contribute to a high level of network and information security within the Union in order to raise awareness of network and information security and to develop and promote a culture, of network and information security in society for the benefits of citizens, consumers, enterprises and public sector organisations in the Union. Its mandate currently runs until June 2020 and will become permanent upon adoption of the current proposal.

In light of the expiry of the ENISA mandate, the outcome of an evaluation of the mandate was published as annex to the Cybersecurity Act Regulation proposal in September 2017. The impact assessment regarding the future of ENISA had included stakeholder consultations; its largely positive outcome was also a key factor for ENISA being proposed to take on a strengthened role. The proposal gives it a permanent mandate, a more focused sets of tasks – including new ones in the area of EU-level certification of ICT cybersecurity products and services – and increased resources, both in terms of budget and personnel. Until the entry into force of the Cybersecurity Act, the current ENISA mandate continues to be valid.

ENISA supports the European Institutions, the Member States and the business community in addressing, responding and especially preventing network and information security problems.

ENISA carries out its activities according to an annual and multiannual work programme. It has been granted an autonomous budget financed primarily through a contribution from the Union as well as contributions from third countries participating in the Agency's work. Member States are also allowed to make voluntary contributions to the revenue of the Agency. A renewal of the seat agreement between ENISA and the Greek authorities, designed to increase the attractiveness of the Agency, is currently pending final ratification by the Greek Parliament.

Supervision arrangements

The Director for Digital Society, Trust and Cybersecurity (DG CONNECT) and the Director for IT Security (DG DIGIT), represent the Commission on the Management Board and the Executive Board.

The Management Board and the Executive Board meet three or four times per year. The cooperation at operational level is ensured via the desk officer for ENISA and regular contacts between the operational unit and ENISA's staff (e.g. regular conference calls). At managerial level, there are regular meetings between the Executive Director of ENISA and senior members of the Management Board and the DG CONNECT's Director responsible. DG CONNECT may request, at any time, any additional information deemed necessary. The level and quality of interaction increased in 2018 in light of the negotiations on the new Regulation.

The Executive Director of ENISA, as the authorising officer of ENISA, is required to produce a consolidated annual activity report, which should include information on the management and internal control systems, including a summary of internal audits carried out, the recommendations made and the action taken on these recommendations as well as any observations of the ECA and the actions taken on these observations. He signs off a declaration of assurance. In addition, the Executive Director presents to the Management Board an annual ex post evaluation on the Agency's core activities.

The Commission's Internal Audit Service (IAS) performs ENISA's internal audit function and the ECA is the external auditor of ENISA. DG CONNECT receives copies of the reports, for action, if necessary. An IAS audit report was issued in June 2018 covering the areas of Management Board composition and stakeholder involvement in ENISA deliverables. The IAS presented the findings to the Management Board on 11 October 2018; ENISA has addressed / is addressing them and responded positively to the specific recommendations made. A further IAS audit is being planned.

Control results

The various reports presented at the Management Board and other available information did not provide any unfavourable observations with regard to the regularity and legality of the transactions. Where specific recommendations were made by the IAS, these are being addressed. DG CONNECT has no reason to believe that the reports would be incomplete or unreliable.

DG CONNECT concludes from the information available that resources assigned to the activities of ENISA have been used for the purpose of achieving the objectives of ENISA and in accordance with the principles of sound financial management. Overall, DG CONNECT considers that its supervision of ENISA has been effective and appropriate in 2018.

Active and Assisted Living Joint Programme (AAL JP)

The AAL Association is an international not-for-profit association established under Belgian law and constitutes the dedicated implementation structure created by the participating EU Member States, Canada, Norway and Switzerland (Participating Countries).

The AAL JP is a Member States' initiative for applied research on ICT and ageing well. The budget for calls for proposals is composed of the EC contribution and contributions of Participating Countries and organisations participating in the projects (approximately

25%, 25% and 50% respectively). The new AAL JP is a prolongation of the AAL JP (2008-2013) with the same annual budget and obtained a new mandate for the period 2014-2020 (decision No 554/2014/EU) as a part of the Innovation Investment Package.

The programme is managed by the Participating Countries through an AAL Association. The Commission is part of the governance structure. It has the right to undertake every year an operational review with independent external experts in order to supervise its financial contribution. Furthermore, the EC can veto the work programme of the AAL in the General Assembly. Day-to-day operations are run by the Central Management Unit supervised by the Executive Board.

Supervision arrangements

The General Assembly, which is the decision making body of the AALA, appoints the members of the Executive Board and supervises the implementation of the AAL Joint Programme, including approval of annual work programmes, allocation of national funding to projects and applications for new memberships. The Commission has an observer status in the meetings of the General Assembly and also has the right to veto the AAL JP annual work programme.

The AAL JP is managed by a dedicated implementation structure, namely the Central Management Unit (CMU) and a network of national contact points (NCPs) responsible for the administrative, financial and contractual management. DG CONNECT undertakes every year an annual on-site (2 days) operational review with independent external experts to assess the overall performance of the AALA and whether all contractual obligations are met.

In 2018, this review has confirmed the good operation of the AAL JP and supports the assurance of DG CONNECT. The 2017 restructuring of the CMU resulted in an improved sense of participation in management and the governing bodies, which not only relates to operational aspects of the business but also to debate on strategy to ensure a place for AALA in Europe beyond Horizon 2020.

In addition, there have been programme level evaluations with high level external experts in 2010, 2013 and 2016. The latter interim evaluation addressed the first three years of the AAL2 Programme, from 2014 to 2016. The report of the evaluation was published on 9 October 2017 in the context of the interim evaluation of Horizon 2020 including Article 185 initiatives such as AAL2. The evaluation was undertaken by an expert panel and explored options for the follow-up of the current programme beyond 2020. The evaluation confirmed that the Programme is being managed effectively with the recommendation that Participating States should take greater ownership to further enhance strategic leadership of the AALA.

Risk management has included verification of financial commitments of Participating Countries before EU financing is allocated as well as for payments, where the EU contribution is subject to a certification of incurred costs by the responsible national public bodies before disbursement of EU funds by the AALA. The AALA has to a) provide information about the audit procedures in each of the Participating Countries and b) to report annually on audits implemented. In addition, the AALA should report as soon as there is a suspicion of fraud or irregularities.

As part of a DAS 2017 audit, the Court of Auditors examined one project level transaction between the AALA and a national funding authority. This (transaction) audit identified in particular weaknesses on the level of reporting control related information between the involved authorities in a Participating Country, the AAL Association and the Commission / DG CONNECT. Following notification of these findings in April 2018, DG CONNECT developed mitigating actions that were adopted by senior management in January 2019 and will be implemented in the course of 2019.

Control results

DG CONNECT concludes from the information available, and there is no reason to believe that this information would not be complete or reliable, that resources assigned to the activities of AAL JP have been used for the purpose of achieving the objectives of AAL JP and in accordance with the principles of sound financial management. In view of the error rate of FP7 calculated for the budget managed directly by DG CONNECT (see 2.1.1 above) and the absence of elements that would justify a lower residual error rate, the scope and exposure of our own reservation for FP7 will include the related FP7 budget.

Financial Instruments - Project Bond Pilot Initiative and CEF Debt Instrument

The European Investment Bank (EIB) manages, on behalf of the Commission (DG ECFIN, DG MOVE, DG ENER, DG CONNECT), the financial instruments established under the Project Bond Pilot Initiative (PBI), which - on a risk-sharing basis - aims to enable long-term capital market financing of infrastructure projects including, but not limited to, those carried out under project finance structures. During the pilot phase of the PBI, the total EU budget contribution for the PBI was limited to EUR 230 million. The amount committed by DG CONNECT for PBI projects in the sector of ICT and broadband projects is up to EUR 20 million. This amount was spent on a single transaction, a project concerning extension and renewal investments in 11 already operational broadband Public Initiative Networks throughout France.

The various portfolios related to the total contribution (including the Loan Guarantee Instrument for TEN-Transport projects portfolio) were merged into one CEF Debt Instrument portfolio in 2016 as cost-saving measure.

The CEF Debt Instrument (CEF DI) Delegation Agreement has been signed in July 2015. In 2017, the final date of implementation of DG CONNECT's original commitment of EUR 17.5 million was postponed and is now in line with the end date of the CEF Debt Instrument Delegation Agreement, i.e. 31 December 2020, for approvals; availabilities for payment are therefore possible until 30 June 2021. In this respect, no payments have been made in 2015, 2016, 2017 and 2018 to the EIB in the context of the CEF financial instruments; early indications from the EIB indicate expected payments in 2020.

Supervision arrangements

The EIB delivers an annual operational report on the CEF DI to the Designated Services and to DG ECFIN. The same applies for financial reporting. Additional quarterly reports are being provided informing on the allocation of the CEF DI assets. The Commission has four nominees on the Steering Committee of the CEF DI. DG ECFIN chairs the Steering Committee and coordinates exchanges of views between Commission members of the Steering Committee before the meeting takes place. DG ECFIN also reports twice yearly to the European Parliament and to the Council on behalf of the Commission with the support of Designated Services.

The EC contribution to the CEF DI serves as a guarantee for the project. The amounts provided from the EU budget are further invested by the EIB. In case of project default or construction cost overruns, this money provisioned as a guarantee will actually be disbursed to support the reimbursement of the overdue amounts, up to the level of EU budget commitment.

Control results

Overall, DG CONNECT considers that its supervision of the CEF DI has been effective and appropriate in 2018. In particular, DG CONNECT considers that the operational and financial reporting (monthly and annual reports) is sufficient and provides relevant

information and figures to ensure sound and effective management of the policy aspects of this financial instrument.

CEF Broadband Fund (Equity Instrument)

The Connecting Europe Broadband Fund ('CEBF' or the 'Fund') is an investment fund which will provide equity and quasi-equity financing to smaller-scale, higher-risk broadband projects, which do not have sufficient access to financing, in (under-served) suburban and rural areas. Five public institutions are expected to invest in it, namely the Commission, the EIB and three National Promotional Banks and Institutions (NPBIs), alongside private investors. The Fund should be the first investment platform to support broadband infrastructure under the European Fund for Strategic Investments (EFSI), the heart of the Investment Plan for Europe. Cube Infrastructure Managers S.A., an independent investment firm with extensive experience in infrastructure and ICT projects, has been selected to manage the Fund through a public procurement process carried out by the EIB.

The Commission committed in total EUR 100 million to the Fund, via a first EUR 10 million legal commitment and a second EUR 90 million legal commitment (remaining part of the 2015 global commitment, transformed into an individual commitment in December 2017).

The operational launch of the Fund took place on 27 June 2018 with EUR 420 million at first closing (including EUR 100 million from the Commission via the Connecting Europe Facility). The Fund has signed on 25 February 2019 a transaction with Vahta d.o.o. (Slovenia) and 3T Cable d.o.o. (Croatia) to set up RuNe Group (Luxembourg). This will be the investment vehicle tasked with deploying high-quality fiber-to-the-home (FTTH), open-access network for residential, business and public administration in the rural areas of the Primorje-Gorski Kotar and Istria regions – the two North-Western counties in Croatia. This investment marks the inaugural project of the CEBF which will cover over 135 000 locations.

Supervision arrangements

So far, only one payment was made for an amount of EUR 921 406.66 out of the EUR 100 million global budgetary commitment. Control mechanisms are fully reflected in the Fund's executed documents, such as clear investment guidelines for the selection of projects (Private Placement Memorandum), compliance with non-cooperative jurisdictions rules (Investment Management Agreement) and specific reporting obligations imposed on the Fund Manager and defined jointly with DG Budget (European Commission's Side Letter). The vehicle, involving EFSI and EIB own capital, is additionally supervised by the EIB.

Control results

Overall, DG CONNECT's supervision of this fund did not identify particular issues that would need to be included in this report, which is the reason why DG CONNECT considers that its supervision was effective and appropriate.

Overall, we can conclude that DG CONNECT 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.

Financial Instruments - Cultural and Creative Sectors Guarantee Facility

The implementation of the Cultural and Creative Sectors Guarantee Facility (CCS GF) under Creative Europe programme is entrusted to the European Investment Fund (EIF) in

compliance with the Financial Regulation, the Financial and Administrative Framework Agreement and specific conditions laid down in the Delegation Agreement signed by the Commission and the EIF on the 30 June 2016, which was amended on 12 December 2017. Full reporting on control results (effectiveness as regards legality and regularity, efficiency and cost effectiveness and Fraud prevention and detection) is part of the Delegation Agreement in force.

Supervision arrangements

The Delegation Agreement provides for detailed supervision arrangements, listed in Article 7 (Governance), Article 13 (Operational and Financial Reporting), Article 14 (Controls and Monitoring) and Article 15 (Audit) as well as in the relevant Annexes (Annex 6a on Operational Reporting, Annex 6b on Financial Reporting, Annex 6c on Pipeline Reporting, Annex 7 on Monitoring, control and audit obligations of the EIF and the Financial Intermediaries and control and monitoring rights of the Commission). Those provisions require the EIF to undertake comprehensive and timely monitoring of CCS GF Transactions under the CCS GF, covering financial intermediaries, financial sub-intermediaries and final recipients, and to report on the monitoring activities to the Designated Service. In line with the provisions of the Delegation Agreement, the reports are delivered on annual, quarterly or monthly basis.

Based on its own controls, the EIF shall:

- a) monitor the compliance of the operations with this Delegation Agreement;
- b) assess the eligibility of financial intermediaries;
- c) monitor the eligibility of the final recipients;
- d) monitor the proper execution by the financial intermediaries of their contractual obligations, including their reporting obligations.

The EIF shall require the financial intermediary to:

- a) monitor the contractual compliance of the agreements with final recipients; and
- b) where applicable, assess the eligibility of financial sub-intermediaries
- c) monitor the eligibility of final recipients.

The Commission may exercise further controls to validate the operational and financial reporting received from the EIF. The Commission may request the EIF to transmit representative and/or risk-based samples of transactions.

The Commission appointed four members (from DGs CONNECT, EAC, ECFIN and Budget) to the governance body (called the Steering Committee) that supervises the implementation of this financial instrument.

Control results

Overall, DG CONNECTs supervision of this financial instrument did not identify particular issues that would need to be included in this report, which is the reason why DG CONNECT considers that its supervision of the CCS GF was effective and appropriate. In particular, the operational and financial reporting (monthly, quarterly and annual reports) provided sufficient and relevant information and figures to ensure sound and efficient management of the policy aspects of this financial instrument.

Overall for what concern the budget implementation entrusted to other DGs and entities, we can conclude that DG CONNECT 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.

The reservation concerning FP7 includes the DG CONNECT FP7 funds entrusted to the AAL Association and ECSEL.

- ***Fraud prevention, detection and correction***

DG CONNECT in its supervisory role ensured that the entrusted entities have appropriate fraud prevention and detection measures in place:

The Commission Anti-Fraud Strategy is binding for all Commission services and the executive agencies. The DGs and executive agencies of the research family also adhere to the Common Anti-Fraud Strategy in the Research Family (RAFS). For details on the RAFS please refer to the Fraud prevention and detection section of part 2.1.1a. The ECSEL Government Board adopted the Common Anti-Fraud Strategy in the Research Family (RAFS) in May 2015. ECSEL is represented in the Fraud and Irregularities in Research Committee and the majority of its staff members has participated in anti-fraud trainings since 2015.

The ENISA Management Board adopted an ENISA's Anti-Fraud Strategy and an action plan in October 2014. ENISA was involved in an OLAF Workshop 'Train the trainers' and nominated an anti-fraud correspondent.

As regards the BEREC Office, anti-fraud rules and principles are built into the financial manual, in the internal instructions on ethical behaviour and in the information package to newcomers. The BEREC Office adopted an anti-fraud strategy in 2017.

As regards the AAL Association, fraud is addressed in the Risk Management and Ex-post audit strategy for the AAL Joint Programme agreed between the Commission and the AALA in July 2015. It obliges the national programme management agencies to provide an overview of their audit system (and any changes) allowing the AAL Association to centrally assess control risks. In particular, they provide the AAL Association - and in turn the Commission - information concerning the audit and control procedures to prevent fraud and irregularities, as well as the audit strategy to be deployed by the national funding bodies, including the methodology to select the grant agreements and the contract to be audited. Where necessary, based on this information, the Commission and the AAL Association may block further payments.

For the Project Bond Pilot Initiative financial instrument the asset management has been performed by the EIB. The main principles of fraud prevention are agreed between the Commission and the EIB. Since project bond financing has already been executed and bonds are transparently traded on the Paris stock exchange, this transparency is considered the central fraud prevention measure. Similarly, the European Investment Fund (EIF) is in charge of the implementation of the Cultural and Creative Sectors Guarantee Facility (CCS GF) in compliance with the Financial Regulation, the Financial and Administrative Framework Agreement and specific conditions laid down in the Delegation Agreement signed by the Commission and the EIF. Full reporting on control results including on fraud prevention and detection is part of the Delegation Agreement in force.

Overall, given the anti-fraud measures put in place by the entrusted entities along with the other above mentioned points and the fact that the information available did not provide any unfavourable observations concerning fraud prevention, detection and correction, it is considered that the entities have put in place an effective and adequate fraud prevention and detection system.

2. Efficiency= the time-to-... indicators and other efficiency indicators

The reports and other available information containing information on the efficiency of the entities entrusted with budget implementation tasks did not provide any unfavourable observations with regard to the efficiency of their operations. DG CONNECT has no

reason to believe that their reports would be incomplete or unreliable. DG CONNECT concludes from the information available that resources assigned have been used efficiently.

3. Economy= the cost of controls

DG CONNECT's costs for the monitoring and supervision of the entities entrusted with budget implementation tasks accumulate to approx. EUR 2.38 million. These costs include primarily personnel costs (in total 17 Full Time Equivalents) and mission costs to attend supervisory board meetings for entities not based in Brussels. Personnel costs relate in particular to the monitoring activities (via the supervisory Committees), the preparation of budgets (for executive agencies), the assessment of the annual activity reports and other periodic reports as well as the annual work programmes.

The average cost of the monitoring and supervision of the executive agencies, ECSEL, AAL Association, BEREC/BEREC Office, ENISA, the Financial Instruments and payments made under cross-subdelegations represent 0.36% of the operational payments made to these entities, compared to 0.31% in 2017.

Table: Evolution cost of controls Indirect Management at DG/Commission level:

| Year | Payments made (million EUR) | Estimated costs of control | Ratio |
|------|-----------------------------|----------------------------|-------|
| 2016 | 580.1 | 1.905 | 0.33% |
| 2017 | 693.7 | 2.17 | 0.31% |
| 2018 | 654.5 | 2.39 | 0.36% |

The table below provides a more detailed overview of the supervision and monitoring cost per entity in 2018:

| Entity | Payments made (million EUR) | Estimated costs of control | Ratio |
|---|-----------------------------|----------------------------|--------------|
| EC services through cross-subdelegations ²¹ | 12.76 | 0.043 | 0.33% |
| Executive agencies | 380.51 | 0.665 | 0.17% |
| ECSEL | 220.36 | 0.391 | 0.18% |
| BEREC Office | 4.33 | 0.461 | 10.64% |
| ENISA | 10.78 | 0.471 | 4.36% |
| Active and Assisted Living Association | 11.3 | 0.092 | 0.82% |
| Financial Instrument (CCS GF) | 13.5 | 0.201 | 1.85% |
| Financial Instrument - CEF Broadband Fund (Equity Instrument) | 0.92 | 0.054 | |
| Financial Instruments - Project Bond Pilot Initiative and CEF Debt Instrument | 0 | 0.011 | |
| TOTAL | 654.46 | 2.39 | 0.36% |

²¹ For the 'Administrative expenditure cross-subdelegated', the supervision arrangements are based on the principle of controlling 'with' the relevant entity. Being a Commission service itself, the Authorising Officer by delegation (AOD) of the cross-delegated service is required to implement the expenditure/ appropriations subject to the same rules, responsibilities and accountability arrangements, notably on efficiency and cost effectiveness.

The estimated cost of control has also been calculated at entrusted entity level.

| Entity | Payments made (million EUR) | Management / Remuneration fees paid | Ratio |
|--|--|--|-------------------|
| EC services through cross-subdelegations | 12.76 | 0 | N/A |
| EACEA | 103.6 | 0 | N/A |
| INEA | 39.08 | 0 | N/A |
| REA | 224.84 | 0 | N/A |
| EASME | 12.99 | 0 | N/A ²² |
| | | | |
| ECSEL | 220.36 | 2.32 | 1.05% |
| BEREC Office | 4.33 | 2.97 ²³ | 68.59% |
| ENISA | 10.78 | 8.77 | 81.35% |
| Active and Assisted Living Association | 11.30 | 0.57 | 5.04% |
| Financial Instrument (CCS GF) | 13.5 | 2.47 | 18.3% |
| Financial Instrument (CEF) | 0.92 | 0 | N/A |
| TOTAL | 654.46 | 17.10 | 2.61% |

The BEREC Office and ENISA have relatively small annual budgets. Those agencies do not manage calls for proposals, and the EU funds serve mainly for staff remuneration and administration purposes. They nevertheless have to fulfil a number of administrative requirements similar to all EU agencies but weigh more heavily on smaller agencies due to significant fixed costs and inability to take advantage of economies of scale. This explains the relatively high cost of control when compared to the payments made.

Conclusion on the cost effectiveness of controls

Based on the most relevant key indicators and control results, DG CONNECT has assessed the effectiveness, efficiency and economy of the control system and reached a positive conclusion on the cost effectiveness of control.

The DG involvement in the governance of the various entrusted entities did not show any events issues or problems that could have a material impact on assurance as regards effectiveness of controls. However, consistent with remarks made concerning the error rates for FP7 funds under direct management and in the absence of evidence that the residual error rate would be lower than 2%, DG CONNECT includes the FP7 budget from ECSEL and the AAL Association within the scope and exposure of its reservation for FP7.

Also, in absence of contradictory information in the reports received, efficiency is considered adequate. Although it can be seen that there are variations in the cost of controls ratios on entity level due to the specific situations of the BEREC Office and ENISA, also a positive conclusion can be reached concerning the economy of the control system.

The DG's control environment and control strategy for the various entrusted entities is stable compared to previous years. Given the above mentioned good control results, the current control strategy is maintained.

²² DG CONNECT did not pay management fees for cross-subdelegations and to the executive agencies as it was not the lead parent DG. The payments made to those entities were removed from DG CONNECT's budget a priori, without any link to specific type of expenditure.

²³ Title 1 and Title 2 expenditure has been considered as management expenses paid.

2.1.1.C Estimated overall amount at risk 'at closure'

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

For DG CONNECT, the estimated overall amount at risk at payment²⁴ for the 2018 expenditure is between EUR 49.85 and 50.32 million. This is the AOD's best, conservative estimation of the amount of relevant expenditure²⁵ during the year (EUR 1 457.70 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 corrections²⁶ for the 2018 expenditure are EUR 14.88 million. This is the amount of errors that the DG 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 between EUR 34.97 and 35.45 million.

²⁴ In order to calculate the weighted average error rate (AER) for the total *relevant expenditure* in the reporting year, the *detected*, estimated or other equivalent error rates have been used.

²⁵ '*relevant expenditure*' during the year = payments made, minus new pre-financing paid out, plus previously paid pre-financing which was cleared in the reporting year.

²⁶ Even though to some extent based on the 7 years historic average of recoveries and financial corrections (ARC), which amounts to 1.6% for DG CONNECT, which is the best available indication of the corrective capacity of the ex-post control systems implemented by the DG over the past years, the AOD has adjusted this historic average in order to come to the best but conservative estimate of the expected corrective capacity average to be applied to the reporting year's relevant expenditure for the current programmes in order to get the related estimated future corrections. In particular, for the H2020, CIP and FP7 programmes, the average recoveries and corrections is the difference between the detected error rate and the residual error rate. This is in line with the method used by other research DGs following a recommendation from the European Court of Auditors and the Internal Audit Service. Where no recoveries are expected (for the administrative expenditure, procurement) a 0% rate was used.

Table X - Estimated overall amount at risk at closure

| DG CONNECT | "payments made" (FY; m€) | minus new ^a prefinancing (in FY; m€) | plus cleared ^c prefinancing (in FY; m€) | = "relevant expenditure" ^d (for the FY; m€) | Average Error Rate (weighted AER; %) Between ... and .. | | estimated overall amount at risk at payment (FY; €) Between ... and ... | | Average Recoveries and Corrections (adjusted ARC; %) | estimated future corrections [and deductions] (for FY; m€) | estimated overall amount at risk at closure ^e (m€) Between ... and ... | |
|--|-----------------------------|--|--|--|--|--------------|---|--------------|--|--|---|--------------|
| | | | | | -6 | -7 | -8 | -9 | | | -10 | |
| -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | -10 | -11 | -12 | -13 |
| Programme, Budget Line(s), or other relevant level | as per AAR annex 3, table 2 | as per ABAC DWH BO report on prefinancing ^f | as per ABAC DWH BO report on prefinancing ^f | = (2) – (3) + (4) | Detected error rates, or equivalent ^g estimates | = (5) x (6) | based on 7Y-avg historic ARC (as per ABAC DWH BO report on corrective capacity) ^f : (1,6%), but [to be] adjusted ^h to be the best but conservative estimate for the current MFF | | | = (5) x (8) | = (7) – (9) | |
| Budget implemented by DG CNECT | | | | | | | | | | | | |
| 1- Programmes implemented by CNECT | | | | | | | | | | | | |
| H2020 | 1 390.63 | 1 062.07 | 643.48 | 972.04 | 3.3% | 3.32% | 32.27 | 32.27 | 0.93% | 9.04 | 23.23 | 23.23 |
| FP7 | 38.62 | 0.00 | 102.24 | 140.86 | 5.2% | 5.26% | 7.41 | 7.41 | 2.11% | 2.97 | 4.44 | 4.44 |
| CIP | 3.35 | 0.00 | 11.54 | 14.88 | 9.1% | 9.10% | 1.35 | 1.35 | 1.38% | 0.21 | 1.15 | 1.15 |
| CEF (procurement) | 17.20 | 0.00 | 0.00 | 17.20 | 0.5% | 0.50% | 0.09 | 0.09 | 0.00% | 0.00 | 0.09 | 0.09 |
| CEF (grants) | 0.50 | 0.00 | 0.00 | 0.50 | 9.1% | 9.10% | 0.01 | 0.02 | 1.50% | 0.01 | 0.00 | 0.01 |
| Creative Europe | 20.43 | 0.00 | 0.70 | 21.13 | 1.5% | 2.00% | 0.32 | 0.42 | 1.50% | 0.32 | 0.00 | 0.11 |
| Other | 12.47 | 0.00 | 0.00 | 12.47 | 2.0% | 3.00% | 0.25 | 0.37 | 0.00% | 0.00 | 0.25 | 0.37 |
| Administrative expenditure | 11.77 | 0.00 | 0.00 | 11.77 | 0.5% | 0.50% | 0.06 | 0.06 | 0.00% | 0.00 | 0.06 | 0.06 |
| Budget implementation tasks entrusted to other DGs and entities | | | | | | | | | | | | |
| 2- Implementing Bodies | | | | | | | | | | | | |
| EIB - Project Bond Pilot Initiative (PBI) | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | | | |
| EIF - CCSGF | 13.51 | 0.00 | 0.00 | 13.51 | 0.0% | 0.50% | 0.00 | 0.07 | 0.00% | 0.00 | 0.00 | 0.07 |
| CEBF - Cube (B5) | 0.92 | 0.00 | 0.00 | 0.92 | 0.0% | 0.50% | 0.00 | 0.00 | 0.00% | 0.00 | 0.00 | 0.00 |
| ECSEL (H2020) | 207.36 | 0.00 | 0.00 | 207.36 | 3.3% | 3.32% | 6.88 | 6.88 | 0.93% | 1.93 | 4.96 | 4.96 |
| ECSEL (FP7) | 13.00 | 0.00 | 0.00 | 13.00 | 5.2% | 5.26% | 0.68 | 0.68 | 2.11% | 0.27 | 0.41 | 0.41 |
| AAL (H2020) | 7.80 | 7.80 | 3.08 | 3.08 | 3.3% | 3.32% | 0.10 | 0.10 | 0.93% | 0.03 | 0.07 | 0.07 |
| AAL (FP7) | 3.50 | 3.50 | 4.83 | 4.83 | 5.2% | 5.26% | 0.25 | 0.25 | 2.11% | 0.10 | 0.15 | 0.15 |
| BEREC office | 4.33 | 0.00 | 0.00 | 4.33 | 0.5% | 1.00% | 0.02 | 0.04 | 0.00% | 0.00 | 0.02 | 0.04 |
| ENISA | 10.78 | 0.00 | 0.00 | 10.78 | 0.5% | 1.00% | 0.05 | 0.11 | 0.00% | 0.00 | 0.05 | 0.11 |
| 3- Cross-subdelegation | | | | | | | | | | | | |
| DGs and Offices | 9.05 | 0.00 | 0.00 | 9.05 | 1.0% | 2.00% | 0.09 | 0.18 | 0.00% | 0.00 | 0.09 | 0.18 |
| Administrative expenditure | 0,00 | 0.00 | 0.00 | 0.00 | 0.5% | 0.50% | 0.00 | 0.00 | 0.00% | 0.00 | 0.00 | 0.00 |
| Overall, total | 1 765.20 | 1073.36 | 765.86 | 1 457.70 | 3.4% | 3.45% | 49.85 | 50.32 | 1.02% | 14.88 | 34.97 | 35.45 |

Notes to the table

(1) Differentiated for the relevant portfolio segments at a level which is lower than the DG total

(2) Payments made or equivalent, such as after the expenditure is registered in the Commission's accounting system, after the expenditure is accepted or after the pre-financing is cleared. In any case, this means after the preventive (ex-ante) control measures have already been implemented earlier in the cycle. In all cases of Co-Delegations (Internal Rules Article 3), the 'payments made' are covered by the Delegated DGs. In the case of Cross-SubDelegations (Internal Rules Article 12), they remain with the Delegating DGs.

(3) New pre-financing actually paid by out the department itself during the financial year (i.e. excluding any pre-financing received as transfer from another department). The 'Pre-financing' is covered as in the context of note 2.5.1 to the Commission (provisional) annual accounts (i.e. excluding the 'Other advances to Member States' (note 2.5.2) which is covered on a pure payment-made basis).

'Pre-financings paid/cleared' are always covered by the Delegated DGs, even in the case of Cross-SubDelegations.

* In Cohesion, the (10%) retention made.

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

* In Cohesion, the retention which is now released or (partially) withheld by the Commission.

(5) 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 2017 AR methodological Annex 1.1 point 15*), also our concept of 'relevant expenditure' includes the payments made, subtracts the new pre-financing paid out [*& adds the retentions made*], and adds the previous pre-financing actually cleared [*& subtracts the retentions released and those (partially) withheld; and any deductions of expenditure made by MS in the annual accounts*] during the FY. This is a separate and 'hybrid' concept, intentionally combining elements from the budgetary accounting and from the general ledger accounting.

(6) In order to calculate the weighted Average Error Rate (AER) for the total relevant expenditure in the reporting year, the detected error rates have been used – or equivalent.

[*Such equivalents are e.g. the 'adjusted error rates' [AGRI, for Rural Development], the 'reportable error rates' [REGIO, for the 2007-2013 programmes], or the 'residual total error rates' [MARE, for the current programme. In other cases [e.g. DEVCO and NEAR], they are derived by a backwards calculation based on results from advanced residual error studies; i.e. by adding the estimated future corrections (if not assumed being zero) to the amount at risk at closure.*]

For types of low-risk expenditure with indications that the equivalent error rate might be close to 'zero' (e.g. *administrative expenditure, operating subsidies to agencies*), it is recommended to use 0.5% nevertheless as a conservative estimate.

(7) Even though to some extent based on the 7 years historic Average of Recoveries and financial Corrections (ARC), which amounts to 1.5% in DG CONNECT, which is the best available indication of the corrective capacity of the ex-post control systems implemented by the DG over the past years, the AOD has adjusted this historic average in order to come to the best but conservative estimate of the ex-post future corrections to be applied to the reporting year's relevant expenditure for the current programmes. In particular for the H2020, CIP and FP7 programmes, the average recoveries and corrections is the difference between the detected error rate and the residual error rate. This is in line with the method used by the other research DGs. Where no recoveries are expected, (for administrative expenditure, procurement, ...) a 0% rate was used.

2.1.2. Audit observations and recommendations

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

Internal Audit Service (IAS)

IAS-Audits closed in 2018

IAS audit on Ex-ante Controls on H2020 grant payments in DG CONNECT

The final report was received in June 2018 and concluded that ex ante controls on H2020 grant payments in DG CONNECT are effective and contribute to the legality, regularity and sound financial management of the expenditure. While the audit work did not identify any critical or very important issues, the IAS considers that there is room for further improvement in some areas.

In this context, the IAS has identified two issues and addressed them by two important recommendations. The first recommendation concerned the functioning of ex-ante controls and the second recommendation concerned the monitoring of the efficiency and effectiveness of the control system. DG CONNECT has accepted both recommendations. The actions related to the first recommendation are planned to be implemented by mid-2019. One sub-action to address the second recommendation (publishing of two indicators on cost rejection in the monthly reporting) was only partially implemented at the end of 2018 and is therefore slightly delayed (target date 31 December 2018) but will be implemented by mid-2019.

IAS-Audits started in 2018 and ongoing by the end of 2018

IAS - Multi DG Audit on the design and implementation of the Dissemination and Exploitation of H2020 Research Results

The final report was received in January 2019 and concluded that - though the Central Support Centre of the Commission has designed an adequate D&E process supported by an IT workflow that contains the mandatory checks that the POs have to perform when assessing the implementation of the D&E plan agreed in the grant agreement - weaknesses still exist in the practical application of the current process to ensure that compliance with the D&E contractual obligations and reporting requirements are monitored properly, and for ensuring that there is an appropriate level of follow-up of the D&E activities after projects are implemented.

In this context, the IAS for DG CONNECT has issued two important recommendations. The first recommendation concerns monitoring compliance with the D&E contractual obligations and reporting, the second one concerns the effectiveness of the D&E support initiatives. Both recommendations were accepted by DG CONNECT and an action plan to address the recommendations is being prepared.

IAS Multi-DG Performance audit on CEF Telecom governance

The final report was received in January 2019 and - taking into account that CEF Telecom being the first programme aimed at building an ecosystem of DSIs for MS and European citizens, the design of the governance structure (including the performance management framework) could not profit from past experiences and since it was launched in 2014, has faced a considerable increase both in the range of services offered and in its complexity - concluded that the governance structure, as initially set up, is no longer adapted to the current complexity of the programme and to the future developments under the Digital

Europe Programme (as outlined in the proposal for the next multiannual financial framework) and this situation may also affect its effective implementation at programme level. Although some well-established governance elements are in place, there is currently no overall performance framework providing an overview of the performance of the individual DSIs and their contribution to the implementation of the annual CEF telecom work programmes. Moreover, the different elements in place to monitor performance at the level of the DSIs are not fully integrated. Finally, the objectives established at programme and DSI level are not always SMART and the performance indicators are not RACER. At DSI level, the existing Key Performance Indicators do not always measure results and the annual outcomes are not reflected in output indicators.

In this context, the IAS has issued three recommendations (one of them 'very important', the other two 'important'). The very important recommendation concerns improvements of the CEF Telecom performance framework and the monitoring of its progress and the results. The two important recommendations concern improvements of the current internal governance set up and some individual items (monitoring the compliance with financial flexibility rule, formalising compliance checks for new DSIs and monitor compliance of DSIs with data protection regulations).

To address the very important recommendation, DG CONNECT envisages several actions including the preparation of a monitoring guidebook to revise and improve the overall performance framework, a financial monitoring tool of the budget flexibility, explicit references to the relevant DSIs in the mission statements, job description, etc.. DG CONNECT plans to close all the actions needed for the implementation of all recommendations of the CEF audit will be closed within a year.

IAS audit on Implementation of Better Regulation principles in the DSM policy development and decision-making

This IAS audit started in December 2018. The audit results are expected in the third quarter of 2019.

In the second half of 2018, the IAS also performed two *follow-up audits* on the on the implementation of the recommendations from the *IAS audit on Procurement in DG CONNECT* and from the *IAS audit on Project Management in DG CONNECT*. Based on the results of the follow-up audit, IAS assessed that all recommendations reported as 'ready for review' by DG CONNECT for these audits have been adequately and effectively implemented.

Limited conclusion of the Internal Auditor on the state of Internal Control in DG CONNECT

In its contribution to the 2018 AAR process, IAS concludes that 'the internal control systems in place for the audited processes are effective, except for the observation giving rise to the above mentioned 'very important' recommendation' *made in the context of the audit on CEF Telecom governance*.

The state of play of the implementation of IAS recommendations

The 2018 final overview report on the state of implementation of IAS recommendations lists two IAS audits with ongoing recommendations. For one of the ongoing recommendations implementation is overdue (see hereunder as well as in the section on the relevant audit).

The recommendations which are ongoing relate to two audits:

a) IAS audit on Management of Recovery Orders

- Recommendation No 2 – Monitoring of and reporting on the uncashed recovery orders, with a planned implementation date of 31 March 2019.

b) IAS audit on Ex-ante controls on H2020 grant payments in DG CONNECT

- Recommendation No 2.1 – Functioning of ex-ante controls with a planned implementation date of 30 June 2019.
- Recommendation No 2.2 – Monitoring the Effectiveness and Efficiency of the control system with a planned implementation date of 31 December 2018. The implementation for the action related to this recommendation is slightly overdue but will be implemented by June 2019 (see also above sub-section on the related audit).

Since yearend, the IAS finalised two audits: the Multi-DG Audit on the design and implementation of the Dissemination and Exploitation of H2020 Research Results and the Multi-DG Performance audit on CEF Telecom governance. Actions plans are in the process of being decided for both audits. Please refer to above section for further details.

Conclusion

As a result of the assessment of the risks underlying the auditors' observations together with the management measures taken or planned in response, the management of DG CONNECT believes that the recommendations issued do not have a major impact on the declaration of assurance. DG CONNECT is well aware of the very important recommendation concerning the CEF Telecom performance framework and the monitoring of its progress and the results, and has established an action plan which is being implemented.

All recommendations issued by the IAS are subject to a systematic follow-up and their status of implementation is closely monitored.

European Court of Auditors (ECA)

Highlights from the Annual report of the European Court of Auditors for the financial year 2017

The annual European Court of Auditors report was issued in October 2018. DG CONNECT is mostly concerned by Chapter 5 of the report, 'Competitiveness for growth and jobs'.

The error rate for the chapter 5 is 4.2% compared to 4.1% in 2016 and 4.4% in the year before. As usual most errors that occurred in research and innovation projects are due to ineligible direct personnel costs.

Besides the error rate, the Court states that 'Had the Commission made proper use of all info at their disposal, the estimated level of error would have been 1.5 percentage points lower' – this is needs to be compared to 1.2% last year and 0.6% in the year before.

As regards Horizon 2020, the Court recommends to further clarify the rules on personnel costs, to review the personnel costs methodology, and to complete the list of issues in certain countries.

The Court also highlighted that further efforts were needed to improve and align the monitoring of research and innovation projects in the various Commission services managing Horizon 2020 projects.

ECA Audits closed in 2018 with involvement of DG CONNECT

Audit on Broadband targets (Broadband in the EU Member States: Despite progress, no all Europe 2020 targets will be met)

In June 2018 the Court finalised its audit titled '*Broadband in the EU Member States: despite progress, not all the Europe 2020 targets will be met*'. In the audit the ECA concluded, that broadband coverage has generally been improving across the EU, but that the Europe 2020 targets will not all be achieved. Rural areas, where there is less incentive for the private sector to invest, remain less well connected than cities, and take up of ultra-fast broadband is significantly behind target. The audit lists 8 recommendations out of which the Commission considers 5 directly targeted at the Commission and that were all accepted (or 1 partially accepted) by the Commission and will be addressed by appropriate actions during 2019.

Audit on H2020 simplification efforts

In December 2018 the Court finalised its audit titled '*The majority of simplification measures brought into Horizon 2020 have made life easier for beneficiaries, but opportunities to improve still exist*'. In the audit the ECA concluded, that the majority of simplification measures taken by the Commission have been effective in reducing the administrative burden for beneficiaries in Horizon 2020, although not all actions produced the desired result and opportunities to improve still exist. Replying to our survey, beneficiaries expressed the need for more user-friendly guidance and tools and for further testing of the appropriateness and usability of new funding schemes. Stability in the rules is also important; beneficiaries are able to adapt to complexity but frequent modifications to guidance can cause confusion and uncertainty. The audit lists 8 recommendations targeted at the Commission's Research services that were all accepted by the Commission and will be addressed by appropriate actions during 2019.

Audit on Fraud Management in EU spending

In January 2019, the Court finalised its audit titled '*Fighting fraud in EU spending: action needed*'. The Court concluded that more drive and leadership is needed in the EU to take real action against fraud in EU spending. The ECA added that there is a need for the Commission, in cooperation with the Member States, to step up its fight against fraud. The audit lists 4 recommendations targeted notably at the central services (OLAF, DG Budget) and will be addressed by appropriate actions as of 2019 notably through the revised Commission Anti-Fraud Strategy and its action plan (see also section 2.1.1 of this report on anti-fraud).

ECA Audits started in 2018 and ongoing by the end of 2018 with involvement of DG CONNECT

Audit on EFSI (European Fund for Strategic Investments)

This ECA audit started in spring 2018. Its objective is to assess whether EFSI is effective in raising finance to support additional investment within the whole EU. The audit results are expected in the first quarter of 2019.

Audit on Cross-Border Health Care access in Europe

This ECA audit started in spring 2018 in DG CONNECT. The audit results are expected in the second quarter of 2019.

Audit on Energy Storage/ Batteries

This ECA audit started in spring 2018 under the title 'Audit on the research and innovation for energy and climate'. The audit results are expected in the second quarter of 2019.

Performance Audit on INEA

This ECA audit started in summer 2018. The audit will focus on the 2014-2020 programming period and cover INEA's set-up and organisation, and its implementation of the CEF programme. The audit results are expected in the last quarter of 2019.

Rapid case Review on the transparency and efficiency of the support to EURONEWS

This ECA review started in December 2018. The review results are expected in the second quarter of 2019.

ECSEL Joint Undertaking

In April 2018, the European Parliament again granted discharge on the 2016 budget of the ECSEL Joint Undertaking which confirms the positive development in 2017 compared to the situation in the years before 2017 when the discharge for ECSEL had often been postponed and dealt within an extended procedure.

Conclusion

As a result of the assessment of the risks underlying the auditor's observations together with the management measures taken or planned in response, the management of DG CONNECT believes that the recommendations issued do not raise any critical assurance implications and are being implemented as part of the on-going continuous efforts in terms of further improvements. As regards the IAS audit on CEF telecom, some actions are needed to implement the very important recommendation concerning the performance framework of the programme and its monitoring.

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, aimed to ensure the achievement of policy and operational objectives. In addition, as regards financial management, compliance with the internal control framework is a compulsory requirement.

DG CONNECT has put in place the organisational structure and the internal control systems suited to the achievement of 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.

DG CONNECT assesses on a continuous basis the effectiveness of its internal control systems, in order to determine whether they work as intended and ensuring that any control weaknesses in the system are detected, analysed and considered for improvement.

The end of year assessment is based on a the assessment of a number of indicators called internal control monitoring criteria and the analysis of various sources of other information such as the register of deviations, IAS and ECA audit findings, the risk register and the follow-up of the actions decided following the previous internal control assessment.

Assessment of the internal control monitoring criteria

DG CONNECT established Internal Control Monitoring Criteria (ICMC) to allow the DG to effectively monitor and assess its internal control system and, on that basis, to build on its strengths and to address its weaknesses.

The DG's review of the internal control monitoring criteria was conducted in January and February 2019. Lead units responsible for the internal control principles were asked to report on the internal control monitoring criteria. Where needed, lead services were contacted for further details.

Register of deviations

The DG has a system in place to ensure the recording of exceptions or non-compliance to procedures/rules through a process of justification by the initiating service, approval by the Director and the maintenance of a central register.

During the year, a total number of 57 deviations were reported and analysed to identify any internal control failures. The list of deviations was analysed to identify any control weaknesses.

IAS and ECA audit recommendations

DG CONNECT continued its pro-active supervision and frequent reporting on the state of implementation of the audit, ensuring a timely implementation of all ECA and IAS audit recommendations. The state of implementation of the IAS recommendations is regularly reported to senior management in the Internal Control and Compliance (ICC) Committee chaired by the Director-General as well as to the IAS through feedback given in TeamCentral, the audit implementation tracking tool.

Risk Management

Each year, DGs are required to conduct a risk assessment exercise as part of the Management Plan process. The register is then regularly updated in the course of the year. The exercise is designed to alert managers to possible problems in delivering their mission and objectives and encourage early action in order to anticipate and overcome

potential pitfalls. The outcome of this exercise is a risk register containing the most significant risks at DG level. In Q2 2018, Senior management identified a critical risk linked to the implementation of the WIFI for EU initiative for which mitigating actions have been established and regularly monitored as senior management level.

Follow up of the mid-year assessment

In July 2018, DG CONNECT performed a mid-year assessment of its internal control framework. The assessment concluded that the internal control system was working effectively with a number of limited weaknesses for which actions have been defined. By yearend, all the actions resulting from the mid-year assessment were implemented or in the process of being implemented.

The assessment of the overall effectiveness of the Internal Control Framework was performed in line with the Implementation Guide for the Internal Control Framework of the Commission.

Conclusion

DG CONNECT has assessed the internal control system during the reporting year and has concluded that it is effective and that the components and principles are present and functioning as intended.

On the principle 10 concerning control activities, some improvement are needed as DG CONNECT has one open very important IAS recommendation concerning the performance framework of the CEF Programme and its monitoring (see section 2.1.2 for details). The IAS reported that there is currently no overall performance framework providing an overview of the performance of the individual DSIs and their contribution to the implementation of the annual CEF telecom work programmes. Moreover, the different elements in place to monitor performance at the level of the DSIs are not fully integrated. Finally, the objectives established at programme and DSI level are not always SMART and the performance indicators are not RACER. At DSI level, the existing Key Performance Indicators do not always measure results and the annual outcomes are not reflected in output indicators.

An action plan was decided and is being implemented.

Without qualifying the above conclusion, the following remarks can be made as regards Principle 10 covering the Control Activities and Principle 13 concerning document management:

- Principle 10 (Control Activities) Error rates: The error rates for FP7 and ICT PSP exceed the materiality threshold and therefore two reservations are made. We are not of the opinion that the error rates result from a weakness in the effective implementation of the internal control principles as those error rates reflect what is achievable with the current legal framework for FP7 and CIP ICT PSP taking into consideration an appropriate balance between trust and control. Horizon 2020 includes a radical simplification of the legal framework for the Framework Programme for Research and Innovation (2014-2020). The first audit results suggest that the detected (and in future representative) error rate will remain within the established range (2-5%). Together with the experience in FP7, they also suggest that the objective for the residual error rate will be respected.
- Principle 10 (Control Activities) IAS audit of the Executive Agency EACEA: The director of EACEA has maintained/modified a reservation in his Annual Activity Report concerning internal control weaknesses which were reported by the IAS during their audits of grant management in Erasmus+ and Creative Europe where one critical and two very important issues were detected. The EACEA reservation and the IAS audit conclusions may involve a reputational risk for the parent DGs of EACEA.

Nevertheless (as explained in section 2.1.1b), DG CONNECT considers that its supervision of the Executive Agency, whose Authorising Officer receives delegation directly from the Commission, has been effective and sufficient in 2018.

- Principle 13 (Availability and use of quality info for Internal Control) Document management: The low participation of DG CONNECT secretariat and DMO correspondent to Document Management trainings may lead to a lower awareness among staff concerning the most recent changes document management rules. To mitigate the risk, DG CONNECT ensured that all key staff involved received detailed information in management of documents and information. For the 1st semester 2019 some activities are planned to further mitigate the risk including a reminder to Directors and HoUs to appoint a DMO correspondent and an information campaign and coaching sessions to all staff about document management.

2.1.4. Conclusion on the impact 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), the subsections above, and draws conclusions supporting the declaration of assurance and whether it should be qualified with reservations.

The information reported in section 2.1 results 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 the Director-General of DG CONNECT.

The statement of assurance is based on the analysis of the internal control system established in DG CONNECT supported by the conclusions of the audits from the IAS and ECA which did not highlight any critical recommendation, the IAS opinion, the conclusions of the review of the effective implementation of the internal control principles and the reports received from cross delegated Authorising Officers by Delegation, the INEA, REA, EACEA and EASME executive agencies, the EIB, the ECSEL Joint Undertaking, the Active and Assisted Living Joint Programme and the BEREC Office and ENISA Decentralised Agencies.

DG CONNECT's assessment on legality and regularity for the FP7 and CIP ICT PSP programmes returns a level of detected error which appears to be 'persistently high' over the years.

Concerning the financial operations under FP7, as the estimated residual error rate is above 2%, which is the materiality criterion for this programme, DG CONNECT, in accordance with the other members of the Research Family will maintain the reservation already made in previous years concerning FP7 expenditure. The evolution of the residual error rate is shown in the below table:

| Residual error rate | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------------|-------------|-------------|-------------|
| FP7 | 2.58% | 2.86% | 2.96% | 3.15% |

For the financial operations under CIP ICT PSP, the results of the ex-post audits show that the detected error rates remain high. As the 2% residual error rate target at the end of the programming period for CIP ICT PSP will not be attained, a reservation is made.

In its 2017 annual report, the Court of Auditors concludes on an error rate of 4.2% for the entire 2017 spending in the MFF chapter 'Competitiveness for growth and jobs' (compared to 4.1% in the 2016 report). This error rate is almost entirely due to audit findings concerning cost declarations under FP7 and CIP.

FP7 reservation

The audit work for FP7 is almost completed. The last Common Representative Audit Sample was launched in 2016. By the end of 2018, just 3 audits of the Common representative audit sample remained open.

The Common Representative Error Rate, based on 477 costs statements for which the audit is completed (98% out of a sample of 486), is 5.26%. The residual error rate for DG CONNECT amounts to 3.15% with a corresponding amount at risk of EUR 5 million.

By the end of the programming period the Residual Error Rate will not be below the materiality threshold defined in Annex 4 'Materiality Criteria'. For that reason, DG CONNECT maintains the reservation for FP7.

Action plan to address the reservation for FP7

The possibilities to simplify the FP7 rules have been exhausted. The programme is now in its final stage of implementation: the total amount paid per year will be decreasing, and therefore the financial impact too. Audits may continue at a low level in case of the identification of potential irregularities in projects. However, no further actions are programmed.

CIP ICT PSP reservation

The results of the ex-post audits performed on CIP ICT PSP projects show a detected error rate of 9.10% for 2018 and a cumulated residual error rate of 7.72%, which is above the 2% materiality threshold. This residual error rate leads to an amount at risk of EUR 1.15 million.

| Residual error rate | 2015 | 2016 | 2017 | 2018 |
|----------------------------|-------------|-------------|-------------|-------------|
| CIP ICT PSP | 4.42% | 8.92% | 8.50% | 7.72% |

These error rates should nevertheless be considered with caution given the limited number of audits that have been performed and the fact that the 10 audits with the highest adjustments account for 60.88% of the total amount adjusted.

However, given that the residual error rate calculated for the CIP ICT PSP programme is higher than 2% and that the 2% residual error rate target at the end of the programming period for CIP ICT PSP will not be attained, the reservation on CIP that was already made in previous years is maintained for the reporting period.

Action plan to address the reservation for CIP ICT PSP

As for FP7, it should be noted that all CIP contracts have already been signed, so further modification of the legal framework is no longer an option.

The programme is now in its final stage of implementation: the total amount paid per year will be decreasing, and therefore the financial impact too. No further actions are programmed.

Horizon 2020

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 detected error rate based on 164 out of 303 participations selected in the first CRS is 2.43%. However, if we take into account the draft audit reports then the expected representative error rate for the full sample will be around 3.32%.

The Residual Error Rate for the research family is 2.22 % (2.20% for CONNECT) and is expected to rise to around 2.45% (2.39%) when taking into account the draft audit reports.

The first audit results and above mentioned error rates (detected and residual error rates) must be considered with care given the limited number of audits that have been finalised and the early stage of the programme. However, they suggest that the detected (and in future 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 will be respected.

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

Overall amount at risk at closure

For DG CONNECT, the estimated overall amount at risk at payment for the 2018 expenditure is between EUR 49.85 and 50.32 million. This is the AOD's best, conservative estimation of the amount of relevant expenditure during the year (EUR 1 765.20 million) not in conformity with the applicable contractual and regulatory provisions at the time the payment is made.

The conservatively estimated future corrections for the 2018 expenditure amounts to EUR 14.88 million. This is the amount of errors that the DG 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 between EUR 34.97 and 35.45 million.

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 General, in his capacity as Authorising Officer by Delegation has signed the Declaration of Assurance qualified by a reservation concerning the rate of the residual errors with regard to the accuracy of cost claims in the Seventh Research Framework Programme (FP7) and a reservation concerning the rate of the residual errors with regard to the accuracy of cost claims in the ICT Policy Support Programme of the Competitiveness and Innovation framework Programme (CIP ICT PSP).

2.1.5. Declaration of Assurance and reservations

I, the undersigned, Roberto Viola

Director-General of the Communications Networks, Content & Technology Directorate-General

In my capacity as authorising officer by delegation

Declare that the information contained in this report gives a true and fair view²⁷.

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

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

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

However the following reservations should be noted:

Reservations concerning the rate of residual errors with regard to the accuracy of costs claims for grants in the 7th Research Framework Programme and the ICT Policy Support Programme of the Competitiveness and Innovation framework Programme (CIP ICT PSP).

Brussels, 29 March 2019

Signed

Roberto Viola

²⁷ True and fair in this context means a reliable, complete and correct view on the state of affairs in the DG.

Reservation 1. Concerning the rate of the residual errors with regard to the accuracy of cost claims in the Seventh Research Framework Programme (FP7)

| DG | DG CONNECT |
|--|---|
| Title of the reservation, including its scope | Reservation concerning the rate of the residual error within cost claims in the Seventh Research Framework Programme (FP7). |
| Domain | Grants in the Seventh Research Framework Programme. |
| Programme and amount affected (= 'scope') | FP7 payments made by DG CONNECT in 2018 including the FP7 budget of DG CONNECT entrusted to ECSEL and the AAL Association: EUR 55.12 million from the EUR 1 671.63 million total for ABB 09.04. |
| Reason for the reservation | At the end of 2018, the residual error rate is not below the materiality threshold foreseen for the multi-annual period. |
| Materiality criterion/criteria | <p>The materiality criterion is the residual error rate, i.e. the level of errors that remain undetected and uncorrected, by the end of the management cycle.</p> <p>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 below 2% at the end of a reporting year within the FP's management lifecycle, a reservation would be made.</p> |
| Quantification of the impact (= actual exposure') | The maximum impact is calculated by multiplying the residual error rate in favour of the Commission by the amount of FP7 interim and final payments based on cost statements authorised in 2018 by DG CONNECT plus the amount of the pre-financing expenditure cleared in 2018. The Representative Error Rate for 2018 is 5.26%. The Residual Error Rate is 3.15%. The estimated amount at risk is EUR 5 million. (EUR 5 million=3.15%* EUR 158.69 million) |
| Impact on the assurance | Legality and regularity of the affected transactions, i.e. exclusively payments made against cost claims (interim payments and final payments). The assurance is affected within the scope of the quantified budgetary impact (the net amount at risk estimated at EUR 5 million) |
| Responsibility for the weakness | <p>The main reason for errors is :</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 the 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> |
| Responsibility for the corrective action | The possibilities to simplify the FP7 rules have been exhausted. The programme is now in its final stage of implementation: the total amount paid per year will be decreasing, and therefore the financial impact too. Audits may continue at a low level in case of the identification of potential irregularities in projects. However, no further actions are programmed. |

Reservation 2. Concerning the rate of the residual errors with regard to the accuracy of cost claims in the ICT Policy Support Programme (PSP) of the Competitiveness and Innovation framework Programme (CIP)

| DG | DG CONNECT |
|--|--|
| Title of the reservation, including its scope | Reservation concerning the rate of the residual errors with regard to the accuracy of cost claims in the ICT Policy Support Programme (PSP) of the Competitiveness and Innovation framework Programme (CIP). |
| Domain | Direct management grants in the Competitiveness and Innovation framework Programme (CIP) |
| ABB activity and amount affected (= 'scope') | CIP ICT PSP payments made by DG CONNECT in 2018 (EUR 3.35 million from the EUR 1 671.63 million total for ABB 09.04. |
| Reason for the reservation | At the end of 2018, the residual error rate is not below the materiality threshold foreseen for the multi-annual period. |
| Materiality criterion/criteria | <p>The materiality criterion is the residual error rate, i.e. the level of errors that remains undetected and uncorrected, by the end of the management cycle.</p> <p>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 lifecycle, a reservation would be made.</p> |
| Quantification of the impact (= actual exposure') | <p>The maximum impact is calculated by multiplying the residual error rate in favour of the Commission by the amount of interim and final payments based on cost statements authorised in 2018 by DG CONNECT plus the amount of the pre-financing expenditure cleared in 2018. The Cumulative Error Rate for 2017 is 9.10%, while the Residual Error Rate is 7.72%. The estimated amount at risk for 2018 payments is EUR 1.15 million. (EUR 1.15 million=7.72%*EUR 14.88 million)</p> <p>However, given the low number of audits used to determine the cumulative and the residual error rates, the above mentioned error rates should be considered with caution.</p> <p>Nevertheless the 2% residual error rate target at the end of the programming period for CIP ICT PSP will not be attained.</p> |
| Impact on the assurance | Legality and regularity of the affected transactions, i.e. exclusively payments made against cost claims (interim payments and final payments). The assurance is affected within the scope of the quantified budgetary impact (the net amount at risk estimated at EUR 1.15 million). |
| Responsibility for the weakness | The Legislative Authorities for the funding rules in the basic acts which are complex, the beneficiaries and the certifying auditors for the incorrectness of cost claims and audit certificates, and the Commission services for the management and control systems in place. |
| Responsibility for the corrective action | The possibilities to simplify the CIP rules have been exhausted. The programme is now in its final stage of implementation: the total amount paid per year will be decreasing, and therefore the financial impact too. The audit strategy will be finalised and new audits launched in case of the identification of potential irregularities in projects. However, no further actions are programmed. |

2.2. Other organisational management dimensions

2.2.1. Human resource management

During 2018, the main challenges for DG CONNECT in the area of HR management have been the overall human resources reduction, the reduction in support levels and the increase of DG CONNECT presence in Luxembourg. Within this context, DG CONNECT further explored new ways of working in search of further efficiency gains.

HR Modernisation

The way HR services are being delivered to DG CONNECT staff has significantly changed as a result of DG CONNECT's participation as of 16.02.2017 to the second wave pilot of the HR modernisation stemming from the Synergies and Efficiencies Review. While the strategic HR decisions remain the competence of DG CONNECT's small HR Business Correspondent (HR BC) team, the bulk of the administrative implementation of the HR decisions regarding DG CONNECT has been delegated to the Account Management Centre 3 (AMC3) Unit of DG HR, located in Beaulieu. The second wave pilot has been extended until end of 2018.

Resources allocation

In light of the overall pressure on human resources, DG CONNECT carefully monitored the allocation of human resources in light of political and operational priorities, while meeting its yearly obligations in terms of resources reduction as laid down by the Budgetary Authority. This included the redeployment of staff from support functions to operational activities.



The Digital Pole in Luxembourg

As a result of the renewed political agreement between the Commission and the Luxembourg authorities, the Commission committed to further increase the presence of its services and staff in Luxembourg within the legal, financial and digital areas. Within this context, DG CONNECT is requested to contribute – together with DG DIGIT - to the build-up of a 'Digital Pole' by gradually transferring activities and staff from Brussels to Luxembourg, in accordance with yearly targets set out by DG HR. The DG CONNECT activities being gradually transferred concern mainly eInfrastructure & Science Cloud, High Performance Computing & Quantum Technology, eHealth and eGovernment & Trust.

40% women in management

In order to contribute to the 40% target of women in management positions at Commission level, DG CONNECT provided pre-management opportunities to talented AD women who were also supported in their career aspirations along 2018. DG CONNECT put in place ad-hoc specific initiatives to help them to prepare for a middle or senior management position. These continuous efforts have allowed in 2018 2 first middle management appointments of women, which have largely contributed to the 40% target at Commission level. The DG CONNECT quantitative target of 6 first female appointments at middle management level as of 1.5.2017 – as set out in the decision SEC(2017)359 adopted by the College – has been reached by 01/01/2019.

Learning & Development

In order to properly equip DG CONNECT staff with the necessary skills, competences and knowledge required for the completion of the DG's political and operational priorities,

DG CONNECT management approved a Learning & Development Strategy tailored to the needs of the DG, which was implemented in close cooperation with the AMC3 Unit of DG HR.

Staff survey action plan

DG CONNECT continued during 2018 to care for maintaining a high level of staff satisfaction within the DG. An internal staff satisfaction survey was launched in October 2017 and reflected an increase in DG CONNECT employee engagement score from 60% to 72%, presumably as a result of the specific actions – implemented throughout 2017 and continued in 2018 – taken by the Management Team in follow-up to the 2016 Commission staff satisfaction survey.

DG CONNECT will carefully monitor the outcome of the staff satisfaction survey launched by DG HR end of 2018, with a DG CONNECT participation rate of 68% and an employee engagement score of 68%, in line with the Commission average and +8% compared to the 2016 Commission Staff Survey.

We are CONNECT

DG CONNECT launched the 'We are CONNECT' flagship initiative in order to increase the sense of belonging to DG CONNECT, and hence staff engagement, and to promote knowledge-sharing and cooperation. The initiative integrated existing good practices (e.g. CONNECT University, Diversity & Inclusion Days, Christmas Party, dissemination of success stories and best practices) and also entailed different new actions in the course of 2018. First, weekly videos of managers are recorded in order to expose managers' 'human' face, outside their current work remit. Second, staff were given the opportunity to openly share information about themselves and to get to know their colleagues better.

Junior Professionals Programme

DG CONNECT actively supported the Junior Professionals Programme launched as a pilot under the steer of DG HR in 2018. With 3 retained candidates, DG CONNECT is one of the most represented DGs amongst the first selection of 30 Junior Professionals who started their programme in November 2018.

2.2.2. Better regulation

The policy implementation and planning unit of DG CONNECT provided support for the implementation of the Better Regulation guidelines and toolbox of July 2017 helping to strengthen guidance and coordination on policy/strategic planning activities as well as REFIT reporting and REFIT Platform input. The unit provided procedural and methodological support to impact assessments and public consultations developed within the DG. New internal procedures were introduced to clarify and streamline complex inter-departmental processes and numerous validation levels in the area of planning, stakeholder consultations and impact assessment. The unit in charge of supporting retrospective evaluations continued to provide support to units carrying out evaluations.

2.2.3. Information management aspects

During the reporting year, DG CONNECT's performance in the volume of filed Ares documents did not significantly deviate from the previous year, with a very minor percentage (0.61%) of registered documents that are not filed (annex 2, Information Management, indicator 1). The number of files shared with other DGs (14.26%) has improved but is still below the targeted indicator (annex 2, Information Management, indicator 3). This is mainly due to overall type of files covered in DG CONNECT, in addition to a very high number of sensitive policy files prepared by DG CONNECT in the past three years, which required limited access based on strict need-to-know principles. With the completion of these critical policy files, DG CONNECT will further widen the

access to files towards the planned 95% target. All units and directorate offices have received training on document registration and filing (Ares & Areslook).

DG CONNECT has further developed knowledge management practices to improve operational efficiency and organisational intelligence. In order to improve the retrievability of documents, a project for rationalisation of content and use of taxonomies was launched within the Connected collaborative platform. A Deputy Director-General of DG CONNECT is member of the Information Management Steering Board (IMSB), which steers the implementation of the Communication



on Data, Information and Knowledge Management.

As part of the IMSB work programme, the DORIS data analytics tool developed by DG CONNECT has been consolidated and integrated within the Better Regulation Portal in collaboration with DG Informatics and the Secretariat-General. This allowed speeding up the processing of thousands of stakeholder's feedback (up to five million), which would otherwise have been very costly to process manually. We have also created a single access point for data analytics services within the DG's intranet 'Connected'.

The Connected platform has been handed over to the Joint Research Centre (business ownership) and to DIGIT (system supplier). We reviewed the DG's Standard Operation Procedures and created a single access point. We progressed with the roll out the Stakeholder Relations Management (SRM) tool to enhance the management of stakeholder's data and reporting. We launched a new local data management service to do an inventory of all datasets within the DG and ensure their quality and compliance in the context of the corporate initiatives coordinated by the IMSB.

Data protection

In autumn 2018, the Commission's Data Protection Officer (DPO) set up an Action Plan to prepare all Commission services for the entry into force of the new data protection regulation n° 2018/1725²⁸ applicable to European institutions and bodies. The Action Plan was formally adopted by the College on 7 November 2018.

In accordance with the Action Plan and the DPO's guidance, DG CONNECT's Data Protection Coordinator (DPC) conducted a 'stock-taking' exercise of all data processing activities in the DG. In this context, the DPC launched a survey asking all data controllers to check whether the existing 16 data processing notifications are still relevant and to describe the processing operations in an accurate way. This exercise was completed in 2018. In addition, all Directors, the Principal Advisor and all advisors in DG CONNECT were asked to check whether any data processing operation was carried out in their remit without being covered by any existing notification. This part of the mapping exercise is still ongoing.

Furthermore, the DPC reminded DG CONNECT's management team of the importance of timely compliance with the new data protection rules.

As a result of the stock-taking exercise, three new personal data processing activities were identified and the controllers worked on draft records with the support of the DPC.

²⁸ Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC.

One draft notification was approved by the DPO in 2018. Two draft notifications were submitted to the DPO under the previous legal framework but not processed by the DPO before the entry into force of the new Regulation.

Following the entry into service of the new data protection management system, DG CONNECT's notifications are currently being converted into records on the basis of the controllers' replies to the survey. The two above-mentioned draft notifications will be converted into records as well. This exercise is ongoing and should be completed by the end of the first semester 2019.

All 16 existing notifications already included privacy statements to inform data subjects about the data processing and their rights. These privacy statements are currently being updated, as part of the conversion of notifications into records.

During the conversion of notifications into records, DG CONNECT will pay particular attention to the processing activities' legal basis and the principles of data minimisation and storage limitation. It will endeavour to ensure consistency between personal data storage periods and the corporate administrative retention periods, which are currently being reviewed.

In accordance with the DPO's Action Plan, DG CONNECT further examined whether its data processing activities restricting the rights of data subjects have an appropriate legal basis, as required by Regulation 2018/1725. The only restrictions of data subject rights identified in DG CONNECT relate to external audit activities. These activities are covered by legal provisions and are therefore compliant with the Regulation.

2.2.4. External communication activities

2018 was a busy year with a number of important legislative files and advancement on some others: namely AI, telecoms, HPC, 5G, PSI, Cyber security, AVMSD, disinformation. DG CONNECT drafted 268 texts for the press: press releases, MEMOs, statements, chapeaux etc.

Between January and December 2018, the digital agenda coverage featuring the European Commission was represented by 23 954 press articles (of which 6 238 featured in print and 17 716 in online outlets). The most visible stories of 2018 included a variety of digital topics featuring the Commission and its initiatives. Data protection / GDPR dominated the discussions, being visible in 6281 media items. VAT / Digital tax also caught attention, being mentioned in 2232 pieces, closely followed by Copyright garnering 2160 mentions. Cybersecurity and Fake News registered a similar number of mentions, respectively accounting for 1713 and 1709 media pieces. 4G / 5G accounted for 1490 items this year and Artificial Intelligence 1489. E-commerce was represented 1349 mentions, Telecoms 1262. Finally, Roaming charges remained under 1000, visible in 923 articles.

Top single stories:

1. *Press Conference - 2018 11 30 - Vice-President Ansip on New EU Regulation to End Unjustified Geo-blocking - mentioned in 221 media items*
2. *Press Release - 2018 06 06 - Digital Single Market EU Agreement on Telecom Rules - mentioned in 186 media items -*
3. *Press Conference - 2018 03 12 - Commissioner Gabriel and Professor Madeleine de Cock Buning on Fake News - mentioned in 185 media items*
4. *Press Release - 2018 03 20 - EC launches Wifi4EU portal and financing - mentioned in 184 media items*

5. *Press Conference - 2018 01 11 - Gabriel and Moedas On European Supercomputers* - mentioned in 179 media items
6. Press Release - 2018 04 25 - Commission outlines approach on ethical guidelines and investment in AI - mentioned in 160 media items.

Audio-Visual

The number and diversity of audio-visual products delivered in 2018 grew considerably compared to the previous years: a rough estimate of over 800 visuals/graphics were designed throughout 2018, including over 140 factsheets and their updates, 59 posters, 26 infographics, 26 visual identities for various initiatives/events, 41 ppt presentations and templates, and around 500 other graphic products, including visuals, badges, covers, postcards, programmes, timelines, banners, bookmarks, maps, backdrops, brochures, rollups, leaflets, social media visuals and GIFs, etc.). Overall, this represents a **333% increase** compared to similar estimates for 2017, which was possible thanks to the reinforcement of the graphic designers' team.

A total of 168 videos were uploaded on the YouTube DSM channel in 2018, which represents a 15% increase from 2017 (146 videos). The top 3 videos which gathered the biggest number of views in 2018 were [DESI 2018](#) (4 872 views), [Digital Day 2018](#) (2 319 views) and [European Supercomputers](#) (2 251 views), which was roughly the same level of viewership as top videos in 2017. 91 videos were produced in-house for the purpose of external communication: 66 in relation to the number of events (including Digital4HER, Digital Day 2, Digital Assembly in Sofia, the Code Week 2018 or the ICT 2018 in Vienna) and 25 various speeches/video messages. Internal communication also constituted a big part of in-house video production, including 37 episodes of the MT news, 10 We Are Connect videos and 16 other similar products, marking a total of 63 videos.

Overall, a slight increase of 7% of all in-house production can be noted compared to 2017 (140 products). These numbers do not include the short videos created solely for purposes of the Social Media.

ROADMAP FOR COMPLETING THE DIGITAL SINGLE MARKET

#DigitalSingleMarket

26 OUT OF 30 LEGISLATIVE PROPOSALS AGREED SO FAR:

Connectivity: 700 MHz, wholesale roaming, Wifi4EU, Telecoms Code (incl. spectrum), BEREC

e-Commerce: Consumer protection cooperation, geoblocking, VAT e-commerce (2 proposals), cross-border parcel delivery, VAT e-books, Contact rules for digital content and goods (2 proposals)

Media/copyright: Portability of online content, Marrakesh Treaty (2 proposals), audiovisual media services directive, Broadcasting (SatCab)

Trust: Data protection rules for EU Institutions, .eu, Cybersecurity Act, non-cash payments

Data: Free flow of data, high-performance computing, Public sector information

e-Gov: Single Digital Gateway

LOADING (26/30)



Updated 29 January 2019

State-of-play
Council

Jan-Jun 2019
RO Presidency



Making it easier to buy and sell online across borders, ensuring fairness and transparency

| | | | |
|-------------------|---------------------------------|--|--------------|
| E-COMMERCE | Contract rules digital content* | General approach reached (MT Presidency) | Agreed ✓ |
| | Contract rules - goods* | General approach reached (AT Presidency) | Agreed ✓ |
| | Platform-to-business* | General approach reached (AT Presidency) | To be agreed |

Providing wider choice and access to content across borders, especially for education and research

| | | | |
|--------------|------------|---|--------------|
| MEDIA | Copyright* | Negotiating mandate reached** (BG Presidency) | To be agreed |
|--------------|------------|---|--------------|

Strengthening trust and EU's capacity to respond to cyberattacks

| | | | |
|--------------|---|--|---|
| TRUST | e-Privacy* | | To be agreed |
| | European Cybersecurity Competence Network | | Partial general approach to be reached*** |

Ensuring the free flow of non-personal data and building first-class supercomputers

| | | | |
|-------------|----------------------------|---|----------|
| DATA | Public sector information* | Negotiating mandate reached** (AT Presidency) | Agreed ✓ |
|-------------|----------------------------|---|----------|

*Commission's proposals on which European Parliament's Committees have adopted report or opinion **Negotiating mandate given by the Council's main preparatory body (Coreper) ***Final agreement on the file can be reached as part of the MFF negotiations

This roadmap shows the Commission's expectations for progress in order to complete the Digital Single Market, as expressed in the Commission's Communication of 15 May 2018: all pending proposals should be agreed by the end of the current legislative cycle, in line with the call of the European Council of June 2018.

DSM website

The readership increased by 8.6% comparing to 2017 to median of 7 753 unique browser every day (it corresponds to 3.131 million visits or 6.801 million page views).

The most popular content was related to Wifi4EU, DESI, Roaming, GDPR, ICT 2018 and NIS directive; c.f. list of the ten most viewed pages.

1. *WiFi4EU | Free Wi-Fi for Europeans*
2. *The Digital Economy and Society Index (DESI)*
3. *WiFi4EU - Questions and Answers*
4. *Question and Answers | Roaming*
5. *ICT 2018: Imagine Digital - Connect Europe*
6. *The Directive on security of network and information systems (NIS Directive)*
7. *The list of eligible entities for WiFi4EU's first call*
8. *Proposal for an ePrivacy Regulation*
9. *WiFi4EU | Wi-fi gratuito per gli europei*
10. *Proposal for a Regulation on Privacy and Electronic Communications*

Leaving Belgium aside (where most EU institutions and lobbies are), the top **ten countries by number of visits** were United Kingdom, Italy, Germany, Spain, United States, France, Netherlands, Greece, Romania and Austria.

DG CONNECT's twitter accounts gained 33 600 new followers ([@DSMeu](#) with a total number of 87 600 followers is the first thematic account of the Commission). Our audience expanded to younger groups. The DSM twitter account is in the top 10 of all the Commission accounts in terms of growth. Some **800 visuals/graphics** were designed throughout 2018. This represents a **333% increase** compared to 2017. **168 videos** were produced and uploaded on the YouTube DSM channel. The top 3 videos which gathered the biggest number of views in 2018 were [DESI 2018](#), [Digital Day 2018](#) and [European Supercomputers](#). The **DSM Web** reached 3.131 million visits. The most popular content was related to **WiFi4EU, DESI, Roaming, GDPR** and **ICT 2018**.

THE EXAMPLES OF ECONOMY AND EFFICIENCY

In line with the prior analysis carried out within the context of the Synergies and Efficiencies Review, DG CONNECT has launched pilot projects and adopted some measures, which were pursued in 2018, in order to optimize the use of resources and improve efficiency, thus contributing to a leaner, less bureaucratic, better integrated and more flexible Commission. (see DG CONNECT Management Plan 2018 - Part 2 - Section F)

This includes focussing resources on frontline activities by **minimising the number of full time equivalents working in support functions** by internally redeploying support functions in order to strive towards a more balanced and reasonable level of support, in accordance with the targets agreed with DG HR. The yearly target for 2018 amounted to 30 Full Time Equivalents and the cumulative target 2016-2018 amounted to 75 Full Time Equivalents.

As an outcome of the above-mentioned Review, the HR function across the Commission is being modernised and largely centralised. Within this context, DG CONNECT has participated to the launch of the second pilot phase that started in February 2017 and was extended over 2018. More specifically, beyond the savings of 17 Full Time Equivalents, DG CONNECT discussed proposals and made recommendations on the new processes and HR governance structure, contributing to synergies and efficiencies in the areas of HR management across the Commission.

In addition, DG CONNECT proposed some organisation chart changes which entered into force on 1 July 2018.

The proposed adjustment of the organisation chart intended to achieve a better alignment of DG CONNECT's organisational structure with the Commission priorities set out by President Juncker, while meeting the HR requirements as regards synergies and efficiency gains and contributing to the implementation of the political agreement to gradually increase Commission staff and services in Luxembourg as of 2018.

In particular, DG CONNECT reinforced its entities dealing with Cybersecurity, in light of the increased role of DG CONNECT resulting from the new package of policy measures for increasing cybersecurity in Europe and stepping up the fight against cybercrime, as announced by President Juncker in his State of the Union speech on 13 September 2017. In order to balance the size of the Directorates, the proposal also entailed the merger of the former entities R1 'HR Business Correspondent & Support Services' and R2 'Budget & Finance' to focus their activities on (human and financial) budgetary resources management, allowing for further synergies and efficiency gains.