



Management Plan 2018

Directorate-General for
Communications Networks,
Content and Technology



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With 360 million Europeans using the internet every day to work, study, shop or stay connected, a Connected Digital Single Market (DSM) is one of the top priorities of the Commission's mandate. The DSM is one of Europe's main engines for growth and job creation and a key to investment and increasing European competitiveness.

Building on the conclusions of the Tallinn Digital Summit of 29 September 2017, the October 2017 European Council agreed a series of priorities to build a successful digital Europe, such as bringing governments and public sectors fully into the digital age, completing the digital single market strategy by the end of 2018 and adopting a common approach to cybersecurity. EU leaders emphasised the need for investment in digital skills, for a determined Research and Development and investment effort and a sense of urgency to address emerging trends such as artificial intelligence.

In May 2018 the Commission will make a comprehensive proposal for the next multi-annual EU budget, followed by proposals for the next generation of programmes. In this context DG CONNECT actively looks into possibilities to best support the DSM and to meet ICT and digital investment needs. This will require the preparation of possible successor programmes to Horizon 2020, to the Connecting Europe Facility (CEF) and to the Media subprogramme of Creative Europe as well as accommodating emerging digital needs, such as cybersecurity and digital skills. In addition, the 2017 review of the DSM Strategy showed the need for further investment in digital infrastructure and technologies in areas going far beyond the capacity of single Member States, such as high-performance computing.

The present Management Plan implements the strategic priorities set out in DG CONNECT's Strategic Plan 2016-2020.

The first overarching goal is to complete very quickly the three pillars of the Digital Single Market, as set out in the 2015 Strategy: 1) improving access to online goods and services across Europe, 2) digital networks and innovative services and 3) maximizing the growth potential of the Digital Economy.

"A Connected Digital Single Market" is the first General Objective of DG CONNECT, which is translated into five Specific Objectives embodying a detailed set of actions, which all contribute to it in an integrated and consistent way.

The delivery of the specific outputs will create the conditions whereby European citizens can enjoy the same access to high quality digital services across borders, and where European companies can compete globally, start-ups and Small and Medium-sized Enterprises (SMEs) can grow, and the results of European Research & Innovation (R&I) investment can be translated into successful products and services on world markets.

One of the 2018 priorities of President Juncker set out in his State of the Union Address is to better protect Europeans in the digital age. He added that cyber-attacks can be more dangerous to the stability of democracies and economies than guns and tanks. The Commission proposed to re-orient and focus the work of ENISA to become the European Union Cybersecurity Agency. In line with the 2017 Communication on Resilience, Deterrence and Defence: building strong cybersecurity for the EU, DG CONNECT will prepare the setting up of a network of cybersecurity competence centres.

The 2017 mid-term review of the Digital Single Market Strategy shows that the Commission has delivered all main initiatives for building a DSM announced in the Strategy. The focus is now on obtaining political agreement with the European Parliament and the Council on all proposals before the end of the EP mandate. DG CONNECT will facilitate negotiations

between the co-legislators to advance swiftly on the proposals already put forward, notably on the Electronic Communications Code, the proposed copyright reform, and the Digital Content Directive. Europe needs reinforced cooperation on spectrum management with the aim of achieving world-class, very high-speed fixed and mobile networks (5G). It also needs increased coordinated availability of spectrum by 2020 under consistent regulatory and economic conditions. All these proposals are priorities for the Commission. The review also sets out a clear digital policy narrative, in particular as regards the relationship between the Strategy and services digitisation, complemented by a strong push for investment in digital technology and orientations for actions on data, skills and high performance computing.

DG CONNECT will prepare an initiative announced by President Juncker in the Commission Work Programme (CWP) 2018, addressing the challenges which online platforms create for our democracies with regards to the spreading of fake information, an initiative on accessibility and reuse of public and publicly funded data, a proposal on fairness in platform-to-business relations and revised guidelines on market analysis and the assessment of significant market power in the electronic communications sector. Finally, DG CONNECT is considering revising the ".eu" top-level domain Regulations and the modernisation of the Public Sector Information (PSI) Directive under the REFIT Programme.

In addition to legislation, the DSM Strategy also calls for measures to coordinate activities on EU and national level to enhance competitiveness of the EU industry and to make the most of the opportunities presented by new technologies such as high performance computing, autonomous cars, 5G and artificial intelligence.

The second overarching goal is to foster European Information and Communication Technologies (ICT) research, development and innovation and to boost investment.

Investing in ICT Research and Innovation (R&I) is one of the main instruments that will allow the EU to have a prominent role at a global level and contribute to economic growth and sustainability. The DSM Strategy impacts all pillars of ICT R&I, and therefore targeted R&I investments will support DSM implementation. Both policy actions and R&I investment activities are included within the specific objectives and must be mutually supportive of these objectives. In other words, Horizon 2020 and CEF projects, in particular Public Private Partnerships (PPPs) and H2020 Focus Areas, play an important role in supporting the policies designed and managed by DG CONNECT and, conversely, the new policies underpin decision making regarding R&I priorities (e.g. data economy, cybersecurity, industrial leadership). The delivery of the specific outputs, detailed in this management plan, will boost the new digital technologies that are the engines of economic growth.

"A New Boost for Jobs, Growth and Investment" is DG CONNECT's second General Objective, which is implemented through two Specific Objectives comprising a number of actions.

The Horizon 2020 work programme for the period 2018 to 2020 takes account of the extensive 2017 interim evaluation of the programme. The work programme now focuses on fewer topics and directly supports the Commission's political priorities. The total share of the Horizon 2020 work programme 2018-20, for which DG CONNECT is responsible, amounts to 6,3 billion EUR. This includes 1.7 billion EUR for 'Digitising and transforming European industry and services' actions.

The major contractual PPPs play a strategic role and are of key importance in the support to ICT across all parts of Horizon 2020. They contribute to a better alignment of EU support to ICT R&I with industrial strategies and to a defragmentation of this support in the fields of 5G, big data, robotics, photonics, micro-electronics, manufacturing technologies (Factories of the Future), high performance computing and cybersecurity.

Future and Emerging Technologies (FET) activities aim to create in Europe a fertile ground for responsible and dynamic multi-disciplinary collaboration on future technologies and for kick-starting new European research and innovation ecosystems around them. These are the precursors for future industrial leadership and for tackling society's grand challenges in new ways. The 2013-2020 work programme continues to implement the three lines of activity: FET Open, FET Proactive, including the FET Proactive Initiative on High Performance Computing, and the FET Flagships "Graphene" and "Human Brain Project".

The comprehensive nature of the DSM strategy has considerably increased the EU's capacity to influence the global debates around the digital transformation, and its capacity to ensure leadership on the digital market. Work with international partners therefore takes place in three main areas: i) regulation, where we work with governments, regulators and other stakeholders to promote a regulatory system in our partner countries that is close to and/or compatible with the EU legal framework, ii) market access, where we seek to remove barriers in third countries and iii) coherence with our research, where we work to implement a coherent approach between our regulatory, policy and research initiatives (e.g. access to research programmes).



Relevant general objective: A Connected Digital Single Market

Following the adoption of the Communication on the Mid-Term Review on the implementation of the Digital Single Market Strategy - A Connected Digital Single Market for All in May 2017, the Commission called for swift agreements by the European Parliament and



the Council on the proposals under the DSM Strategy and for all parties to ensure that the measures proposed are rapidly adopted and implemented to allow people and businesses in the EU to fully benefit from a functional DSM. The Commission further identified three main areas where further EU action is needed: (1) to develop the European Data Economy to its full potential, (2) to protect Europe's assets by tackling cybersecurity challenges, and (3) to promote the online platforms as responsible players of a fair internet ecosystem.

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

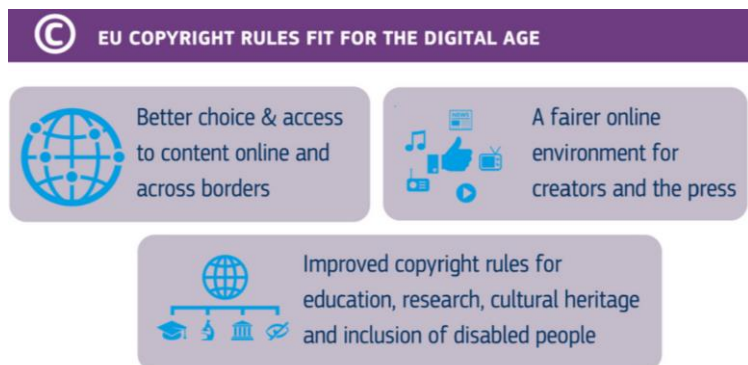
Related to spending programme(s): Creative Europe MEDIA



Following intensive negotiations between the co-legislators, political agreement on a Regulation to **put an end to unjustified geo-blocking** has been achieved in November 2017. Removing such discrimination and getting companies to change their current behaviour online will bring significant benefits to European consumers, such as improved access to information and wider choice.

In 2016 the Commission tabled proposals to adapt the **EU copyright rules to the realities of the DSM**. The Regulation on TV and radio transmissions and retransmissions and the Directive on copyright in the DSM will, together, ensure i) better choice and access to content online and across borders,

ii) improved copyright rules on research, education and preservation of cultural heritage, and iii) a fairer and sustainable marketplace for creators, the creative industries and the press. DG CONNECT will continue facilitating the negotiations between the co-legislators to ensure good progress and reach a political agreement on these legislative proposals by mid-2018.



Ensuring wider access to content online across Europe is a matter of combining regulation with a wider array of policy instruments. Following the mid-term evaluation of Creative Europe MEDIA, DG CONNECT is looking into a possible successor programme within the framework of the next multi-annual financial framework, with a view to facilitating the further adaptation of the audiovisual industry to the DSM and connecting citizens through culturally diverse content. In particular, the scaling up and consolidation of the audiovisual industry will be crucial in a more open and integrated market. Industry needs to step up investment in innovative models of distribution and promotion of works which combine traditional cinema and TV with digital. By reaching out to broader and younger audiences, European audiovisual has the potential to encourage cultural and linguistic diversity and EU support offers a strong potential for engaging with the citizens and strengthening European identity.

Good progress has been made through the European Film Forum, and in cooperation with the European Audiovisual Observatory and the EU Intellectual Property Office on accompanying measures launched in 2015 to the packages of copyright reforms. In 2018, implementation of the accompanying measures will include 1) actions on enhancing cross-border offers of European films, such as reviewing the MEDIA distribution scheme and improving access to film heritage in the context of the 2018 European Year of Cultural Heritage and 2) actions promoting European films available online, such as launching a European films week for educational purposes and supporting the Open Method of Coordination platform of dialogue with Member States' experts. Also, the Commission will support the implementation of the Animation Plan for Europe adopted by industry, with the objectives of fostering the global reach of European animation, making Europe an attractive workplace and making access to finance easier.

Over the past decade, the Top Level Domain (TLD) market place has undergone significant changes that provide both strategic challenges and opportunities for the **".eu" Top Level Domain**. An evaluation of the two ".eu" TLD Regulations will be finalised in 2018. Depending on the result of this evaluation, a revision of TLD Regulations may be submitted for adoption by the Commission. Furthermore, EU presence will be ensured in a number of high-level events such as the EuroDIG conference, an Internet Corporation for Assigned Names and Numbers (ICANN) ministerial event and the Internet Governance Forum 2018.

Main outputs in 2018:

All new initiatives and REFIT initiatives from the Commission Work Programme

Output	Indicator	Target date
<i>Legislative proposals for a revision of Regulation (EC) 733/2002 establishing the ".eu" TLD and Regulation (EC) 874/2004 laying down public policy rules concerning the implementation and functions of the ".eu" TLD.</i>	<i>Adoption by the Commission.</i>	<i>Q2 2018 (2017/CNECT/006) (CWP2017)</i>

Important items from work programmes/financing decisions/operational programmes

Output	Indicator	Target date
<i>Creative Europe MEDIA Work Programme 2019 following up the mid-term evaluation.</i>	<i>Adoption by the Commission.</i>	<i>Q2 2018</i>
<i>Adoption of a Commission Delegated Act on supplementary performance indicators for the Creative Europe Programme.</i>	<i>Adoption by the Commission.</i>	<i>Q4 2018</i>

<i>Strategic stakeholder dialogue through the European Film Forum and national film funds on accompanying measures.</i>	<i>Holding 7 events in film festivals in 2018.</i>	<i>Q4 2018</i>
Other important outputs		
Output	Indicator	Target date
<i>Directive on copyright in the DSM.</i>	<i>Adoption by the co-legislators.</i>	<i>Q3 2018</i>
<i>Regulation applicable to certain online transmissions of broadcasting organisations and retransmissions of television and radio programmes.</i>	<i>Adoption by the co-legislators.</i>	<i>Q3 2018</i>

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



As set out in his State of the Union Address 2018, President Juncker committed the Commission to better protect Europeans in the digital age by helping to defend against cyber-attacks. cybersecurity is also fundamental to the effective functioning of the DSM. The Commission presented in September 2017 a proposal for a **Regulation on the new mandate of ENISA, the EU Cybersecurity Agency, and establishing an EU cybersecurity certification framework**, which will be negotiated with the co-legislator.

DG CONNECT will work on the initiative of establishing the cybersecurity competence network with a **European Cybersecurity Research and Competence Centre** at its heart, for which EUR 50 Mio are earmarked in the H2020 work programme 2018. DG CONNECT will kick off the pilot phase bringing national centres together in a network, with support from H2020 funds and it will build on the initial preparatory activities conducted together with the JRC. DG CONNECT will also launch an impact assessment to study the possibility for a Commission proposal establishing a European Cybersecurity Research and Competence Centre.



The Directive on security of network and information systems (NIS Directive) is the first comprehensive piece of EU legislation in this area. Member States are required to complete its transposition into national law by 9 May 2018 and to identify all operators of essential services by 9 November 2018. DG CONNECT will monitor the transposition and implementation of the Directive and will continue to support, in its role as secretariat, the work of the Group for EU strategic cooperation on cybersecurity established under the NIS Directive.

For the **European Electronic Communications Code and the BEREC Regulation**, DG CONNECT will support the negotiations between the co-legislators with the view to achieving a political agreement in the first half of 2018. The new rules are expected to 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.

Roam-like-at-home rules entered into force on 15 June 2017. DG CONNECT will prepare an interim report to the EP and Council on the effects of Roam-like-at-home by the end of 2018, and conduct first analyses that will form part of the review report due by the end of 2019.



Following the review of the 2009 Commission Recommendation on the regulatory treatment of **fixed and mobile termination rates** in the EU, DG CONNECT is considering a possible proposal to render the principles of the Recommendation binding to ensure that these rates are calculated in all Member States on the basis of a harmonised methodology.

The 2002 Commission guidelines on market analysis and the assessment of Significant Market Power in the electronic communications sector (SMP guidelines) set out the principles for use by National Regulatory Authorities in the analysis of markets and effective competition under the regulatory framework for electronic communications. A Commission Communication setting out **revised SMP guidelines** is planned to be adopted in 2018.

National Regulatory Authorities use the Weighted Average Cost of Capital (WACC) to calculate the return on investments in telecoms networks in ex-ante regulatory proceedings. DG CONNECT works towards a **Commission Notice** presenting the approach **for the determination of the WACC** which the Commission will use when assessing draft regulatory decisions from National Regulatory Authorities under the Framework Directive.

By July 2018, DG CONNECT will prepare a report on the implementation of the **Broadband Cost Reduction Directive**, which promotes the roll-out of high-speed communication networks by reducing the cost of building the new networks, incentivising cooperation across sectors and exploiting synergies (e.g. with energy, water, transport).

DG CONNECT will support the efforts of the co-legislators to adopt the **Regulation on Privacy and Electronic Communications** by May 2018, in time to ensure a consistent legal framework for privacy and data protection in the EU, as the Regulation will be a *lex specialis* to the General Data Protection Regulation (GDPR) that will apply as of 25 May 2018. The new rules are aligned with the GDPR and are expected to bring a level-playing field to the sector of electronic communications.

The 2016 Communication on **Online Platforms** committed the Commission to a number of specific follow-up actions, in particular a) an investigation into potentially unfair business-to-business (B2B) trading practices of online platforms which may cause specific and identifiable harm to innovation or to the wider European economy (legislative proposal scheduled for adoption early 2018) and b) an examination of the need for guidance on the

Part 1. Main outputs for the year

liability of online platforms to encourage and support voluntary measures adopted by online intermediaries to fight against illegal online content (also adopted in September 2017). The latter guidance announced possible follow-up measures for 2018 depending on the result of an ongoing evidence gathering.

DG CONNECT will **evaluate Directive 96/9/EC on the legal protection of databases (REFIT)** to analyse the functioning of the Directive, with a special focus on the *sui generis* protection of databases. It will also examine whether the Directive is still fit-for-purpose in view of recent technological, economic and legal developments, in particular in an increasingly data-driven economy.

Main outputs in 2018:		
All new initiatives and REFIT initiatives from the Commission Work Programme		
Output	Indicator	Target date
<i>Legislative proposal on fairness in platform-to-business relations.</i>	<i>Adoption by the Commission.</i>	<i>Q1 2018 (PLAN/2017/1375)</i>
<i>Review of the Significant Market Power guidelines.</i>	<i>Adoption by the Commission.</i>	<i>Q2 2018 (2017/CNECT/011)</i>
Important items from work programmes/financing decisions/operational programmes		
Output	Indicator	Target date
<i>Commission proposal establishing the Network of cybersecurity competence centres and European Cybersecurity Research and Competence Centre.</i>	<i>Adoption by the Commission.</i>	<i>Q2/Q3 2018 (PLAN/2017/1743)</i>
<i>Evaluation of the Directive 96/9/EC on the legal protection of databases.</i>	<i>Adoption of the Evaluation Report (SWD).</i>	<i>Q2 2018 (2017/CNECT/004)</i>
Other important outputs		
Output	Indicator	Target date
<i>Adoption of a Commission Decision (under Article 19 Framework Directive) on fixed and mobile termination rates in the EU.</i>	<i>Adoption by the Commission.</i>	<i>Q3 2018 (2017/CNECT/012)</i>
<i>Legislative proposals for a European Electronic Communications Code and a new BEREC Regulation.</i>	<i>Political agreement of the co-legislator.</i>	<i>Q2 2018</i>
<i>Commission Notice on the Weighted Average Cost of Capital (WACC).</i>	<i>Adoption by the Commission.</i>	<i>Q2 2018 (PLAN/2017/1800)</i>
<i>Report to the EP and Council on the implementation of Directive 2014/61/EU.</i>	<i>Adoption by the Commission.</i>	<i>Q2 2018 (PLAN/2017/1573)</i>
<i>Legislative proposal on Privacy and Electronic Communications.</i>	<i>Adoption by the co-legislators.</i>	<i>Q2 2018</i>

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



The **High Performance Computing (HPC) initiative** was launched as part of the Digitising European Industry strategy in April 2016. It aims at establishing a



world-class HPC ecosystem in Europe, acquiring leadership-class supercomputers which secure Europe's own independent HPC technology and system supply, and deploying HPC services for science, the public sector, industry and SMEs. DG CONNECT will coordinate national and European efforts in developing and procuring pre-exascale and continue developing exascale supercomputers. The HPC initiative is being implemented through two main tracks:

- Launching calls for proposals under H2020 and CEF in the years 2018-19 to develop the next generation of key HPC technologies and systems towards exascale; provide access to world-class supercomputing facilities and services for academia and industry; achieving excellence in HPC applications, and preparing and widening HPC use.
- Establishing a legal and financial instrument in line with the 2017 EuroHPC Declaration, aiming at pooling Member States' investments with adequate EU financing to close the chain from R&D to the procurement of exascale HPC systems co-designed by users and suppliers and based on competitive European technologies. It will support data-intensive advanced applications and services and help develop a thriving HPC ecosystem (in terms of hardware, software, applications, services, interconnections and skills). Negotiations with the Council will start at the beginning of 2018 and should be finalized before the end of the year to have the Joint Undertaking starting its operations at the beginning of 2019.



The 2016 Communication **"European Cloud Initiative - Building a competitive data and knowledge economy in Europe"** proposed a **European Open Science Cloud (EOSC)**, a European Data Infrastructure and gradually widening the user base

of the Science Cloud and Data Infrastructure to the public sector and building trust. Implementation started through the Horizon 2020 Work Programme 2015-16 for ICT-based infrastructures (eInfrastructures) and will be continued with the Work Programme 2018-20 by a strengthened consolidation of the existing pan-European eInfrastructure. In particular, a collaboration agreement by the first group of consolidated e-infrastructure projects and the kick-off of the EOSC-hub project are scheduled for early 2018.

A review of the 2012 **recommendation on scientific information** will be based on the evaluation performed on its current implementation across the EU. The initiative will draw on several inputs such as: Inputs from the group of National Points of Reference on Scientific Information (NPR) co-managed by DG CONNECT and DG Research and Innovation, a public online consultation on the review of the Public Sector Information Directive performed by DG CONNECT and the study supporting the review of the PSI Directive as well as by various projects performed by the Joint Research Centre on Open Data and by DG Research and Innovation with expert groups.

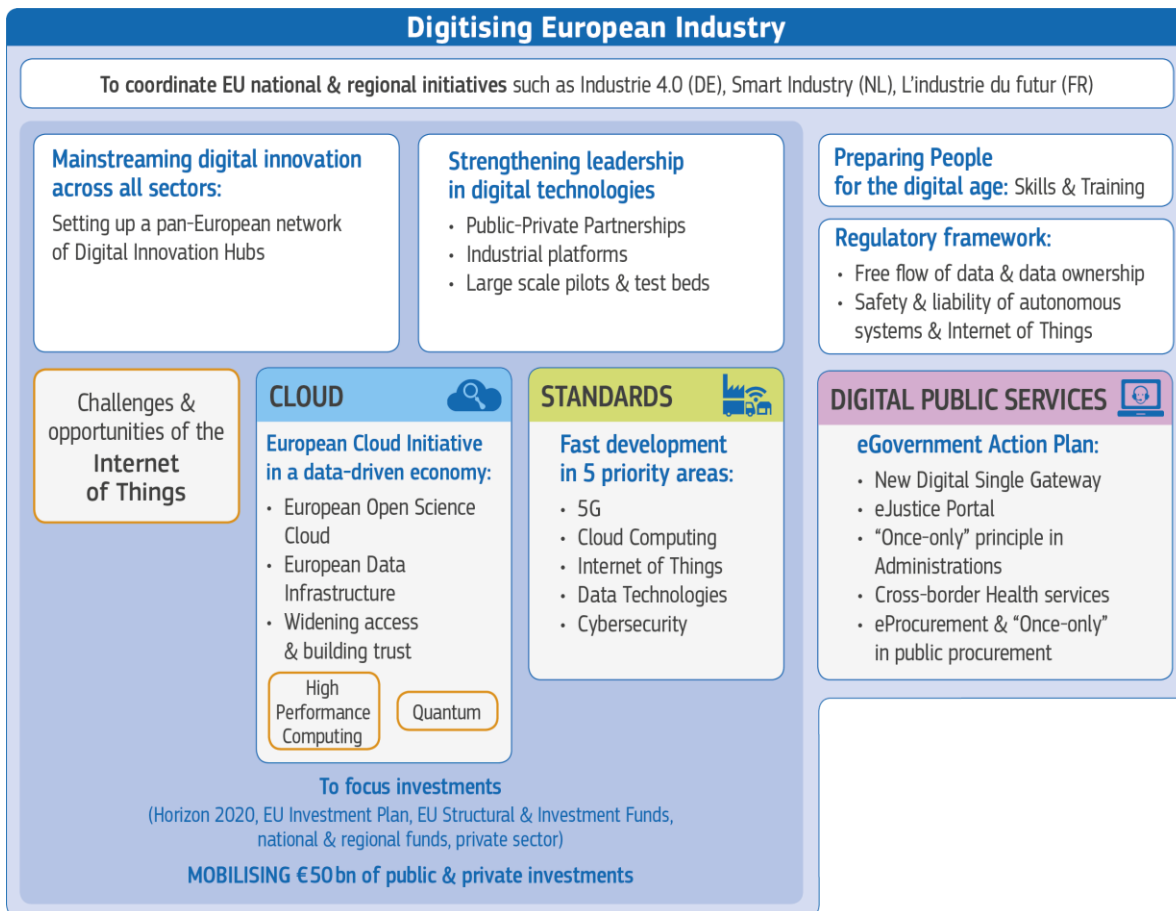


Following the proposal of a **Regulation on a framework for the free flow of non-personal data in the EU** of 13 September 2017, DG CONNECT will seek the adoption by the co-legislators in 2018. A DSM cloud stakeholder platform will be launched to start developing a code of conduct on the conditions under which users can port data between cloud service providers and back into their own IT environments; to explore aspects of

cloud computing security certification and to pursue the self-regulation effort of industry on model contracts.

In line with the preliminary assessment of the Task-Force on Fintech and based on the outcomes of the public consultation, DG Financial Stability, Financial Services and Capital Markets Union and DG CONNECT will table a Communication that lays out the actions needed at EU level to harness the benefits of technological innovation for the European financial sector together with a legislative proposal on crowdfunding. The communication will address blockchain as a technology deserving specific attention far beyond the financial sector and additional actions will be prepared in support of blockchain during 2018.

The governance framework of the **Digitising European Industry (DEI) strategy** has been put in place with the European platform of national initiative, roundtables, stakeholder fora and specific mission-oriented working groups, which have delivered their initial reports. The Leadership in Enabling and Industrial Technologies (LEIT)-ICT part of the H2020 Work Programme 2018-20 devotes substantial resources towards the implementation of the DEI strategy and in particular focuses on digital **innovation hubs and digital industrial platforms** with first projects starting in 2018. Moreover, the setting up of a digitisation fund dedicated to financing digital transformation of industry, in particular SMEs, will be explored.



In important application areas such as cybersecurity, digitising healthcare, and public administration services, DG CONNECT supports the **development of pan-European digital infrastructures** in support of the Single Market, in particular from CEF. The 3rd Mobility Package and the Digital Day 2 will be important occasions to take stock of the work done with industry and Member States on supporting the deployment of Connected Automated Driving and next steps towards setting a European framework for all relevant digital issues. This should be underpinned by a coordinated call in 2018 under CEF Transport and CEF Digital. In eHealth, a Commission Communication to be adopted by early-2018 will define the next steps on an initiative on DigiCare, focusing inter alia on the interoperability and portability of electronic health records. This will be underpinned by continued support to a dedicated digital service infrastructure under CEF. In cybersecurity, the CEF programme will continue to support the functioning of the network of C-SIRTs set up by the NIS Directive and will start to support compliance with the Directive by operators of critical infrastructures.

The future flagship initiative **Next Generation Internet** launched in 2016, takes a fresh look at resolving the concerns of citizens and businesses, notably around security and privacy but also in the ever-increasing centralisation of power within a few actors. The Internet should offer more to people and to our society, providing better services and greater involvement and participation and should be designed for humans, so that it can meet its full potential for society and economy and reflect the social and ethical values that we enjoy in our societies. Work will focus now on launching the first set of projects, strengthening the rationale and support for a long-term initiative in this domain, reviewing the work of the Future Internet Forum and building a cooperation strategy across Member States, validating the new approach focusing on smaller scale individual research and innovation by brilliant academics, hi-tech startups and SMEs. Overall, the initiative will move from pathfinding into

piloting in view of proving the concept and gaining Europe-wide support.

Artificial intelligence is emerging as an area of strategic importance for the digital economy. To ensure Europe's competitiveness in this technology and facilitate its uptake by society, DG CONNECT works on a comprehensive strategy for Robotics and artificial intelligence in Europe, addressing three elements: 1) Building up Europe's technological and industrial capacity in artificial intelligence and facilitating its uptake; 2) Addressing new ethical, societal and legal issues; 3) Tackling emerging socio-economic challenges. A Commission Communication on artificial Intelligence is scheduled for April 2018. With respect to building up Europe's technological capacity in artificial intelligence, it will be particularly important to launch an AI-on-demand platform that makes artificial intelligence widely available and democratises access to this technology.

In the **Internet of Things (IoT)** cross-cutting domain, 5 large scale pilots (including smart living environments for ageing well, smart farming and food security, wearables for smart ecosystems, reference zones in EU cities and autonomous vehicles in a connected environment) plus a horizontal support action will continue their work in 2018 involving all value-chain actors and ensuring the longer-term evolution of the IoT. These pilots are also relevant for the work of the Alliance for Internet of Things Innovation (AIOTI), the DSM (link to hubs, platforms, skills, regulation) and the IoT-European Platforms Initiative. By the end of 2018, this work should validate emerging standards frameworks and testing of innovative business models through the implementation and usage of IoT technology.

Smart mobility action will continue to focus on **Cooperative, Connected and Automated Mobility (CCAM)** and more specifically on integration with the developments that are essential for the future of the sector such as 5G, IoT and the data economy. Main policy vehicles include the Letter of Intent on cross-border testing and demonstration, the Round Table on CCAM and its deriving initiatives: the industry-led project of the European Alliance between Telecom and Automotive and the 5G testbeds supported by Member States and the Commission to foster and scale-up the work done by the Alliance. DG CONNECT will closely collaborate with DG Internal Market, Industry, Entrepreneurship and SMEs, DG Mobility and Transport, DG Research and Innovation and DG Justice and Consumers as well as public and private stakeholders building on the momentum created by the signature at ministerial level of the Letter of Intent and the subsequent identification of CCAM corridor test sections, which will be used by 5G cross border trials as part of the 5G PPP initiative. In collaboration with the relevant services, DG CONNECT will contribute to the third Mobility Package that will deal with CCAM in depth, scheduled for the second quarter of 2018. Where necessary, DG CONNECT will initiate additional instruments that complement the current set of rules in the light of the call from Member States, such as indicated in the conclusion of the September 2017 High Level Structural Dialogue, the Council Conclusions on the digitalisation of transport and the 5G road map.

The 5G Public Private Partnership (5G PPP) has emerged as the European structuring initiative to support the development of 5G in Europe and to prepare for its deployment in line with the 5G Action Plan. The 5G PPP will launch, for a wide range of 5G use cases, a large scale validation platform for industrial actors to further support pilot trials with vertical industries. This Europe wide platform will provide European industry with a 5G validation tool both from a technological and business perspective, in cooperation with other leading regions of the world.

Common ICT Standards are needed to ensure interoperability and reap all benefits of the DSM. DG CONNECT will continue supporting through H2020 and CEF, and in collaboration with the PPPs, the development of the necessary standards, in particular in the priority areas of 5G, IoT, Cloud, Data and Cybersecurity, which will impact other sectors such as smart cities or connected and automated vehicles. DG CONNECT will prepare an interinstitutional dialogue to optimise the

European Standardisation System to keep it fit for purpose, identify new priorities and improve standardisation support for the digitisation of the economy.

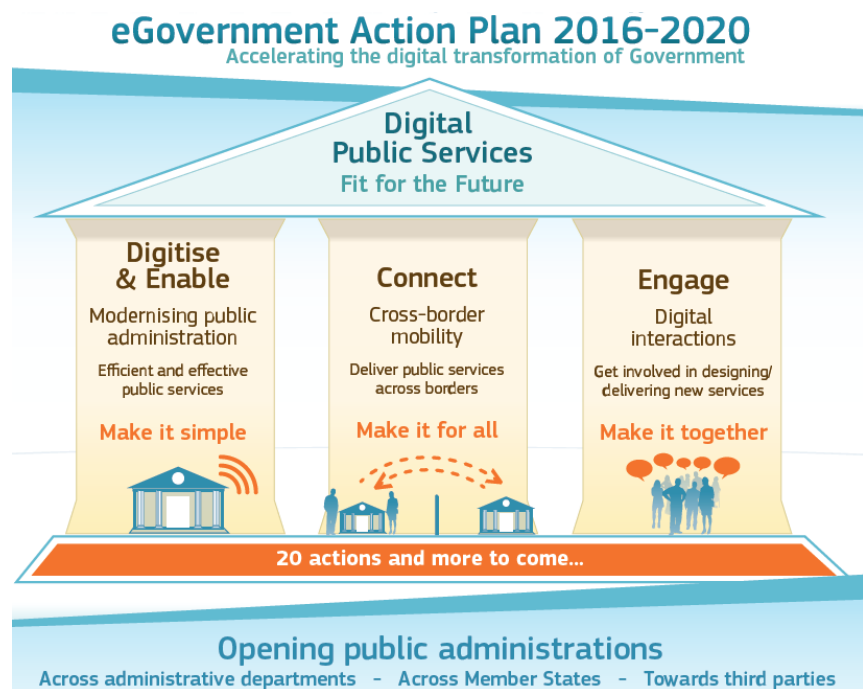
The **eGovernment Action Plan 2016-2020**, which will be subject to a mid-term review in 2018, acts as a catalyst to coordinate public sector modernisation efforts in the field of eGovernment. The focus is on implementing the action plan and action lines resulting from the Tallinn Ministerial Declaration on eGovernment of 6 October 2017, with the support of

funding programmes (H2020, CEF) and engaging with external stakeholders, in particular with local and regional authorities via the eGOV4EU stakeholder engagement platform, policy guidance documents and public events. The on-going large scale pilot with Member States will develop and validate the application at the EU level of the 'Once Only Principle' for business. Once the Single Digital Gateway Regulation is adopted, DG CONNECT will work with other DGs on the implementing act of Article 12, to define the implementation of the 'Once Only Principle'.

The 2017 mid-term review of the DSM Strategy announced a package of measures to enhance access to and re-use of public and publicly funded data to be adopted in 2018. The package will focus on the further opening up of data produced by public or publicly-funded entities, and will include the proposal for a **revision of Directive 2013/37/EU on the re-use of public sector information** – the cornerstone of the EU's Open Data strategy. Facilitated and harmonised access to European public information will continue to be supported by the Digital Service Infrastructure on Public Open Data under the CEF telecom programme.

To enable all Europeans to reap the full benefits of digital technology, whether they are consumers or in the workplace, they need to have the right level of **digital skills**. The Commission will develop solutions and actions to boost digital skills through the Digital Skills and Jobs Initiative, in close collaboration with Member States and stakeholders. In addition, the Digital Opportunity pilot promoting cross-border traineeships in digital domains, funded with 10 million euros from Horizon 2020 and implemented through Erasmus+, will offer up to 6,000 students and recent graduates the opportunity to go abroad to gain work experience and digital skills in areas like Artificial Intelligence, cybersecurity, HPC/ Quantum, big data, blockchain and programming. The traineeships will take place during 2018-20.

DG Education and Culture and DG CONNECT are preparing jointly a Communication on an Action Plan on the Future of Learning, with the objective to identify a set of actions to support the digital transformation and modernisation of education and training systems. The Communication will look at the challenges and opportunities education systems are facing in the digital age, including how education can better adapt to a rapidly changing labour market



Part 1. Main outputs for the year

and the need to focus activities on specific populations who are underrepresented in the sector such as women and girls.

Main outputs in 2018:		
All new initiatives and REFIT initiatives from the Commission Work Programme		
Output	Indicator	Target date
<i>Review of Directive 2013/37/EU on the re-use of public sector information (REFIT).</i>	<i>Adoption by the Commission.</i>	<i>Q2 2018 (PLAN/2017/1391)</i>
<i>Actions at EU level to harness the benefits of technological innovation for the European financial sector.</i>	<i>Adoption by the Commission.</i>	<i>Q1 2018 (PLAN/2017/635)</i>
Important items from work programmes/financing decisions/operational programmes		
Output	Indicator	Target date
<i>Commission proposal on the Council regulation for setting up the EuroHPC Joint Undertaking.</i>	<i>Adoption by the Commission</i>	<i>Q1 2018 (PLAN/2017/1304)</i>
	<i>Adoption by the Council.</i>	<i>Q4 2018</i>
<i>Implementation of the HPC strategy: - Developing a European low-power microprocessor - Pan-European HPC infrastructure and services (PRACE) - HPC Centres of Excellence.</i>	<i>Signature of grants.</i>	<i>Q4 2018</i>
<i>Implementing the Digitising European Industry (DEI) strategy.</i>	<i>Launching DEI-related calls and selecting first projects addressing digital innovation hubs and digital industrial platforms.</i>	<i>Q1 2018</i>
Other important outputs		
Output	Indicator	Target date
<i>Communication on artificial intelligence and robotics.</i>	<i>Adoption by the Commission.</i>	<i>Q1 2018 (PLAN/2017/1777)</i>
<i>DG CONNECT contribution to the Communication - Action Plan on the Future of Learning.</i>	<i>Adoption by the Commission.</i>	<i>Q1 2018 (PLAN/2017/1744)</i>
<i>Regulation on a framework for the free flow of non-personal data in the EU.</i>	<i>Adoption by the co-legislators.</i>	<i>Q4 2018</i>
<i>Industry-driven self-regulation approach for cloud policies.</i>	<i>Launch of a DSM Cloud Stakeholders Platform on the basis of inclusive and diverse participation (SMEs and users alongside providers).</i>	<i>Q2 2018</i>

Part 1. Main outputs for the year

<i>Cross-border experimentation and pre-deployment projects on Connected and Automated Driving covering regulatory issues and 5G.</i>	<i>At least two projects launched as part of the 5G PPP.</i>	Q3 2018
	<i>Operational instruments on cybersecurity, data and privacy to complement existing instruments.</i>	Q4 2018
<i>Connected Automated Driving: framework agreements with Member States on a) cross-border regulatory issues concerning field tests (focus on digital aspects) and b) data issues such as ownership, access, storage.</i>	<i>Agreement reached between Member States concerned by a testing corridor.</i>	Q2 2018
<i>5G PPP: launch of an industry large scale validation platform for 5G in Europe.</i>	<i>Launch of 3 platforms, capable of validating the main 5G KPI's (bandwidth, latency, density, services).</i>	Q2 2018
<i>Better Digital Skills for all Europeans, accompanied by H2020 support.</i>	<i>Implementation of the Digital Opportunity pilot and first results.</i>	Q3 2018

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.

Related to spending programme(s):
CEF/EFSI/ESIF

The full economic and social benefits of the ongoing digital transformation will only be achieved if Europe can ensure widespread deployment and take-up of very high capacity fixed, wireless and mobile networks in urban and rural areas, and across all of society. The 2016 Communication **Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society** includes a set of strategic connectivity objectives for 2025. DG CONNECT will continue to work with the Member States to ensure that National Broadband Plans take into account the new EU 2025 targets for very high capacity and for 5G. DG CONNECT will actively work with DG Regional and Urban Policy, DG Agriculture and Rural Development and DG Competition and with the representatives of broadband planning entities of national and regional authorities in the framework of the **Broadband Competence Offices' (BCO) network**. DG CONNECT will implement the Regulation to support local communities in providing free public Wi-Fi to their citizens – the "WiFi4EU initiative" – with the objective to launch a first call early in 2018.

The DG CONNECT-funded project for the development of an **EU platform for monitoring quality of broadband services** will enter its third and final year of operation. In consultation with relevant mapping entities at Member State level (NRAs and Ministries) and with Net Neutrality and Mobile Coverage BEREC working groups the project will seek to pose the basis for a common methodology on mapping coverage of fixed and mobile convergence.

The **Broadband Participatory Platform**, launched on 12 October 2017, will prepare an opinion on broadband infrastructures especially those in rural areas and on the financial needs and will be put for endorsement by the Committee of the Regions (CoR) in March 2018. DG CONNECT will co-author the opinion and assures the secretariat of the Platform (with the CoR) for the preparation and follow-up of the two annual meetings of the platform.

On 20 November 2017 the Commission launched a **six actions toolkit for rural broadband**. The operational steps have been agreed between DG CONNECT and DG Agriculture and Rural Development and DG Regional and Urban Policy including:

- actions aimed at reinforcing Broadband Competence Offices where necessary;
- deployment of broadband country missions to five priority countries;
- development of a common methodology for planning, reporting, monitoring of broadband investments and on data from the EU mapping platform on broadband quality of service;
- a Rural Proof Test to prevent the transfer of funds allocated to broadband actions in rural and remote areas to other non-rural areas projects;
- updating the guide on very high-speed broadband investment together with DG Competition;
- design of a rural broadband project framework in collaboration with the Organisation for Economic Co-operation and Development.

DG CONNECT is working with DG Economic and Financial Affairs on the implementation of the Investment Plan supported by the European Fund for Strategic Investments (EFSI). The DG is actively contributing to setting up a broadband infrastructure investment fund of 500 million EUR - the **Connecting Europe Broadband Fund (CEBF)**, which will be backed by 100 million EUR from the CEF budget for broadband. The DG also provides technical assistance with the World Bank to local project promoters within the **Connected Communities Initiative** and continuously reviews national and regional broadband plans and relevant state aid schemes.



Regarding spectrum for 5G, DG CONNECT will proceed with the revision of certain EU-harmonised frequency bands to make them '5G-ready' and with the harmonisation of additional frequency bands for 5G use according to the EU spectrum priorities and in line with the 5G Action Plan ('5G pioneer bands').

This will be done through Commission Implementing Decisions involving the Member States in the Radio Spectrum Committee. These 2018 deliverables only address the revision of existing EU-harmonised frequency bands (extending the 1.5 GHz band, updating the technical conditions for the 900 MHz and 1800 MHz bands for IoT) while discussions will advance with Member States on additional harmonised or new spectrum. The **Short-Range Device Decision** makes unlicensed bands accessible for new, innovative spectrum usages for a broad variety of applications. During its sixth update, amongst others, new entries for IoT have been added. **Additional entries in the 870-876 and 915-921 MHz range** for IoT networks and Radio Frequency IDentification (RFID) in unlicensed bands are under discussion in the Radio Spectrum Committee. Further, the **seventh update cycle of the Short-Range Device Decision** is on-going, which will lead to further deliverables for SRDs in 2019.

DG CONNECT is working with Member States and other stakeholders to find common methods and metrics to assess **fixed and mobile connectivity**, including coverage and quality of service and experience, with the view of the launch of 5G services in the Union. The result of this work will be fed into the **EU Mapping Platform** whose first data sets will be visible, although under different layers, in early 2018. This joint exercise (measurement and mapping) is crucial not only for regulatory purposes but also for policy, and for planning National Broadband Plans and implementing projects receiving state aid. The project has just

Part 1. Main outputs for the year

started work on a common methodology on coverage mapping starting from the existing methodology (agreed in the context of the annual coverage study) and taking stock of the national mapping initiatives with a view to support the gigabit objectives for 2025, Member States/regional planning and state aid assessment.



The DSM strategy and the 2016 Communication on Connectivity for a Competitive DSM both underline the importance of very high capacity networks like 5G as a key asset for Europe to compete in the global market. The **5G Action Plan** aims to foster the adequate European-wide deployment to build momentum for investment in 5G networks and to create new innovative ecosystems, thus enhancing European competitiveness and delivering concrete benefits to society. The implementation of the actions will continue in 2018 to enable the launch of fully commercial 5G services in 2020. The deployment of Connected and Automated Driving will be one of the flagship applications for 5G. The successful implementation of the 5G Action Plan in 2018 and beyond will rely on the cooperation between Member States in relation to the main actions of the 5G action plan. The Commission is facilitating the cooperation in the framework of the Communication Committee.

Digital services are key elements of a functioning DSM. CEF deploys solid trans-EU interoperable operational services based on mature technical and organisational solutions, as identified by the CEF Regulation: 17 Digital Service Infrastructures (DSIs) which are ready to be deployed and will be sustainable and maintained over time. The DSIs for which funding is foreseen in 2018 are **Europeana, eidentification and eSignature, eDelivery, eInvoicing, Public Open Data, Automated Translation, Cybersecurity, eProcurement, European Platform for the interconnection of European Business Registers, eHealth, Electronic Exchange of Social Security Information, European eJustice portal, eArchiving and P2P Mobile payments.** The CEF Work Programme 2018 will also support the WiFi4EU initiative. Additionally, synergies between the Public Open Data DSI and HPC will be supported by creating new access services to increase the HPC and data capacities of the European Data Infrastructure and their cross-border exploitation for public interest. This is a first step towards a full coordination between different programmes such as CEF or H2020 but also involves Member States in the development and federation of a large scale European HPC and Big Data service infrastructure facility serving a wide range of different stakeholders. Therefore new, larger scale activities are expected to be included in future CEF

Part 1. Main outputs for the year

work programmes. Finally, synergies between the Cybersecurity DSI and Cooperative, Connected and Automated Mobility (CCAM) will be supported by deploying a specific Information Sharing and Analysis Centre and gateway services for CCAM.

DG CONNECT is actively developing possibilities to accommodate emerging ICT and digital funding needs within the framework of the next multi-annual financial framework. This includes working on a possible successor to the digital pillar of the Connecting Europe Facility.

Main outputs in 2018:		
All new initiatives and REFIT initiatives from the Commission Work Programme		
Output	Indicator	Target date
Important items from work programmes/financing decisions/operational programmes		
Output	Indicator	Target date
<i>CEF Broadband fund.</i>	<i>Raising at least 100 million EUR of funds from market investors in addition to EU/EIB funds. Finance first 3 projects.</i>	<i>Q2 2018</i>
<i>WiFi4EU voucher scheme for local authorities.</i>	<i>- First call (20 million EUR); - Second and third call (45 million EUR).</i>	<i>Q1 2018 Q2 and Q4</i>
<i>CEF Telecom Work Programme 2018 financing projects of common interest in the form of Digital Service Infrastructures.</i>	<i>Adoption of the CEF Telecom Work Programme.</i>	<i>Q1 2018 (PLAN/2017/2150)</i>
Other important outputs		
Output	Indicator	Target date
<i>Commission implementing Decision amending the designation of the 900 MHz and 1800 MHz frequency bands under harmonised technical conditions.</i>	<i>Adoption by the Commission.</i>	<i>Q2 2018 (PLAN/2017/1924)</i>
<i>Commission implementing Decision on harmonisation of the radio spectrum for use by SRD in the frequency bands 870-876 and 915-921 MHz.</i>	<i>Adoption by the Commission.</i>	<i>Q1 2018 (PLAN/2017/1054)</i>
<i>Implementation of the 5G Action Plan a) advanced pre-commercial trials b) Guidance through 5G Working Group of Member States and EC.</i>	<i>a) At least 2 5G CAD experimentation projects launched b) Guidance document on 5G adopted by Member States as basis for revision of National Broadband Plans.</i>	<i>a) Q4 2018 b) Q2 2018</i>

<p><i>Toolkit for rural broadband actions:</i></p> <p>a) <i>Reinforcing Broadband Competence Offices;</i></p> <p>b) <i>Deployment of broadband Country Missions to the five priority countries;</i></p> <p>c) <i>Development of a common Methodology for planning, reporting, monitoring of broadband investments;</i></p> <p>d) <i>Set up of a Rural Proof Test;</i></p> <p>e) <i>Update of the Guide on Very High-Speed Broadband;</i></p> <p>f) <i>Design of a rural broadband project.</i></p>	<p><i>Implementation of 6 actions.</i></p>	<p>a) Q4 2018</p> <p>b) Q2 2018</p> <p>c) Q2 2018</p> <p>d) Q2 2018</p> <p>e) Q4 2018</p> <p>f) Q4 2018</p>
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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 programme(s): Horizon 2020, Multimedia Actions, Creative Europe MEDIA

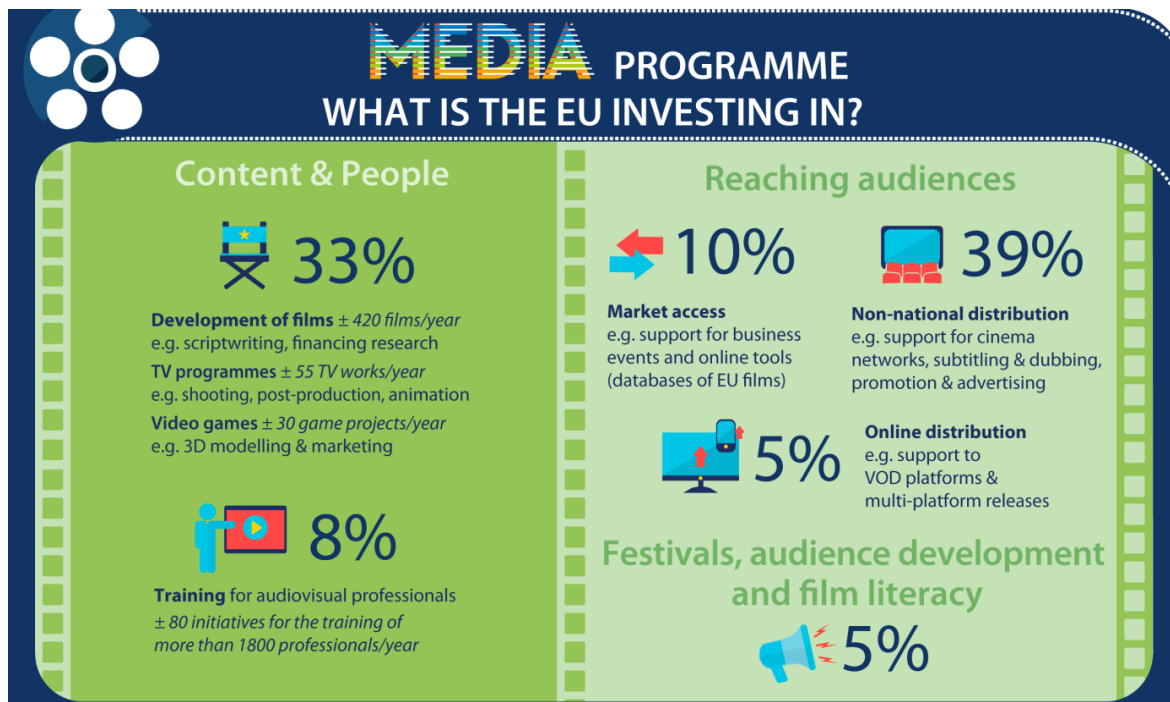
In line with calls of the European Parliament, President Juncker announced an initiative on tackling the issue of **fake news**. DG CONNECT will work on a Communication on fake news for adoption by the Commission in spring 2018. In order to prepare for the Communication, DG CONNECT launched (in 2017) a public



consultation, set up a High Level Expert Group, and organised three conferences (multi-stakeholder conference; workshop with Member States; Alliance to Better Protect Minors Online - Better Internet for Kids meeting). Tackling the issue of fake news will require a comprehensive approach addressing the challenges faced by journalism, such as the increasing influence of social platforms and the role and responsibilities of social media users in spreading misinformation online. Fake information and illegal content can influence political decisions and undermine democratic values of the European societies. To remedy the current situation regulatory actions (including self- and co-regulation) and non-regulatory actions (e.g. supporting quality journalism and ethical values, developing media literacy) will be considered.

Europe must help the **digital transformation of its creative and media sectors** with more cross-border and globally successful creative content, and more projects and services bringing digital innovation, to answer the needs of the new audiences and business opportunities across Europe. Creativity and critical thinking - in addition to scientific and technological skills - are needed for this to happen. DG CONNECT will work on a coherent strategy to diffuse and facilitate creativity and support the cultural and creative industries along their whole value chain.

A healthy, plural, free and innovative media system is crucial for the development of democratic societies. Among other actions aimed at strengthening **media freedom and pluralism** across Europe and raising awareness on these topics, the Commission will continue to fund – with the support of the European Parliament – pilot projects and preparatory actions in the field of quality journalism, media pluralism and media freedom (launch of a study on digital indicators, second year of the contract with the European University Institute to enhance awareness among relevant stakeholders on EU policy in the field of media freedom and pluralism).



DG CONNECT is working on **#Digital4Culture** strategy based on six pillars: ensuring broad and more democratic access to culture; promotion, marketing, and valorisation of cultural heritage; helping the cultural sector to embrace digital tools; skilling and nurturing talents; accessing finance; international cooperation and fostering the Union's soft power. Actions planned for 2018 could include, in particular, developing Europeana to become the European portal for culture; a digitisation campaign on digital replicas of cultural heritage sites; developing synergies between the MEDIA and H2020 through the New European Media platform; developing dialogue with Korea, Japan, US and China on the Science, Technology, and the ARTS (STARTS) programme linking art and technology.

DG CONNECT will support policies and activities related to **media literacy** in Member States and with the assistance of platforms, academia and professional bodies through meetings of the Media Literacy Expert Group and other fora. The principal focus in 2018 will be to engage with the Expert Group on the preparation of the Commission's Communication on fake news. DG CONNECT will co-finance relevant conferences on Media Literacy and fake news, continue implementation of the first and second phase of the EP Pilot Project on "Media Literacy for all" and launch the planned EP Preparatory Action on Media Literacy.

The role of **Social Media & Networks** is now fundamental in our society and democracy and a main driver for media consumption and business opportunities. As Social Media, Networks & Services are the future way our societies will operate for communication,

exchange, business, learning and knowledge, particular attention will be given to them in the Horizon 2020 Work Programme 2018-20 (LEIT ICT). The objective is to build the foundation of next generation Social Media platforms towards a "Global Social Sphere", based on peer-to-peer/decentralised, community approaches and free/open source principles. Secondly, specific attention will be given to ways to verify the veracity of online information as part of the plan of action on fake news.

European media innovation will be supported by the Commission's media policy and H2020 research and innovation actions which leverage on the potential enabled by the convergence and integration between traditional media (e.g. broadcasters, news providers), Internet-based services and social media. Such actions will develop new tools and services, based on advanced ICT technologies that will empower more immersive, interactive and personalised ways to consume media content.

Science, Technology, and the ARTS (STARTS) seeks to fully engage the creative forces that lie at the crossings of the arts with science and technology into innovation processes in Europe, with the overarching goal to include artists in a variety of EU activities aiming at innovation in industry, business and society. STARTS is launching three activities within Horizon 2020: (i) STARTS prize giving visibility to successful art-technology collaborations, (ii) STARTS residencies embedding artists in technology institutions and (iii) STARTS lighthouse pilots having engineers and artists jointly address challenges.

Cultural institutions of all types are engaged in large-scale digitisation of their collections and archives to preserve and disseminate them. In case of orphan works, the holders of copyright and related rights are unknown, making it impossible to obtain prior consent to reproduce or making these art works available to the public. The **Orphan Works Directive** addresses these questions but its implementation faces several problems identified by two EU co-financed projects (FORWARD and ENDOW). The Directive foresees reporting on its application and on extending the scope by including published works and/or other protected material. This reporting will follow the evaluation of the Directive which will take place in 2018. Possible outcome of the evaluation might include proposals for amendment of the Directive.

Europeana should become the catalyst for solutions enabling cross-border access and (re)use of cultural content, through innovation and creative exploitation. In 2016, the Council adopted conclusions on the role of Europeana for the digital access, visibility and use of European cultural heritage, which underline Europeana's relevance both from a cultural and a digital innovation perspective and invite the Commission to present "*an independent evaluation of Europeana and give clear orientations for its mid- and long-term development by assessing alternatives at the EU level for the future scope, sustainable funding and governance*". The evaluation should provide input on the modalities for future strategy and funding and will be presented to the Council and the European Parliament.

The overall objective of **multimedia actions** is to strengthen independent reporting on EU issues from a European point of view. Television continues to be the most popular medium and **support to Euronews** will aim to ensure an objective, sustainable source of news with a pan-European focus delivered on a multi-lingual basis. Support to radio services networks would also provide an important contribution to an informed and objective debate on European affairs.

Part 1. Main outputs for the year

The 2016 **Web Accessibility Directive** aims at making the websites and mobile apps of public sector bodies more accessible for people with disabilities. Member States need to transpose the Directive by September 2018 and start to apply the rules by September 2019. To support Member States in implementation, DG CONNECT will prepare Implementing Acts by December 2018 on a) a model accessibility statement on the level of accessibility that the public sector bodies need to provide; b) a monitoring methodology; c) reporting by the Member States to the Commission; and possibly d) technical specifications for the accessibility of mobile applications, if no harmonised standards have been published by then.

Main outputs in 2018:		
All new initiatives and REFIT initiatives from the Commission Work Programme		
Output	Indicator	Target date
<i>Communication on Fake news and online misinformation.</i>	<i>Adoption by the Commission.</i>	<i>Q2 2018 (PLAN/2017/1783)</i>
Important items from work programmes/financing decisions/operational programmes		
Output	Indicator	Target date
<i>Full implementation of Cultural and Creative Sectors Guarantee Facility, including the top up from EFSI.</i>	<i>Guarantee Agreements signed up to the ceiling of the Guarantee Facility, including the EFSI top up.</i>	<i>Q4 2018</i>
<i>Facilitating a European Centre for Press and Media Freedom.</i>	<i>Second year of the preparatory action - Funding of ECPMF and its partners' activities, and a project on financing investigative journalism.</i>	<i>Q1 2018</i>
<i>H2020 ICT European Media Innovation – Social Media.</i>	<i>Timely launch of 6 projects (budget: 21 mio EUR).</i>	<i>Q4 2018</i>
<i>Creative Europe MEDIA Work programme 2019 following up the mid-term evaluation.</i>	<i>Adoption by the Commission.</i>	<i>Q2 2018</i>
Other important outputs		
Output	Indicator	Target date
<i>Strengthening Europeana (CEF DSI).</i>	<i>Independent evaluation of Europeana and new funding method.</i>	<i>Q2 2018 (PLAN/2016/55)</i>

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

On 29 May 2017, the Commission published the interim evaluation of Horizon 2020, which aimed notably to contribute to improving the implementation of Horizon 2020 in its last Work Programme 2018-2020 and to inform the design of future Framework Programmes. The reviews of the contractual PPPs, of the ECSEL Joint Undertaking and of the e-Infrastructures fed into the process.

DG CONNECT prepared the ICT parts of the **Horizon 2020 Work Programme 2018-20** for the strands under its responsibility. H2020 involves a very significant budget with around 6.3 billion EUR managed by DG CONNECT across the three pillars and constitutes an essential vehicle for the implementation of the DEI Strategy. The first calls under the new Work Programme have been launched in 2017. Outputs for 2018 will include the adoption of an update of the Work Programme 2018-20 and new research grant agreements in key emerging domains and project deliverables from initiatives started in the past.

The Commission proposal for a multi-annual financial framework beyond 2020 will be followed by proposals for the next generation of programmes. The Commission's work programme 2018 states that the Union must be equipped notably to harness the benefits of new and emerging technologies. In this context, DG CONNECT is actively exploring how to best serve the funding needs of the DSM and digital technologies. One strand of these preparations is the possible successor to the Horizon 2020 programme for Research and Innovation, for which DG CONNECT collaborates with DG Research and Innovation and other DGs to ensure a coherent presence of the digital topics and interests. DG CONNECT will carefully prepare the negotiations of the multi-annual financial framework including the legal proposals for funding programmes.

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.

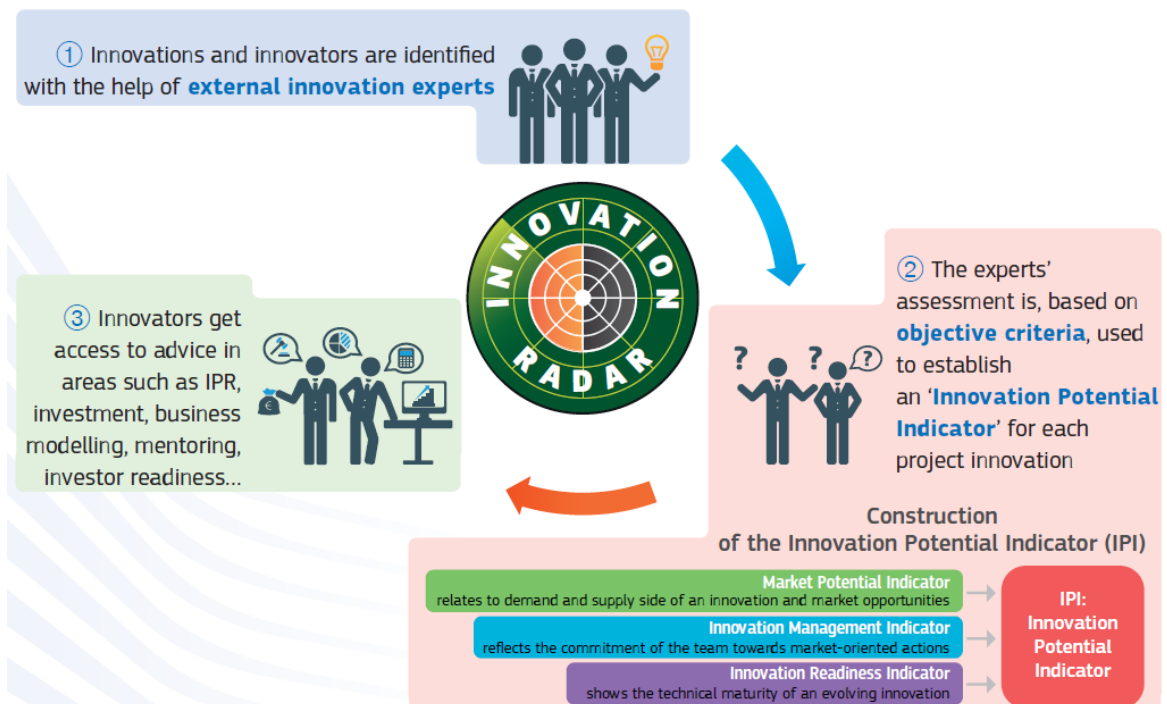
Related to spending programme: Horizon 2020

The mid-term review of the DSM Strategy highlights the opportunity offered by the DSM strategy in our external relations. The Commission will continue to use all available tools, including cooperation and research programmes to promote regulatory convergence, develop the data economy based on a free, open and secure internet and to develop closer relations with key partners. Considerable progress has been made in mainstreaming digital issues into the Eastern Partnership and into cooperation with partners in Africa and Latin America. Digital technologies and services are now being mainstreamed into the EU development assistance. The Commission will continue to promote the DSM as an example of integration in Latin America; work with partners in the G7 & G20 exercises, and defend an ambitious set of proposals on telecoms and Digital in the many ongoing trade negotiations. DG CONNECT will work to extend the benefits of the DSM to the Western Balkans and southern Mediterranean and pursue efforts in cooperation with other DGs to ensure that an adequate proportion of the EU external financial assistance uses digital tools to meet the Sustainable Development Goals. DG CONNECT staff working in Delegations will continue to promote both reciprocity in research cooperation and market access for European companies. Coordination will be ensured with the European External Action Service (EEAS), DG Trade & DG Justice and

Consumers on issues such as the introduction of the GDPR which will have a significant impact on the external outreach of the DSM.

Startup Europe is the Commission's policy initiative supporting startups in Europe to build a Startup Continent by connecting pools of talent. Startups' ecosystems are evolving rapidly and become mature in terms of talent and raising capital at local level. However, there are still problems to scale up at European and international level. Consequently DG CONNECT will reinforce its actions with a particular focus on the startups which need to internationalise and grow across borders. In 2018 **Startup Europe** will:

- Interconnect the 27 hubs through networking activities and H2020 projects to support 30500 startups raise EUR 850 Mio from the market.
- Reinforce activities with Africa, India, Silicon Valley and Latin America to build bridges for EU startups to expand in those regions and vice versa.
- Scale up activities to create a culture of entrepreneurship across all Member States, such as: Startup Europe Week 2018, European Makers Week 2018, Startup Europe Comes to Universities, Startup Europe News and Startup Europe Awards.
- Enhance the one-stop-shop for startups in Europe (Startup Europe Club), which provides information on EU funding and networking opportunities.
- Reinforce Startup Europe branding to act as a coordination umbrella of EU initiatives towards strengthening startups ecosystems.
- Explore the feasibility of acting on stakeholders' requests to help startups to implement the General Data Protection Regulation.



The **Innovation Radar** is a Commission initiative to identify high potential innovations and innovators in EU-funded research and innovation projects. In 2018 the Innovation Radar will:

- continue enhancing the IT tools supporting the Innovation Radar;
- scale up use of Innovation Radar data sets and intelligence for policy actions and other EU initiatives beyond H2020;
- scale up its activities to nurture an ecosystem around the excellent EU-funded innovations identified by the Innovation Radar and the innovators developing them with the support of 2 Coordination and Support Actions to be launched in early 2018;

Part 1. Main outputs for the year

- make Innovation Radar data and intelligence accessible to the public while ensuring compliance with data protection and privacy legislation;
- support the launch of the European Innovation Council (EIC) pilot by providing it with a 'data intelligence layer'.

In the area of eHealth and ageing, DG CONNECT will prepare a Communication on Digital Transformation of Health and Care in the DSM, elaborating on the three priorities identified in the mid-term review of the DSM: secure access and exchange of electronic health records; data infrastructure for personalised medicine; innovation for user empowerment and integrated care. The Communication will be accompanied by a staff working document and will incorporate the results from a public consultation run in 2017.

In the area of smart cities and communities, the European Innovation Partnership on Smart Cities and Communities remains the main policy instrument, which is closely linked with actions under the DSM, the Urban Agenda, the Energy Union and H2020. Work will focus notably on:

- Standardisation of urban platforms and Smart Appliances REFERENCE ontology,
- Delivering an investment plan for cities (in liaison with the Urban Investment Advisory Platform),
- Contributing to defining the Digital Energy Strategy announced in the 2017 Tallinn e-energy declaration; preparing a joint Communication DSM-Energy Union,
- Delivering roadmaps and an action plan on the implementation of the DSM for water services,
- Launching an IoT pilot in smart homes and smart grids,
- Urban Agenda for the EU: implementing the Digital Transition Partnership (in cooperation with DG Regional and Urban Policy).



Main outputs in 2018:

All new initiatives and REFIT initiatives from the Commission Work Programme

Output	Indicator	Target date
Important items from work programmes/financing decisions/operational programmes		
Output	Indicator	Target
<i>Communication on Digital Transformation of Health and Care in the Digital Single Market.</i>	<i>Adoption by the Commission.</i>	<i>Q1 2018 (PLAN/2017/1353)</i>
<i>Reinforced Startup Europe with 7 new projects to benefit 3500 startups and raising 850 mio EUR from the market in two years.</i>	<i>Number of startups that benefit from Startup Europe Capital raised from the market.</i>	<i>1750 startups 425 Mio EUR</i>
<i>Full implementation of the One Stop Shop for startups in Europe.</i>	<i>Number of unique visitors to the One Stops Shop and presence in social media.</i>	<i>50K unique visitors per month, 30K twitter followers, 20K Facebook group members.</i>

Part 1. Main outputs for the year

<i>Update of the H2020 Work Programme 2018-20 including Societal Challenges.</i>	<i>Adoption by the Commission.</i>	<i>Q1 2018 for amendment 1 Q3 2018 for amendment 2</i>
<i>Public launch of Innovation Radar tool and launch of two support projects.</i>	<i>Public launch event and start of support projects.</i>	<i>Q2 2018</i>
<i>Startup Europe Open to the World: creation of platforms with Africa, Latin America, Asia and US Silicon Valley.</i>	<i>International platforms created to connect EU ecosystems with international ecosystems.</i>	<i>Q4 2018</i>
<i>H2020 – Societal challenges calls.</i>	<i>Timely launch of 5 calls (budget: 219,5 mio EUR).</i>	<i>Q4 2018</i>
Other important outputs		
Output	Indicator	Target date
<i>Standardisation initiatives, notably through the European Telecommunications Standards Institute on the basis of the European Smart Cities Framework.</i>	<i>2-3 standardisation initiatives. (German DIN standardisation initiative established; further initiatives at the International Telecommunication Union to be established).</i>	<i>Q4 2018</i>

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(s): Horizon 2020

This specific objective aims to ensure that research and innovation investment funds new breakthrough technologies and very-large scale flagship research initiatives.

PPPs play a strategic role and are of key importance in the support to ICT across all parts of Horizon 2020. In total, **seven PPPs** are now supported entirely or partly through LEIT-ICT: **5G, Photonics, Robotics, Big Data, Factories of the Future, HPC and Cybersecurity**. As part of the implementation mechanism of the DEI strategy, PPPs are expected to play a reinforced role in 2018-20 and become real aggregation frameworks and ecosystems for digital industrial innovations. In addition to the Contractual PPPs, DG CONNECT will continue to finance the **Electronic Components and Systems for European Leadership (ECSEL) Joint Undertaking**, for which 565 million EUR are earmarked for the period 2018-20. In 2018, the preparatory work for a follow-up action of ECSEL will start with stakeholder consultations and an impact assessment, which may lead to the drafting of a Council Regulation for the establishment of ECSEL 2. Also, an Electronic Leaders Group 2 will be set up, advising on the Commission's support to the electronics industry in ECSEL 2 and beyond.

The **two Future and Emerging Technologies (FET) Flagships**, the Graphene Flagship and the Human Brain Project (HBP), will start in April 2018 their third phase of funding, which will see HBP progress towards achieving its core objective of building and demonstrating an

integrated and federated research infrastructure for neuroscience, brain medicine and future computing and the Graphene Flagship mature technology readiness levels of promising graphene enabled technologies, with a view toward their exploitation.

In addition, in line with the recommendations of the Commission Expert Group on the Quantum Technology Flagship, the ramp-up phase of the new **FET Flagship on Quantum Technologies** will be launched in 2018 (a H2020 call for proposals is closing in early 2018). The aim of the H2020 call is to have a small number of closely interconnected projects starting later in 2018 covering the main areas of the Flagship: Quantum computing, Quantum simulation, Quantum communication and metrology and sensing.

Building on a broad consultation **on new flagships** conducted in 2016, up to six preparatory actions for new FET Flagships will be selected through a call in the H2020 FET Work Programme 2018-20. These preparatory actions will include activities to help candidate Flagships form and develop their consortia, governance and a science and technology roadmap. They also need to build large public support and secure industry endorsement and participation. This may lead to up to two new Flagships to be launched in the next Framework Programme for R&I. In addition, DG CONNECT will explore, together with the relevant stakeholders and DGs Research and Innovation, Mobility and Transport and Energy, the relevance of a long term initiative on future energy storage technologies with a dedicated workshop taking place in January 2018.

Future and Emerging Technologies (FET) Open and Proactive will continue in 2018 their support to scientific and technological breakthroughs with two new calls for proposals with increased budgets: The **FET Open** call "Challenging Current Thinking" with an increased budget of 185,7 million EUR will support laying the foundations for radically new future technologies in any domain. The Innovation Launchpad, part of the FET Open call, aims at turning results from FET-funded projects into genuine societal or economic innovations. In 2018 and until the end of H2020, FET Open is part of the European Innovation Council pilot. The **FET Proactive** call "Boosting Emerging Technologies" with a budget of 94,5 million EUR seeks proposals for cutting-edge high-risk / high-reward research and innovation projects that aim to demonstrate a new technological paradigm within the scope of one of the following sub-topics: artificial organs, tissues, cells and sub-cellular structures; time; living technologies; socially interactive technologies; disruptive micro-energy and storage technologies; and topological matter.

The notifications of Member States to engage in the **Important Projects of Common European Interest on micro- and nano-electronics** will have been completed by early 2018. If approved by the Commission, DG CONNECT will monitor their execution and implementation.

Main outputs in 2018:		
All new initiatives and REFIT initiatives from the Commission Work Programme		
Output	Indicator	Target date
Important items from work programmes/financing decisions/operational programmes		
Output	Indicator	Target date
H2020 – Future and Emerging Technologies Quantum Technologies FET Flagship.	Timely signature of grant agreements (130 mio EUR).	Q3 2018

Part 1. Main outputs for the year

<i>Update of the H2020 Work Programme 2018-20</i> - Excellent Science (FET, e-infrastructures), - Industrial Leadership (LEIT ICT, LEIT ICT ECSEL), - Cross-cutting activities.	<i>Adoption by the Commission.</i>	<i>Q1 2018 for amendment 1 and Q3 2018 for amendment 2</i>
<i>Setting up of Electronic Leaders Group 2.</i>	<i>First meeting.</i>	<i>Q1 2018</i>
<i>H2020 - Excellent Science calls.</i>	<i>Timely launch of 4 calls (budget: 46,5 mio EUR).</i>	<i>Q4 2018</i>
<i>H2020 - Industrial Leadership calls.</i>	<i>Timely launch of 8 calls (budget: 992,2 mio EUR).</i>	<i>Q4 2018</i>
<i>FET-Flagships: the Graphene Flagship and the Human Brain Project.</i>	<i>Start of the third phase of the Flagships.</i>	<i>Q2 2018</i>
Other important outputs		
Output	Indicator	Target date
<i>Preparatory actions for possible future FET Flagships in the next Framework Programme for R&I.</i>	<i>Selection of up to 6 preparatory actions (two stages).</i>	<i>Stage 1 selection by Q2 2018</i>

A. Human resource management



DG CONNECT has made progress in the female representation in middle management positions. To reach the 2019 target of 40% female representation overall in senior and middle management positions, DG CONNECT still needs to make four first female appointments in middle management positions. DG CONNECT is confident that it will reach the target in view of the ongoing and future selection procedures for vacant middle management positions. DG CONNECT provides pre-management opportunities to talented AD-women and supports talented AD-women in their career aspirations. This includes, on top of the recently concluded Women Development Programme with a 360 degree development component, regular training and information sessions for women in pre-management functions including mock interviews and coaching by senior/middle managers.

As far as staff engagement is concerned, the outcome of the 2016 Staff Survey for CONNECT reflects a relatively stable employee engagement score (60% vs. 61% in previous survey). The DG CONNECT main trends mirror the ones at Commission level. The lowest scoring questions relate to the allocation of human resources (in a context of resources constraints) and career development opportunities. DG CONNECT's 2017 action plan addresses those weaker points which have been carefully monitored and duly implemented. This was acknowledged in the outcome of the 2017 Internal Staff Survey where the employee engagement score increased to 72%, presumably as an outcome of the actions taken by the Management Team in follow-up to the 2016 Staff Survey. The results of the 2017 Internal Staff Survey will be further analysed by the Management Team together with the outcome of the Diversity & Inclusion Days of October 2017. In addition, DG CONNECT will define further learning and development priorities which will help to ensure that people are properly equipped to deliver on political and operational priorities and for career development.

As regards well-being, the outcome of the 2016 Staff Survey reflected an overall improvement of the DG CONNECT score and a recognition of efforts made in this area, which are being pursued in close cooperation with the Account Management Centre 3 (AMC3).

DG CONNECT's key challenge will be to make the best use of the (decreasing) available talents to deliver on the political and operational priorities, taking into account the current resources constraints. This entails ensuring that DG CONNECT is equipped with committed and qualified staff who will deliver on its priorities and meet its targets agreed with the central services concerning for the reduction of staff and support levels and for the increase of its presence in Luxembourg.

The HR Modernisation project implemented according to the 2016 Communication on Synergies and Efficiencies entails a change in the way that HR services are provided. HR services are delivered by an Account Management Centre (AMC) inside DG Human Resources and Security. Each DG has an HR Business Correspondent, responsible for defining HR strategy and taking HR decisions, in consultation with the management of the DG, as well as ensuring that the DG gets the HR service it needs, in cooperation with the AMC. DG CONNECT has been participating in this pilot since 2017 and is supported by AMC3, located in Beaulieu, which also serves three other Directorates General. The pilot is expected to be extended until mid-2018.

Thanks to a close monitoring and a strict policy of assigning to Luxembourg most of its posts falling vacant in Brussels, DG CONNECT increased its presence within the Commission's Digital Pole in Luxembourg, beyond the yearly targets defined by DG Human Resources and Security. DG CONNECT is therefore confident that the targeted increase due by end of 2018 (40 full-time equivalents including 24 officials) will be reached relatively soon.

Part 2. Main organisational management outputs for the year

The Digital Pole in Luxembourg will be a centre of excellence with the following priority areas:

- European digital infrastructures and technologies including super-computing, quantum-computing, high-speed networks, data centres, robotics.
- Building the European Data Economy, including Open Data and Data Analytics.
- Public Service innovation and modernisation, including eGovernment, interoperability, digital trust.
- Digital Solutions for health, ageing and wellbeing; learning, multi-lingualism and inclusion; culture and creativity.

Objective 1: The DG deploys effectively its resources in support of the delivery of the Commission priorities and core business, has a competent and engaged workforce, which is driven by an effective and gender-balanced management and which can deploy its full potential within supportive and healthy working conditions.

Main outputs in 2018:

Output	Indicator	Target
<i>Follow-up on the Women Development programme which included 360 degree feedback + coaching sessions, planned actions for 2018: close monitoring of all females in pre-management positions, steering the women in pre-management network, feedback by the Chair of pre-selection panels to female candidates who were not selected for HoU posts, training for interview preparation.</i>	<i>Number of female applicants shortlisted in each pre/middle-management selection procedure.</i>	<i>At least 1.</i>
<i>Close monitoring and management of job quotas / budget and careful assessment of replacements for every departure, in light of the operational and political priorities.</i>	<i>Taxation targets met within the deadlines set by the budgetary authority.</i>	<i>Staff reduction laid down in the 2018 allocation of establishment plan posts (-4%) and the appropriations for external personnel.</i>
<i>Learning & Development Strategy tailored to the skills/ competences/ knowledge required for the completion of our operational and political priorities.</i>	<i>L&D priorities to be adopted as part of the overall HR strategy for the DG.</i>	<i>Complete curriculum reflecting newly identified requirements.</i>
<i>Reduction of support functions to focus resources on operational activities.</i>	<i>Reduction of FTEs in support functions under scrutiny by DG Human Resources and Security.</i>	<i>FTE reduction in support functions -30 for 2018; -75 cumulative over 2016-2018.</i>
<i>Increase of DG CONNECT presence in Luxembourg within the Digital Pole.</i>	<i>Increase of FTEs in Luxembourg.</i>	<i>FTE increase +40 for 2018; +60 cumulative over 2017-18</i>

Part 2. Main organisational management outputs for the year

<p><i>Finalise and monitor the implementation of the DG action plan as a follow-up to the 2016 Commission staff satisfaction survey and if necessary update it to take account of the results of the DG CONNECT staff satisfaction survey carried out in autumn 2017.</i></p> <p><i>Develop and monitor the implementation of the DG action plan as a follow-up to the 2018 Commission staff satisfaction survey.</i></p>	<p><i>Staff Engagement Index within the 2018 Commission staff satisfaction survey.</i></p>	<p><i>Staff Engagement Index of 65.</i></p>
<p><i>Well-being activities organised at DG CONNECT within the context of the Fit@Work Programme.</i></p>	<p><i>Number of well-being activities organised within DG CONNECT in close cooperation with AMC3.</i></p>	<ul style="list-style-type: none"> - 2 series of well-being trainings per year, - 3 blood donation sessions, - weekly well-being activities, - ad hoc workshops to build resilience depending on staff needs (based on staff survey).

B. Financial Management: Internal control and Risk management

In 2018, the major part of DG CONNECT's expenditure is related to H2020 and FP7 grants. Ex-ante controls are rigorously implemented for each transaction (commitments and payments), but the internal control system is designed to gain assurance mainly from ex-post audits. The Common Audit Service (CAS) of the Common Support Centre (CSC) is responsible for the implementation of the H2020, FP7 and the non-research (ICT-PSP(CIP) and Safer Internet) audit strategies. DG CONNECT's ex-post audit team in the Compliance and Planning unit is in charge of monitoring the closure of the audits which were open at the time of the transfer of the implementation of the relevant audit strategy to the CAS (8 FP7 and 1 Non research audits as per 1 November 2017). The ex-post audits clean the budget from errors and prevent them from happening again in the future. The audit implementation ensures the recovery of all unjustified financial contribution paid to the beneficiary and the application of liquidated damages. The DGs of the Research Family make continuously huge efforts on training and informing beneficiaries about the rules (Coordinators' Day, Participants' Portal, communication campaigns).

DG CONNECT contributes to the definition of the common approaches applied for H2020 by cooperating at various levels, providing structural feedback and contributing to the decision making process. Furthermore, it supervises the Executive Agencies entrusted with the implementation tasks through exercising its governance role.

Beside the results of the control efforts expressed in terms of Error Rate, the control output of DG CONNECT must also meet other legal requirements of the Financial Regulation: time-to-grant (time elapsed between the call deadline and the signature of the grant agreement), time-to-inform (time elapsed between the call deadline and when applicants are informed of the outcome of the scientific evaluation) and time-to-pay are major performance indicators. Respecting them also contributes to the regularity of the operations.



Fraudulent cost claims in research grant agreements is the main sectorial fraud risk. The Fraud and Irregularities in Research Committee (FAIR) is the main platform of coordination between the research family members in the field of anti-fraud. Its action is complemented by the local anti-fraud correspondents' working meetings and a common anti-fraud training and common tools (guidance, IT developments) – as detailed in the action plan of the Research Anti-Fraud Strategy (RAFS). The Committee monitors the state of play of this action plan; by November 2017 approximately 90% of its actions were implemented.

The main fraud prevention measure lies in raising the fraud awareness amongst a target population (agents involved in public procurement and direct grant management). The anti-fraud training course focussing on grants is in place since 2011 and has been revamped in 2015. In addition, another anti-fraud training course focussing on procurement is in place since 2016. One of the main outputs of the fraud detection work consists in files being referred to OLAF, which are, together with other OLAF cases relevant for DG CONNECT, regularly monitored and reported to the management and to the Commissioner. The CAS, which conducts FP7/H2020 audits, including fraud risk audits, is also responsible for transmitting information to OLAF about alleged fraud cases brought to light by financial audits.

The 2016 DG CONNECT anti-fraud strategy, communicated to all staff, focusses on the areas of activity not covered by the RAFS. The implementation of its action plan is monitored on a regular basis. By November 2017 all actions were already implemented or for recurrent/ permanent actions implementation is ongoing. The strategy will be reviewed following the update of the Commission Anti-Fraud Strategy in 2018 and the update of the RAFS in 2018/2019.

15 years after the adoption of the first Internal Control Standards, the Commission has adopted its Communication of the revised Internal Control Framework (ICF) (C(2017)2373 of 19.4.2017) which entails a shift from the current ICF with its 16 Internal Control Standards to a principle based Internal Control Framework. DG CONNECT will implement the new framework in the course of 2018 and will assess the state of internal control according to the new framework for the preparation of the 2018 Annual Activity Report.

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

Main outputs in 2018:

Output	Indicator	Target
<i>Ex-ante controls</i>	<i>Coverage</i>	<i>100%</i>
<i>Ex-post audit plans</i>	<i>Implementation of the 2018 audit plan</i>	<i>95% at 31/12/2018</i>
<i>Implementation of the audit results</i>	<i>Cumulative implementation rate of FP7 audit results</i>	<i>85% at 31/12/2018</i>
<i>Implementation of extrapolations</i>	<i>Cumulative implementation rate of FP7 audit results</i>	<i>75% at 31/12/2018</i>
<i>Open recommendations from European Court of Auditors (ECA)</i>	<i>Number of critical recommendations from ECA overdue for more than 6 months</i>	<i>None</i>
<i>Trainings on business processes (H2020)</i>	<i>Number of participants.</i>	<i>6000 for the research family by Q4 2018 including web streaming. Training organised by the Common Support Centre.</i>

Part 2. Main organisational management outputs for the year

<i>Legality and regularity of transactions under FP7 and H2020</i>	<i>Error rate within the agreed range</i>	<i>FP7: residual error rate as close as possible to 2% H2020: representative error rate between 2-5% - residual error rate as close as possible to 2%.</i>
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Objective 2: Effective and reliable internal control system in line with sound financial management.

Main outputs in 2018:

Output	Indicator	Target
<i>Timely execution of payments</i>	<i>Payments on the administrative budget made within the time limits</i>	<i>>95%</i>
	<i>Time-to-pay</i>	<i>95% compliant by 31/12/2018</i>
<i>Timely information to the participants</i>	<i>Time-to-inform</i>	<i>95% compliant by 31/12/2018</i>
<i>Efficient grant management process</i>	<i>Time-to-grant</i>	<i>95% compliant 31/12/2018</i>
<i>Cost effectiveness of control</i>	<i>Cost of control/operational payments</i>	<i>a) budget managed by DG CONNECT: <2% b) budget implementation tasks entrusted to other DGs and entities: <1%</i>

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

Main outputs in 2018:

Output	Indicator	Target
<i>Implementation of the anti-fraud strategies (RAFS, DG CONNECT)</i>	<i>% of implementation of actions planned for 2018 in the anti-fraud strategies</i>	<i>100%</i>
<i>Fraud And Irregularities in Research Committee</i>	<i>Number of meetings</i>	<i>2</i>
<i>Fraud risk awareness raising trainings and similar anti-fraud trainings</i>	<i>Number of participants from DG CONNECT</i>	<i>50 in 2018</i>
<i>Organisation of an ethics event</i>	<i>Level of participation</i>	<i>Average of 1 staff per unit</i>

Part 2. Main organisational management outputs for the year

<i>In the context of the revision of the CAFS, review and, if necessary, update of the RAFS and the DG CONNECT Anti-Fraud Strategy.</i>	<i>Timely contribution to the FAIR committee</i>	<i>Q4 2018</i>
<i>Use of the anti-plagiarism tool</i>	<i>Number of requests to use the anti-plagiarism tool</i>	<i>More than 8 requests (increase compared to previous period)</i>

C. Better Regulation

The main planned outputs linked to the Better Regulation objective in the Strategic Plan are listed in Part 1 under the relevant specific objective. They are presented in the tables under the headings "All new initiatives and REFIT initiatives from the Commission Work Programme" and "Other important items".

D. Information management aspects

The corporate strategy for data, knowledge and information management aims to improve the way we manage data, information and knowledge assets within the Commission and to enable collaborative working. The strategy is implemented by a multi-annual Work Programme, which is defined by the Information Management Team (IMT) and adopted by the Information Management Steering Board (IMSB). DG CONNECT is represented within the IMSB by one of the Deputy Directors-General and within the IMT by the Head of Unit of the Knowledge Management and Support Systems unit. DG CONNECT strategy for data, knowledge and information management contributes to the IMSB Work Programme while leaving room to address specific needs.

The IMSB Work Programme is structured around four pillars to all of which DG CONNECT contributes: 1) Improving information retrieval and delivery, 2) Working together and sharing information and knowledge, 3) Maximising use of data for better policy-making, 4) Creating a culture of knowledge sharing and learning.

1) Improving information retrieval and delivery

DG CONNECT asked DG Informatics to early participate in the corporate search. Furthermore, we will develop a semantic-driven approach (based on taxonomies) to improve search and retrieval of information on our platforms (Connected, MyIntraComm Collaboration and Ares).

Processes for information retrieval and knowledge management rely on corporate tools and practices. We have developed principles and rules, including information security on how to register and file documents. In 2018, the rules should be revised to make them consistent with the new corporate directions given by the IMSB.

To face a drastic reduction of clerical and support staff, we have started reviewing DG CONNECT Standard Operating Procedures to make them simpler and easy to retrieve.

External communication is managed through web platforms based on corporate solutions, and on publicly available commercial tools, such as social media.

2) Working together and sharing information and knowledge

DG CONNECT developed the Connected platform which is now used by several DGs and has been taken over by the Joint Research Centre (system owner) and DG Informatics (system supplier), with strong contributions by DG Human Resources and Security and DG Internal Market, Industry, Entrepreneurship and SMEs. Following a large cleaning exercise which eliminated obsolete and inconsistent spaces, groups and tags in 2017, the content will be thoroughly reorganised according to a new DG CONNECT taxonomy and a new navigation structure. Furthermore, once the SharePoint-Connected integration will be completed by DG Informatics, the use of Connected for collaborative work will be even easier.

Stakeholder Relation Management (SRM) is made to share knowledge regarding stakeholders. Advanced Virtual Assistant (AVA) helps preparing meetings with stakeholders as well as drawing up meeting reports, managing and sharing stakeholder information, informing participants, etc. The tool is linked with the Commission's transparency register. In 2018, we will make SRM/AVA fully adopted within the DG by integrating it with Basis and enriching the information on stakeholders with data from other systems (Corda, Orbis...).

On external collaboration, we made the Futurium available as a toolkit to build scalable and adaptable citizen engagement platforms. Currently, there are 15 platforms launched by DG CONNECT, DG Regional and Urban Policy and the Research Executive Agency. In 2018 we will explore the potential to extend the Futurium's semantic-driven approach to support informal consultations, complementing the formal Better Regulation's e-Survey. We also plan to use the Futurium to support a consultation on funding programmes.

We contributed to the definition of corporate vocabularies (lists, taxonomies) under the coordination of the Publication Office. We defined a first draft of a DG CONNECT taxonomy which is consistent with the ARES/NOMCOM nomenclature and which will be consolidated and enriched with a number of relations to allow linkages between content.

3) Maximising use of data for better policy-making

DORIS (Data Oriented Service) is our flagship system providing data analytics services to policy. Through collaboration between Secretariat General, DG Informatics and DG CONNECT, the DORIS Public Consultation Dashboard has been integrated in the Better Regulation Portal and is now accessible for all Commission services. DG CONNECT will continue to enhance the tool to address its local needs and to contribute to the creation of the future Commission-wide data analytics service.

DG CONNECT will strengthen its contribution to the Data4Policy initiative by actively participating to workshops and sharing best practices.

Through the development of the DORIS, Drive-In (currently being tested), many text analytics services will be available to all staff and services. Users will be able to run their own analyses without manual intervention: keyword extraction, named entity recognition, sentiment analysis, etc. The Drive-In will be launched early 2018 but further enhancements may be possible depending on the actual users' feedback.

4) Creating a culture of knowledge sharing and learning

Cultural change will be pursued as part of the "Better IT and Knowledge Management (KM)" programme launched by the internal Diversity and Inclusion Network to improve use of collaborative platforms, information sharing, opening up access to systems and developing

Part 2. Main organisational management outputs for the year

dashboards to support multiple procedures and roles (secretaries, policy officers, accountants, managers...), etc.

The new Customer Relationship Management function will support users and will provide one-to-one knowledge transfer so as they become acquainted and improve their experience with tools and equipment.

We will also deliver a comprehensive programme of trainings and coaching in KM and IT, which will include new working methods and a modern use of mobile devices.

The paperless campaign relying on the very high penetration of mobile devices within the DG (100% staff has a laptop, 25% has a tablet or a smartphone) will focus on making meetings paperless (e.g. through the optimal use of SharePlus and other apps) and on drastically reducing the number of personal printers. In 2018 DG CONNECT, with the support of DG Informatics will gradually move to the new Windows 10 and Office Automation software, and will introduce the Unified Communication and Collaboration (UCC) as well as tele-presence robotics to enhance the integration of staff between the Luxembourg and Brussels sites.

The following additional measures are planned for 2018:

- Review and update of the DG's filing plan according to a new relational taxonomy reflecting the update scope of the DG,
- Training and awareness raising about document management and knowledge sharing,
- Development of a talent management tool based on the DORIS algorithms to enable the discovery of skills and the fast creation of project teams,
- Ensure widespread use of SharePoint and Connected for collaborative working across the DG,
- Intensify the use of the SRM across the DG as the common tool for managing relations with our stakeholders,
- Sharing of FP7 deliverables with the Common Support Centre to index their content,
- Automatic topic clustering and project portfolio management on DG CONNECT FP7 and H2020 deliverables using corporate and local analytics tools (DORIS).

Objective 1: Information and knowledge in your DG is shared and reusable by other DGs. Important documents are registered, filed and retrievable.

Main outputs in 2018:

Output	Indicator	Target
<i>Provide training and coaching on document registration and filing</i>	<i>Training/coaching of unit secretariat and DMO correspondent</i>	<i>100% of units trained/coached</i>
<i>Awareness campaigns</i>	<i>1 for Areslook; 1 for Windows 10 and Eurolook10/AresBridge; 1 for Connected and SharePoint</i>	<i>Q4 2018</i>
<i>Launch of a data analytics service (Doris Drive-In) available to all staff to perform analysis of documents and data</i>	<i>50% of operational units using the service at least once</i>	<i>Q3 2018</i>

Part 2. Main organisational management outputs for the year

<i>Creation of a taxonomy reflecting the scope of DG CONNECT</i>	<i>To screen and re-organise the content of Connected, SharePoint and Ares to make it more retrievable and linked</i>	<i>Q2 2018</i>
<i>Enhancement of Stakeholder Relationship Management (SRM)</i>	<i>Integration with Basis workflow. Enrichment of stakeholders information with data from other systems (Corda, Orbis)</i>	<i>Q2 2018</i>
<i>Roll-out of the Windows 10 and Unified Communication and Collaboration (UCC)</i>	<i>Training and coaching of staff</i>	<i>Q3 2018</i>
<i>Rationalisation and adoption of DG CONNECT Standard Operating Procedures (SOP)</i>	<i>New SOP and one-stop-shop dashboard available to all staff. Awareness raising and coaching</i>	<i>Q2 2018</i>

E. External communication activities



DG CONNECT's external communication activities support the Commission's political priority on the DSM. In 2018 our communications will focus on new initiatives as identified in the Commission Work Programme 2018 (fairness in platforms-business relations, fake news, guidelines on Significant Market Power (SMP) and ongoing legislative files (data, communications code, ePrivacy, ...). Our challenge remains to maintain momentum when communicating and engaging with the public, media and digital stakeholders on the implementation, delivery and political endorsement of existing legislative and policy initiatives. A key part of this engagement will be

through key stakeholder and high level events held in 2018 such as:

- Digital Day II (February-March),
- ICT for women event (March-April – date TBC),
- Digital Assembly 2018 (June 25-26; under the Bulgarian presidency),
- Code week 2018 (October),
- Digital Skills and Jobs Coalition conference (November/December),
- ICT 2018 (December 4-6; under the Austrian Presidency).

In the context of the discussions around the EU's future multi-annual financial framework, our external communication will seek to highlight the impact and benefits of EU investment in ICT and digital.

DG CONNECT will continue to focus on joined-up, digital-first communications in partnership with the spokesperson service, the Commissioner's and VP's Cabinets, the DSM family DGs as well as the research & innovation family DGs and their policy teams. We will strengthen our stakeholder communication and ensure coherence with top-level communications priorities through DG CONNECT's internal networks, including a reinforced CONNECT communications network and throughout the Commission by continuing to be part of the corporate communication campaigns EU INVEST, EU EMPOWERS (where we will chair in 2018 the digital leg) and EU PROTECTS.

Part 2. Main organisational management outputs for the year

In 2018 we will continue to develop specific narratives and define and implement communication actions around key themes as well as support the research priorities of the new WP 2018-2020. These themes include:

- **A connected, data-driven society:**
 - **Connectivity** including 5G, broadband, WiFi4EU & Roaming,
 - **Data-driven:** HPC, data communication,
- **Trust and security in a connected world:** Cybersecurity, ePrivacy, eIDAS,
- **Digital research and innovation:** Startups, innovation radar, PPPs,
- **Digitising European Industry and public services,** including robotics, artificial intelligence, eGovernment,
- **Digital transformation of health and care,**
- **Digital skills** including Code Week, Digital Opportunity traineeship scheme, the Digital Skills and Jobs Coalition and the social impact of digitisation,
- **Digital creativity and culture** including MEDIA, online culture (including Europeana) and fake news.

The impact of DG CONNECT's communications outputs are measured in terms of **overall communications activity** across the **full range** digital-first communications **channels**. The overall outputs and targets can be seen in the first table below. Additional information per key communication theme can be seen in the second table below.

Objective 1: Citizens perceive that the EU is working to improve their lives and engage with the EU. They feel that their concerns are taken into consideration in European decision making and they know about their rights in the EU.		
Main outputs in 2018:		
Output	Indicator	Target
<i>How many people we have reached through our communication activities</i>	<i>1) People reading the Digital Single Market website</i>	<i>Yearly median 7,127 Unique browsers per day (baseline 7,127) (keep at least stable)</i>
	<i>2) People participating in our events</i>	<i>Total of registrations for events (currently Event in the Box accounts only 78,000 (baseline 73.053)(increase 6%)</i>
	<i>4) People reading any of the DSM Newsletters</i>	<i>Total of Newsroom subscription for newsletters 250,000 (base line 237,162) (increase 5.4%)</i>
	<i>5) People following DSM Facebook page</i>	<i>Total of DSM Facebook likes 29,000 Likes (baseline 23,551) (increase 23%)</i>
	<i>6) People following DSM Twitter account</i>	<i>Total of DSM Twitter followers 88,000 (increase 20%)</i>
<i>How people interacted with us on the base of our communication activities</i>	<i>1) Engagement with DSM Facebook page</i>	<i>Cumulative monthly average 1,190 points engagement (baseline 1,189) (keep stable)</i>

Part 2. Main organisational management outputs for the year

	2) Engagement with DSM Twitter account	Cumulative monthly average 8,000 points engagement (baseline 7,991) (keep stable)
Participation in the ICT women event	People attending ICT Women event	100 participants
Participation in Code Week 2018	People attending Code Week 2018 events	1.5 million participants
Participation in Digital assembly	People attending Digital Assembly	1000 participants
Digital Day II	People attending Digital Day II	200 participants
Digital Skills and Jobs Coalition conference	People attending the Digital Skills and Jobs Coalition conference	350 participants
Participation in the ICT 2018 event	People attending ICT 2018	5000 participants

Annual communication spending (based on estimated commitments):

Baseline (2017)	Estimated commitments (2018)
5,4 Mio EUR	9 Mio EUR

F. Example of initiatives to improve economy and efficiency of financial and non-financial activities of the DG



In line with the prior analysis carried out within the context of the former VP Georgieva Review, DG CONNECT has launched pilot projects and adopted some measures, which will be 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.

This includes focussing resources on frontline activities by **minimising the number of full time equivalents working in support functions**:

- (i) Internal redeployment of support functions in order to strive towards a more balanced and reasonable level of support functions, in accordance with the targets agreed with DG Human Resources and Security;
- (ii) Adaptation of our working methods (and culture) to cope with the workload in times of reduced support levels.

As an outcome of the Synergies and Efficiencies Review, the HR function across the Commission is being modernised and largely centralised. Within this context, DG CONNECT is participating in the second wave of pilots between February 2017 and June 2018. More specifically, DG CONNECT will discuss proposals and make recommendations on the new processes and HR governance structure, contributing to synergies and efficiencies in the areas of HR management across the Commission.

A

- AD= Administrator (Commission function level)
- AMC= Account Management Centre
- AFS= Anti-Fraud Strategy
- AI= Artificial Intelligence
- AIOTI= Alliance for IoT Innovation
- AVA= Advanced Virtual Assistant

B

- BEREC= Body of European Regulators in Electronic Communications
- B2B= Business To Business

C

- CAD= Connected and Automated Driving
- CAS= Common Audit Service
- CCAM= Cooperative, Connected and Automated Mobility
- CEBF= Connecting Europe Broadband Fund
- CEF= Connecting Europe Facility
- CoR= Committee of the Regions
- cPPP= Contractual Public Private Partnership
- CSC= Common Support Centre
- CWP= Commission Work Programme

D

- DEI= Digitising European Industry
- DG= Directorate-General (Commission)
- DG DIGIT= DG Informatics
- DG EAC= DG Education and Culture
- DG FISMA= DG Financial Stability, Financial Services and Capital Markets Union
- DG GROW= DG Internal Market, Industry, Entrepreneurship and SMEs
- 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
- DMO= Document Management Officer
- DSI= Digital Service Infrastructure
- DSM= Digital Single Market

E

- EC= European Commission
- ECA= European Court of Auditors
- ECSEL= Electronic Components and Systems for European Leadership
- EEAS= European External Action Service

- EFSI= European Fund for Strategic Investments
- EIC= European Innovation Council
- ENISA = European Union Agency for Network and Information Security
- EP= European Parliament
- ESIF= European Structural and Investment Funds

F

- FAIR Committee= Fraud and Irregularities in Research Committee
- FET= Future Emerging Technologies
- FP= Framework Programme
- FTE= Full Time Equivalent

G

- GDPR= General Data Protection Regulation

H

- H2020= Horizon 2020
- HBP= Human Brain Project
- HPC= High Performance Computing
- HR= Human Resources

I

- ICANN= Internet Corporation Assigned Names and Numbers
- ICF= Internal Control Framework
- ICT= Information and Communication Technologies
- IMSB= Information Management Steering Board
- IoT= Internet of Things
- IPCEI= Important Project of Common European Interest
- IPI= Innovation Potential Indicator
- IPR= Intellectual Property Rights

J

- JRC= Joint Research Centre

K

- KM= Knowledge Management

L

- LEIT= Leadership in Enabling and Industrial Technologies
- L&D= Learning & Development

N

- NIS= Network Information Security
- NRAs= National Regulatory Authorities

O

- OLAF= European Anti-Fraud Office

P

- P2P= Peer to Peer
- PPP= Private Public Partnership
- PRACE= Partnership for Advanced Computing in Europe (the pan-European high performance computing research infrastructure)

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
- RFID= Radio Frequency IDentification

S

- SMEs= Small and medium-sized enterprises
- SMP= Significant Market Power
- SOP= Standard Operating Procedures
- SRD= Short-Range Device
- SRM= Stakeholders Relations Management
- STARTS= Science, Technology; and the ARTS
- SWD= Staff Working Document

T

- TLD= Top-Level Domain

U

- UCC= Unified Communication and Collaboration

V

- VP= Vice-President (Commission)

W

- WACC= Weighted Average Cost of Capital