European Commission

A guide to ICT-related activities in WP2016-17

ICT in H2020 – an overview

As a generic technology, ICT is present in many of the H2020 areas. This guide is designed to help potential proposers find ICT-related topics across the different parts of H2020 in work programme 2016-17.

Excellent Science

Frontier Research (ERC)
Future & Emerging Technologies (FET) ICT
Skills & career development (Marie Skłodowska-Curie)
Research Infrastructures ICT
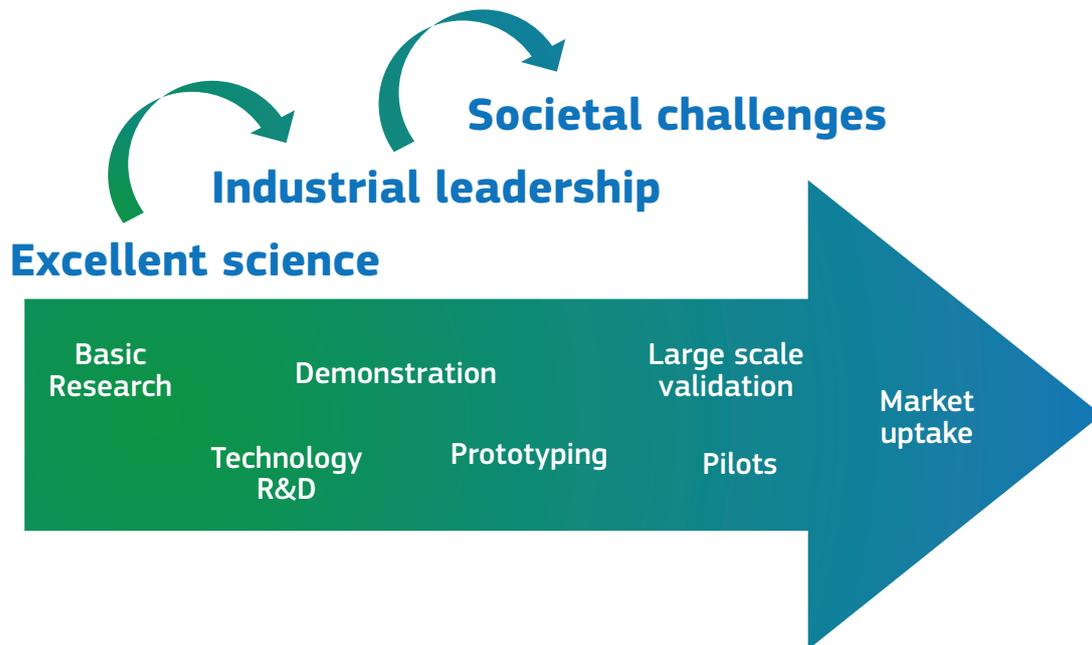
Industrial Leadership

Leadership in enabling & industrial technologies
    ICT ICT
    Nanotech., Materials, Manuf. & Processing ICT
    Biotechnology
    Space
Access to risk finance
Innovation in SMEs ICT

Societal Challenges

Health, demographic change & wellbeing ICT
Food security, sustainable agriculture, & the bio-based economy ICT
Secure, clean & efficient energy ICT
Smart, green & integrated transport ICT
Climate action, resource efficiency, & raw materials ICT
Inclusive, innovative & reflective societies ICT
Secure societies ICT

Like in 2014-15 ICT actions supported through the work programme will allow **covering the full innovation chain**, from basic research to market uptake:

- Advanced research to uncover radically new technological possibilities and ICT contributions to upstream research and innovation are addressed in the **'Excellent science'** part of the work programme, respectively under **'Future and Emerging Technologies'** and **'European research infrastructures'** (**'eInfrastructures'**);

- Research and innovation activities on generic ICT technologies either driven by industrial roadmaps or through a bottom up approach are addressed in the **'Leadership in enabling and industrial technologies'** (LEIT) part of the work programme;

- Multi-disciplinary application-driven research and innovation leveraging ICT to tackle societal challenges are addressed in the different **'Societal challenges'**.

Excellent science / **Industrial leadership** / **Societal challenges**

Basic Research — Technology R&D — Demonstration — Prototyping — Large scale validation — Pilots — Market uptake

However, although the overall structure of the work programme 2016-17 is very similar to the one of 2014-15, a few changes need to be taken into account:

- Activities aiming at supporting innovative SMEs of the ICT sector through the dedicated **SME instrument** are grouped together with similar activities addressing other scientific and technical fields in a single call of the **'Innovation in SMEs'** part of the work programme.
- **'Cross-cutting activities'** combining contributions from the 'Leadership in enabling and industrial technologies' priority and 'Societal Challenges' are also grouped together in a specific part of the work programme.

The following sections give more details on the ICT-related activities in the different parts. **A list of the topics where ICT's contribution is the most relevant is also provided in annex (with the main call details).**

The detailed description of all these topics can be found in the complete work programme with the references available in this document.

Note that ICT is also addressed by the **European Research Council (ERC)** and the **Marie Skłodowska-Curie actions**, which are not covered in this document.

ICT in 'Excellent science'

1. Future and Emerging Technologies (FET)

FET Open: novel ideas for radically new technologies

FET Open, which will represent 40% of the overall FET budget in Horizon 2020, is entirely non-prescriptive with regards to the nature or purpose of the technologies that are envisaged. FET Open covers all technological areas, without budget specifically earmarked for ICT.

In WP2016-17, a new activity aiming at stimulating innovation by initiating entrepreneurial activities around results from FET research projects is introduced, the **'FET Innovation Launchpad'**.

FET Proactive: boosting emerging technologies

Two calls are proposed in FET proactive, one specifically addressing **High Performance Computing** and another one entitled **'Boosting emerging technologies'**, with its main topic (*'FETPROACT-01-2016: FET Proactive: emerging themes and communities'*) covering four areas, out of which one proves particularly relevant for ICT (**'Area 3: Disruptive information technologies'**).

The two other topics of this second call are introducing the possibility of supporting **ERA-Net co-fund actions** in FET Proactive. One of these two topics specifically targets **quantum technologies**.

FET Flagships: tackling grand interdisciplinary science and technology challenges

The two flagships launched in 2013, and already addressed in the work programme 2014-15, will be further developed and supported:

- the **Graphene** flagship,
- the **Human Brain Project** (HBP).

Both initiatives strengthen the interfaces between ICT and other disciplines, most notably material science and neuroscience.

2. Research infrastructures

eInfrastructures

The **e-infrastructures** call for 2016-17 will support the European policies on open research data, data and computing intensive science, research and education networking, high-performance computing and big data innovation.

This call is structured along the following two themes:

- Theme 1 – **Integration and consolidation of e-infrastructure platforms** supporting European policies and research and education communities,
- Theme 2 – **Prototyping innovative e-infrastructure platforms and services** for research and education communities, industry and the citizens at large.

In addition to eInfrastructures, ICT-related activities are present in the two other calls of the 'Research infrastructures' part of the work programme:

- 'Development and long-term sustainability of new pan-European research infrastructures', where an action aims at launching a pilot **European Open Science Cloud for Research**;
- 'Support to policy and international cooperation', where a topic specifically addresses the **support to policies and international cooperation for e-infrastructures**.

ICT in 'Leadership in Enabling and Industrial Technologies'

This part covers the following ICT technological areas:

- **a new generation of components and system**,
- **advanced computing and cloud computing**,
- **future Internet**,
- **content technologies and information management**,
- **robotics and autonomous systems**,
- **micro- and nano-electronic technologies, photonics**.

The corresponding activities are grouped in a **single ICT call**, which also covers topics addressing '**Innovation and Entrepreneurship support**', '**Responsibility and Creativity**' and '**International Cooperation Activities**'.

These international cooperation activities are complemented by a series of **dedicated joint calls** with **Japan**, **Brazil** and also **South Korea** (new partner country in 2016-17).

Moreover, one topic of the call for 'nanotechnologies, advanced materials, biotechnology and production' requires contribution from ICT: '**Cross-cutting KETs for diagnostics at the point-of-care**'.

In the work programme 2016-17, the research and innovation activities related to **digital security** and the **Internet of Things** are covered through two dedicated focus areas, i.e. specific calls which cut across several parts of Horizon 2020. Note that the **Internet of Things** focus area is presented in a separate part of the work programme specifically dedicated to cross-cutting activities.

The '**Open and Disruptive Innovation**' (ODI) scheme, successfully introduced in the work programme 2014-15, is also no longer covered in the main ICT call, but in a call which gathers all topics using the SME instrument.

ICT in 'Innovation in SMEs'

SME participation is encouraged throughout the work programme and in particular in the priorities Industrial Leadership and Societal Challenges. Dedicated SME support is channelled through the **SME instrument**, introduced in the Work Programme 2014-2015, which promotes SMEs' innovation activities from concept to market.

In 2016-17, all topics using the SME instrument are grouped in a continuously open common call.

Two of these topics are targeting SMEs from the ICT sector only:

- '**Open Disruptive Innovation Scheme**',
- '**Accelerating market introduction of ICT solutions for Health, Well-Being and Ageing Well**'.

Moreover, amongst the other topics, the four following ones offer opportunities for ICT SMEs:

- 'Stimulating the innovation potential of SMEs for a low carbon and efficient energy system',
- 'Small business innovation research for Transport and Smart Cities Mobility',
- 'New business models for inclusive, innovative and reflective societies',
- 'Engaging SMEs in security research and development'.

ICT in 'Societal challenges'

ICT contributions are expected in each of the seven societal challenges in Horizon 2020:

- SC1: Health, demographic change and wellbeing,
- SC2: Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy,
- SC3: Secure, clean and efficient energy,
- SC4: Smart, green and integrated transport,
- SC5: Climate action, environment, resource efficiency and raw materials,
- SC6: Europe in a changing world – Innovative, inclusive and reflective societies,
- SC7: Secure societies – Protecting freedom and security of Europe and its citizens.

ICT is in the societal challenges addressed through either specific topics or calls or as part of a broader set of contributing technologies in the description of the targeted activities.

1. SC1 – Health, demographic change and wellbeing

ICT, which does have a prominent role in this societal challenge, is addressed in dedicated topics in three parts of the unique call **'Personalised Medicine'**:

- **active ageing and self-management of health**,
- **methods and data**,
- coordination activities.

2. SC2 – Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy

One of the topics of the call "Sustainable Food Security – Resilient and resource-efficient value chains" is dedicated to **"Robotics Advances for Precision Farming"**.

3. SC3 – Secure, clean and efficient energy

ICT is present in the two calls of this societal challenge:

- 'Energy Efficiency' (EE),
- 'Competitive Low-Carbon Energy' (LCE).

It is to be noted that 'Smart Cities and Communities', which cut across several societal challenges (including SC3), are now addressed in a focus area which is to be found in the part of the work programme dedicated to cross-cutting activities.

In the **'Energy Efficiency'** call, ICT is expected to contribute to four topics, in three different areas:

- **Engaging consumers towards sustainable energy**,
- **Buildings**,
- **Industry, services and products**.

In the **'Competitive Low-Carbon Energy'** call, ICT's contribution is focussed on smart grids, which are addressed in the five topics of the part entitled **'Towards an integrated EU energy system'**.

4. SC4 – Smart, green and integrated transport

Three calls are planned in 2016-17 for this challenge:

- 'Mobility for Growth' (MG), which actually constitutes the main call of SC4 and is sub-divided in eight parts corresponding to transport modes or environments (aviation, waterborne, urban mobility), or horizontal issues (safety, logistics, intelligent transport systems, etc.),
- 'Automated Road Transport' (ART),
- 'Green vehicles' (GV), which implements the Green Vehicle cPPP.

In the **'Mobility for Growth'** call ICT will contribute in the following areas:

- **urban mobility**, where the integration of ICT solutions can be considered in a topic addressing sustainable mobility,
- **logistics**, where one topic is dedicated to innovative ICT solutions for future logistics operations,
- **intelligent transport systems**, which rely on ICT and for which three topics are proposed.

Moreover, one of the topics of the part dedicated to **'socio-economic and behavioural research and forward looking activities for policy making'** will address **Big Data in transport**.

The first topic of the **'Automated Road Transport'** call will be centred on ICT and one of the topics of the **'Green vehicles'** call explicitly refers to ICT.

5. SC5 – Climate action, environment, resource efficiency and raw materials

This societal challenge will be addressed in 2016-17 through one generic call 'Greening the Economy' and contributions to two cross cutting focus areas, 'Industry 2020 in the Circular Economy' and 'Smart and sustainable cities'. SC5 will also contribute to the 'Blue Growth' focus area of SC2.

In the main call 'Greening the Economy', there are only very few explicit references to ICT. The only topic where ICT's contribution is clearly requested is the one entitled **'European data hub of the GEOSS information system'**.

6. SC6 – Europe in a changing world –
Innovative, inclusive and reflective societies

In 2016-17, ICT will be contributing with specific topics proposed in three out of the four calls of this societal challenge:

- **'Co-creation for growth and inclusion'**, where most of the activities related to public sector modernization are located (in three topics),
- **'Reversing inequalities and promoting fairness'**,
- **'Understanding Europe – promoting the European public and cultural space'**, where two topics cover the area of **ICT for cultural heritage** and a third one complements the set of topics addressing public sector modernization mentioned above.

7. SC7 – Secure societies – Protecting freedom and security
of Europe and its citizens

This part of the work programme is structured around five calls out of which two are particularly relevant for ICT:

- **'Critical infrastructure protection'** (CIP), which contains a topic cutting across physical and cyber-security,
- **'Digital Security'** (DS), which corresponds to a focus area covering most of cyber-security activities of SC7, with also topics from SC1 (on the **protection of health data**) and LEIT-ICT (on **'assurance and certification for trustworthy and secure ICT systems, services and components'** and **'cryptography'**).

ICT in 'cross-cutting activities' (focus areas)

This new part of the work programme, introduced in 2016-17, gathers three focus areas cutting across several parts of LEIT-ICT and Societal Challenges:

- **'Industry 2020 in the Circular Economy'**,
- **'Internet of Things'**,
- **'Smart and sustainable cities'**.

The call **'Industry 2020 in the Circular Economy'** comprises one part which is particularly relevant for ICT, **'ICT for the factories of the future'**, which corresponds to the ICT contribution to the FoF (Factories of the Future) PPP and contains three topics for 2016-17.

Another part of this call addresses the **'Circular Economy'** and includes a topic on water management where ICT should contribute (**'Water in the context of the circular economy'**).

Fast Track to Innovation pilot

The **Fast Track to Innovation** (FTI) pilot, which was launched in 2015, is testing a new approach to give the development of innovations the last push needed before their introduction to the market. It is the only **fully bottom-up** measure in Horizon 2020 promoting close-to-market innovation activities and **open to all types of participants**.

Important disclaimer

This document presents an overview of ICT-related activities to be supported in the work programme 2016 2017 of Horizon 2020. The adoption and the publication of the final work programme by the Commission are expected in mid-October 2015. The information provided here is therefore indicative and liable to change.

Readers should in any case refer to the official version on the Horizon 2020 Programme published on the Horizon 2020 website and on the Participant Portal (http://ec.europa.eu/research/participants/portal), notably for the call conditions.

Annex - Detailed list of topics

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
Excellent Science 8					
Future and Emerging Technologies (FET)					
FET Open: novel ideas for radically new technologies					
FETOPEN-01-2016-2017	FET-Open research and innovation actions	3 x 84.0	08/12/15	11/05/16	17/01/17 27/09/17
FETOPEN-02-2016	FET-Open Coordination and Support Actions	3.0	08/12/15	11/05/16	
FETOPEN-03-2017	FET-Open Coordination and Support Actions	1.5	20/09/16		17/01/17
FETOPEN-04-2016-2017	FET Innovation Launchpad	3.0	01/03/16	29/09/16	27/09/17
FET Proactive - Boosting emerging technologies					
FETPROACT-01-2016	FET Proactive: emerging themes and communities	80.0	08/12/15	12/04/16	
FETPROACT-02-2017	FET ERANET Cofund	5.0	20/09/16		24/01/17
FETPROACT-03-2016	FET ERANET Cofund in Quantum Technologies	10.0	08/12/15	12/04/16	
FET Proactive - High Performance Computing					
FETHPC-01-2016	Co-design of HPC systems and applications	41.0	14/04/16	27/09/16	
FETHPC-02-2017	Transition to Exascale Computing	40.0	12/04/17		26/09/17
FETHPC-03-2017	Exascale HPC ecosystem development	4.0	12/04/17		26/09/17
FET Flagships - Tackling grand interdisciplinary science and technology challenges					
FETFLAG-01-2016	Partnering environment for FET flagships	9.0	10/11/15	01/03/16	
Research Infrastructures					
Development and long-term sustainability of new pan-European research infrastructures					
INFRADEV-04-2016	European Open Science Cloud for Research	10.0	15/03/16	22/06/16	
E-Infrastructures					
EINFRA-11-2016	Support to the next implementation phase of Pan-European High Performance Computing infrastructure and services (PRACE)	15.0	08/12/15	30/03/16	
EINFRA-12-2017	Data and Distributed Computing e-infrastructures for Open Science	40.0	08/12/16		29/03/17
EINFRA-21-2017	Platform-driven e-infrastructure innovation	26.0 20.0	14/04/16 08/12/16	20/09/16	29/03/17
EINFRA-22-2016	User-driven e-infrastructure innovation	21.0	08/12/15	30/03/16	
Support to policy and international cooperation					
INFRASUPP-03-2016	Support to policies and international cooperation for e-infrastructures	7.5	08/12/15	30/03/16	
Industrial Leadership					
LEIT - Information and Communication Technologies					
Information and Communication Technologies					
A new generation of components and systems					
ICT-01-2016	Smart Cyber-Physical Systems	20.0	20/10/15	12/04/16	
ICT-02-2016	Thin, Organic and Large Area Electronics	20.0	20/10/15	12/04/16	
ICT-03-2016	SSI - Smart System Integration	18.5	20/10/15	12/04/16	
ICT-04-2017	Smart Anything Everywhere Initiative	25.5	10/05/16	08/11/16	
Advanced Computing and Cloud Computing					
ICT-05-2017	Customised and low energy computing	26.0	08/12/16		25/04/17
ICT-06-2016	Cloud Computing	45.0	20/10/15	12/04/16	
Future Internet					
ICT-07-2017	5G PPP Research and Validation of critical technologies and systems	103.0	10/05/16	08/11/16	
ICT-08-2017	5G PPP Convergent Technologies	45.0	10/05/16	08/11/16	
ICT-09-2017	Networking research beyond 5G	18.0	10/05/16	08/11/16	
ICT-10-2016	Software Technologies	31.0	20/10/15	12/04/16	
ICT-11-2017	Collective Awareness Platforms for Sustainability and Social Innovation	10.0	08/12/16		25/04/17
ICT-12-2016	Net Innovation Initiative	20.2	20/10/15	12/04/16	

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
ICT-13-2016	Future Internet Experimentation - Building a European experimental Infrastructure	26.0	20/10/15	12/04/16	

Content

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
ICT-14-2016-2017	Big Data PPP: cross-sectorial and cross-lingual data integration and experimentation	27.0 27.0	20/10/15 08/12/16	12/04/16	25/04/17
ICT-15-2016-2017	Big Data PPP: Large Scale Pilot actions in sectors best benefitting from data-driven innovation	25.0 25.0	20/10/15 08/12/16	12/04/16	25/04/17
ICT-16-2017	Big data PPP: research addressing main technology challenges of the data economy	31.0	08/12/16		25/04/17
ICT-17-2016-2017	Big data PPP: Support, industrial skills, benchmarking and evaluation	5.0 2.0	20/10/15 08/12/16	12/04/16	25/04/17
ICT-18-2016	Big data PPP: privacy-preserving big data technologies	9.0	20/10/15	12/04/16	
ICT-19-2017	Media and content convergence	39.0	10/05/16	08/11/16	
ICT-20-2017	Tools for smart digital content in the creative industries	17.0	08/12/16		25/04/17
ICT-21-2016	Support technology transfer to the creative industries	14.0	20/10/15	12/04/16	
ICT-22-2016	Technologies for Learning and Skills	31.0	20/10/15	12/04/16	
ICT-23-2017	Interfaces for accessibility	12.0	08/12/16		25/04/17
ICT-24-2016	Gaming and gamification	12.0	20/10/15	12/04/16	

Robotics and Autonomous Systems

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
ICT-25-2016-2017	Advanced robot capabilities research and take-up	30.0 34.0	20/10/15 08/12/16	12/04/16	25/04/17
ICT-26-2016	System abilities, development and pilot installations	42.0	20/10/15	12/04/16	
ICT-27-2017	System abilities, SME & benchmarking actions, safety certification	46.0	08/12/16		25/04/17
ICT-28-2017	Robotics Competition, coordination and support	5.0	08/12/16		25/04/17

ICT Key Enabling Technologies

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
ICT-29-2016	Photonics KET 2016	66.0	20/10/15	12/04/16	
ICT-30-2017	Photonics KET 2017	87.0	08/12/16		25/04/17
ICT-31-2017	Micro- and nanoelectronics technologies	23.0	08/12/16		25/04/17

Innovation and Entrepreneurship support

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
ICT-32-2017	Startup Europe for Growth and Innovation Radar	12.0	08/12/16		25/04/17
ICT-33-2017	Innovation procurement networks	4.0	08/12/16		25/04/17
ICT-34-2016	Pre-Commercial Procurement open	4.0	20/10/15	12/04/16	

Responsibility and Creativity

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
ICT-35-2016	Enabling responsible ICT-related research and innovation	7.0	20/10/15	12/04/16	
ICT-36-2016	Boost synergies between artists, creative people and technologists	8.0	20/10/15	12/04/16	

International Cooperation Activities

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
ICT-37-2016	CHINA: Collaboration on Future Internet	1.0	20/10/15	19/01/16	
ICT-38-2016	MEXICO: Collaboration on ICT	1.0	20/10/15	19/01/16	
ICT-39-2016-2017	International partnership building in low and middle income countries	0.8 13.0	20/10/15 08/12/16	19/01/16	25/04/17

EU-Japan Joint Call

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
EUJ-01-2016	5G - Next Generation Communication Networks	3.0	20/10/15	19/01/16	
EUJ-02-2016	IoT/Cloud/Big Data platforms in social application contexts	2.7	20/10/15	19/01/16	
EUJ-03-2016	Experimental testbeds on Information-Centric Networking	1.3	20/10/15	19/01/16	

EU-Brazil Joint Call

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
EUB-01-2017	Cloud Computing	2.5	08/11/16		14/03/17
EUB-02-2017	IoT Pilots	4.5	08/11/16		14/03/17

EU-South Korea Joint Call

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
EUK-01-2016	5G - Next Generation Communication Networks	3.0	20/10/15	19/01/16	
EUK-02-2016	IoT joint research	1.5	20/10/15	19/01/16	
EUK-03-2016	Federated Cloud resource brokerage for mobile cloud services	1.5	20/10/15	19/01/16	

LEIT - Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing

Nanotechnologies, advanced materials, biotechnology and production

Advanced materials and nanotechnologies for healthcare

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
NMBP-13-2017	Cross-cutting KETs for diagnostics at the point-of-care	15.0	20/09/16		19/01/17

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017

Innovation in SMEs

Horizon 2020 dedicated SME Instrument 2016-2017

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
SMEInst-01-2016-2017	Open Disruptive Innovation Scheme	126.0	26/11/15	Phase 1: 24/02/16 03/05/16 07/09/16 09/11/16 Phase 2: 03/02/16 14/04/16 15/06/16 13/10/16	Phase 1: 15/02/17 03/05/17 06/09/17 Phase 2: 18/01/17 06/04/17 01/06/17 18/10/17
SMEInst-06-2016-2017	Accelerating market introduction of ICT solutions for Health, Well-Being and Ageing Well	30.5			
SMEInst-09-2016-2017	Stimulating the innovation potential of SMEs for a low carbon and efficient energy system	96.0			
SMEInst-10-2016-2017	Small business innovation research for Transport and Smart Cities Mobility	118.8			
SMEInst-12-2016-2017	New business models for inclusive, innovative and reflective societies	22.2			
SMEInst-13-2016-2017	Engaging SMEs in security research and development	30.0			

Societal Challenges

Health, demographic change and well-being

Personalised Medicine

1.4 Active ageing and self-management of health

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
SC1-PM-12-2016	PCP - eHealth innovation in empowering the patient	18.0	20/10/15	16/02/16	
SC1-PM-13-2016	PPI for deployment and scaling up of ICT solutions for active and healthy ageing	10.5	20/10/15	16/02/16	
SC1-PM-14-2016	EU-Japan cooperation on Novel ICT Robotics based solutions for active and healthy ageing at home or in care facilities	5.0	20/10/15	12/04/16	
SC1-PM-15-2017	Personalised coaching for well-being and care of people as they age	25.0	20/09/16		31/01/17

1.5 Methods and data

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
SC1-PM-16-2017	In-silico trials for developing and assessing biomedical products	19.0	08/11/16		14/03/17
SC1-PM-17-2017	Personalised computer models and in-silico systems for well-being	19.0	08/11/16		14/03/17
SC1-PM-18-2016	Big Data supporting Public Health policies	10.0	20/10/15	16/02/16	
SC1-PM-19-2017	PPI for uptake of standards for the exchange of digitalised healthcare records	8.2	08/11/16		14/03/17

Coordination activities

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
SC1-HCO-10-2016	Support for Europe's leading Health ICT SMEs	3.0	20/10/15	16/02/16	
SC1-HCO-11-2016	Coordinated action to support the recognition of Silver Economy opportunities arising from demographic change	1.0			
SC1-HCO-12-2016	Digital health literacy	2.0			
SC1-HCO-13-2016	Healthcare Workforce IT skills	0.5			
SC1-HCO-14-2016	EU-US interoperability roadmap	1.0			
SC1-HCO-15-2016	EU eHealth Interoperability conformity assessment	1.0			
SC1-HCO-16-2016	Standardisation needs in the field of ICT for Active and Healthy Ageing	1.0			

Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy

Sustainable Food Security - Resilient and resource-efficient value chains

More resilient and resource efficient value chains

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
SFS-05-2017	Robotics Advances for Precision Farming	7.0	04/10/16		14/02/17

Secure, Clean and Efficient Energy

Energy efficiency

2. Engaging consumers towards sustainable energy

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
EE-06-2016-2017	Engaging private consumers towards sustainable energy	N/A	15/03/16 19/01/17	15/09/16	07/06/17
EE-07-2016-2017	Behavioural change toward energy efficiency through ICT	N/A	15/10/15 15/06/16	21/01/16	19/01/17

3. Buildings

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
EE-12-2017	Integration of Demand Response in Energy Management Systems while ensuring interoperability through Public Private Partnership (PPP)	8.0	15/06/16		19/01/17

4. Industry, services and products

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
EE-20-2017	Bringing to market more energy efficient and integrated data centres	N/A	15/06/16		19/01/17

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017

Competitive low carbon energy

1. Towards an integrated EU energy system

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
LCE-01-2016-2017	Next generation innovative technologies enabling smart grids, storage and energy system integration with increasing share of renewables: distribution network	20.0 / 18.0	08/12/15 / 20/09/16	05/04/16	14/02/17
LCE-02-2016	Demonstration of smart grid, storage and system integration technologies with increasing share of renewables: distribution system	74.9	08/12/15	05/04/16	
LCE-03-2016	Support to R&I strategy for smart grid and storage	4.0	08/12/15	05/04/16	
LCE-04-2017	Demonstration of smart transmission grid, storage and system integration technologies with increasing share of renewables	65.1	20/09/16		14/02/17
LCE-05-2017	Tools and technologies for coordination and integration of the European energy system	28.0	20/19/16		14/02/17

Smart, green and integrated transport

Mobility for growth

4. Urban mobility

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
MG-4.1-2017	Increasing the take up and scale-up of innovative solutions to achieve sustainable mobility in urban areas	N/A	20/09/16		26/01/17 / *19/10/17*

5. Logistics

| MG-5.2-2017 | Innovative ICT solutions for future logistics operations | N/A | 20/09/16 | | 26/01/17 / *19/10/17* |

6. Intelligent transport systems

MG-6.1-2016	Innovative concepts, systems and services towards 'mobility as a service'	25.0	15/10/15	20/01/16 / *29/09/16*	
MG-6.2-2016	Large-scale demonstration(s) of cooperative ITS				
MG-6.3-2016	Roadmap, new business models, awareness raising, support and incentives for the roll-out of ITS	5.0	15/10/15	26/01/16	

8. Socio-economic and behavioural research and forward looking activities for policy making

| MG-8.2-2017 | Big data in Transport: Research opportunities, challenges and limitations | 2.0 | 20/09/16 | | 01/02/17 |

Automated road transport

| ART-01-2017 | ICT infrastructure to enable the transition towards road transport automation | N/A | 20/09/16 | | 26/01/17 / *27/09/17* |
| ART-06-2016 | Coordination of activities in support of road automation | 3.0 | 15/10/15 | 26/01/16 | |

Green vehicles

| GV-10-2017 | Demonstration (pilots) for integration of electrified L-category vehicles in the urban transport system | N/A | 04/10/16 | | 01/02/17 |

Climate action, environment, resource efficiency and raw materials

Greening the Economy

Earth observation

| SC5-20-2016 | European data hub of the GEOSS information system | 10.0 | 10/11/15 | 08/03/16 | |

Europe in a changing world – inclusive, innovative and reflective Societies

Co-creation for growth and inclusion

CO-CREATION-04-2017	Applied co-creation to deliver public services	10.0	04/10/16		02/02/17
CO-CREATION-05-2016	Co-creation between public administrations: once-only principle	9.0	05/01/16	24/05/16	
CO-CREATION-06-2017	Policy-development in the age of big data: data-driven policy-making, policy-modelling and policy-implementation	11.5	04/10/16		02/02/17

Reversing inequalities and promoting fairness

| REV-INEQUAL-09-2017 | Boosting inclusiveness of ICT-enabled research and innovation | 3.0 | 04/10/16 | | 02/02/17 |
| REV-INEQUAL-10-2016 | Multi-stakeholder platform for enhancing youth digital opportunities | 1.0 | 27/10/15 | 04/02/16 | |

Understanding Europe – promoting the European public and cultural space

CULT-COOP-08-2016	Virtual museums and social platform on European digital heritage, memory, identity and cultural interaction	11.0	27/10/15	04/02/16	
CULT-COOP-09-2017	European cultural heritage, access and analysis for a richer interpretation of the past	9.0	04/10/16		02/02/17
CULT-COOP-11-2016/2017	Understanding the transformation of European public administrations	8.5 / 7.0	27/10/15 / 04/10/16	04/02/16	02/02/17

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
Secure societies – Protecting freedom and security of Europe and its citizens					
Critical infrastructure protection					
CIP-01-2016-2017	Prevention, detection, response and mitigation of the combination of physical and cyber threats to the critical infrastructure of Europe	20.0 20.0	15/03/16 01/03/17	25/08/16	24/08/17
Digital security					
DS-01-2016	Assurance and Certification for Trustworthy and Secure ICT systems, services and components	23.5	20/10/15	12/04/16	
DS-02-2016	Cyber Security for SMEs, local public administration and Individuals	22.0	15/03/16	25/08/16	
DS-03-2016	Increasing digital security of health related data on a systemic level	11.0	27/10/15	16/02/16	
DS-04-2016	Economics of Cybersecurity	4.0	15/03/16	25/08/16	
DS-05-2016	EU Cooperation and International Dialogues in Cybersecurity and Privacy Research and Innovation	3.0	15/03/16	25/08/16	
DS-06-2017	Cryptography	18.5	08/12/16		25/04/17
DS-07-2017	Addressing Advanced Cyber Security Threats and Threat Actors	18.0	01/03/17		24/08/17
DS-08-2017	Privacy, Data Protection, Digital Identities	18.0	01/03/17		24/08/17

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
Cross-cutting activities (Focus Areas)					
Industry 2020 in the Circular Economy					
ICT for the factories of the future					
FOF-11-2016	Digital automation	53.0	15/10/15	21/01/16	
FOF-12-2017	ICT Innovation for Manufacturing SMEs (I4MS)	33.0	20/09/16		19/01/17
FOF-13-2016	Photonics Laser-based production	30.0	15/10/15	21/01/16	
Circular Economy					
CIRC-02-2016-2017	Water in the context of the circular economy	20.0 30.0	10/11/15 08/11/16	08/03/16 *06/09/16*	07/03/17 *05/09/17*
Internet of Things					
IoT-01-2016	Large Scale Pilots	100.0	20/10/15	12/04/16	
IoT-02-2016	IoT Horizontal activities	4.0	20/10/15	12/04/16	
IoT-03-2017	R&I on IoT integration and platforms	35.0	08/12/16		25/04/17
Smart and sustainable cities					
Smart cities and communities					
SCC-1-2016-2017	Smart Cities and Communities lighthouse projects	60.0 71.5	08/12/15 04/10/16	05/04/16	14/02/17
Sustainable cities through nature-based solutions					
SCC-02-2016-2017	Demonstrating innovative nature-based solutions in cities	40.0 40.0	10/11/15 08/11/16	08/03/16 *06/09/16*	07/03/17 *05/09/17*

Topic ID	Topic title	Budget (M€)	Opening	Deadline 2016	Deadline 2017
Fast Track to Innovation Pilot					
Fast Track to Innovation Pilot					
FTIPilot-01-2016	Fast Track to Innovation Pilot	100.0	02/12/15	15/03/16 01/06/16 25/10/16	

Note: For deadlines, shaded cells in the table correspond to two-stage calls.