



NEMZETI KUTATÁSI, FEJLESZTÉSI  
ÉS INNOVÁCIÓS HIVATAL

# H2020 Biztonságos Társadalmak (Secure Societies)

## 2016. évi pályázati felhívásai a digitális biztonság területén

*2016. március 25*



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# Tartalom

- Korábbi eredmények
- Security a H2020-ban
- DS felhívás – 2016
- Security az ICT programban



# Overview of selection 1/2

DS-2015			
Topic	Proposal Number	Instr.	Proposal Acronym
DS-03	700665	IA	CITADEL
DS-03	700378	IA	CIPSEC
DS-03	700581	IA	ATENA
DS-04	700176	IA	SISSDEN
DS-04	700199	IA	SHIELD
DS-04	700071	IA	PROTECTIVE
DS-04	700294	IA	CISP
DS-05	700321	IA	LIGHTest
DS-05	700542	IA	FutureTrust
DS-07	700540	CSA	CANVAS
DS-04	700692	IA	DiSIEM
DS-03	700323	IA	Cerberus
DS-05	700486	IA	CSI
DS-07	700237	CSA	VALENCE



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# Coverage of retained proposals

## DS-3-2015

### **CITADEL**

*Critical Infrastructure Protection using Adaptive MILS*

### **CIPSEC**

*Enhancing Critical Infrastructure Protection with innovative SECURITY framework*

### **ATENA**

*Advanced Tools to assEss and mitigate the criticality of ICT compoNents and their dependencies over Critical InfrAstructures*

## DS-4-2015

### **SISSDEN**

*Secure Information Sharing Sensor Delivery event Network*

### **SHIELD**

*Securing against intruders and other threats through NFV-enabled environment*

### **PROTECTIVE**

*Proactive Risk Management through Improved Cyber Situational Awareness*

### **CISP**

*Collaborative and Confidential Information Sharing and Analysis for Cyber Protection*

### **DiSIEM**

*Diversity Enhancements for SIEMs*



# Coverage of retained proposals

DS-5-2015

**LIGHTest**

*Lightweight  
Infrastructure  
for Global  
Heterogeneous  
Trust  
management in  
support of an  
open Ecosystem  
of  
Stakeholders  
and Trust  
schemes*

**FutureTrust**

*Future Trust  
Services for  
Trustworthy  
Global  
Transactions*

DS-7-2015

**CANVAS**

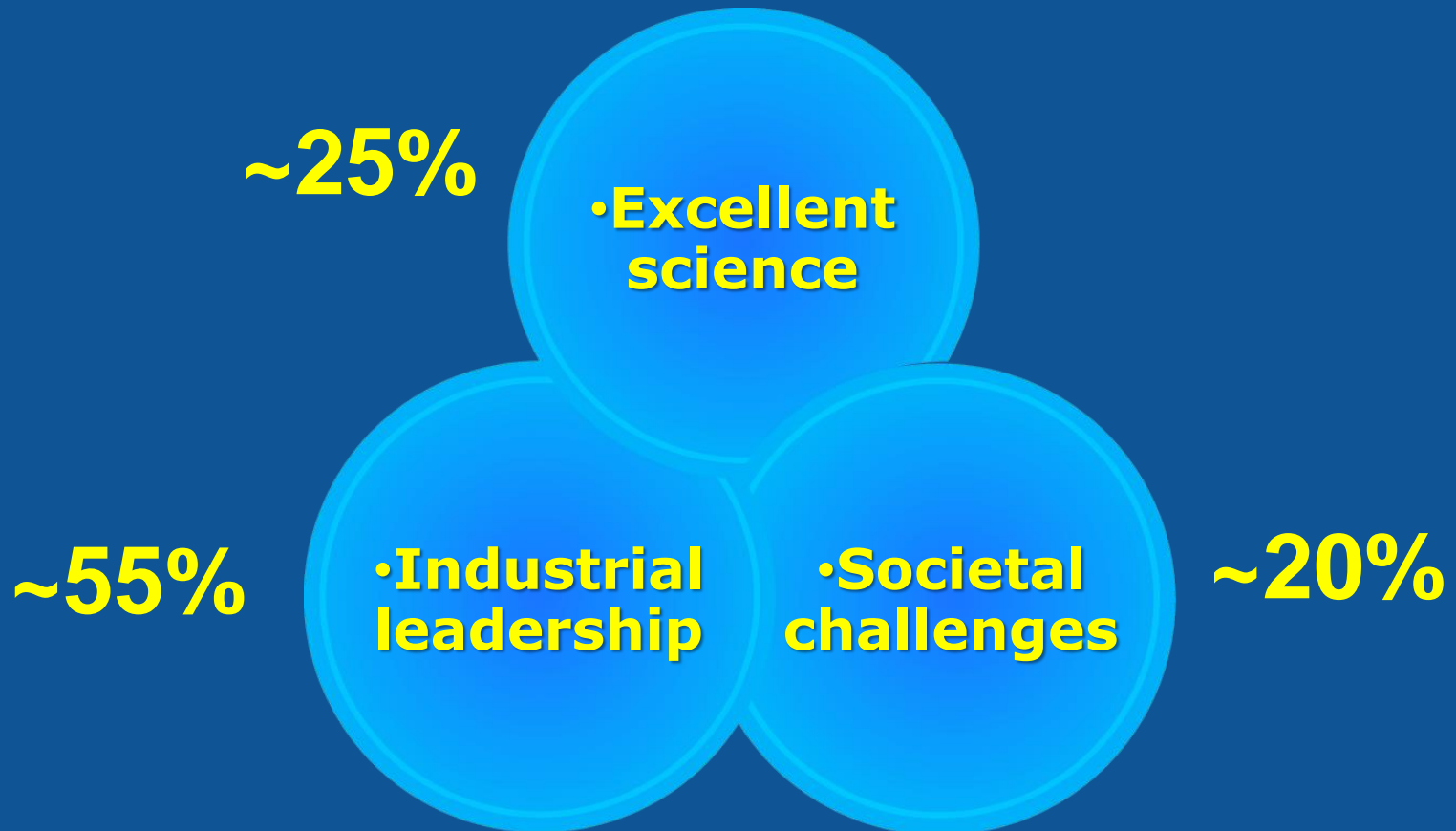
*Constructing an  
Alliance for  
Value-driven  
Cybersecurity*



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# ICT in the 3 Pillars



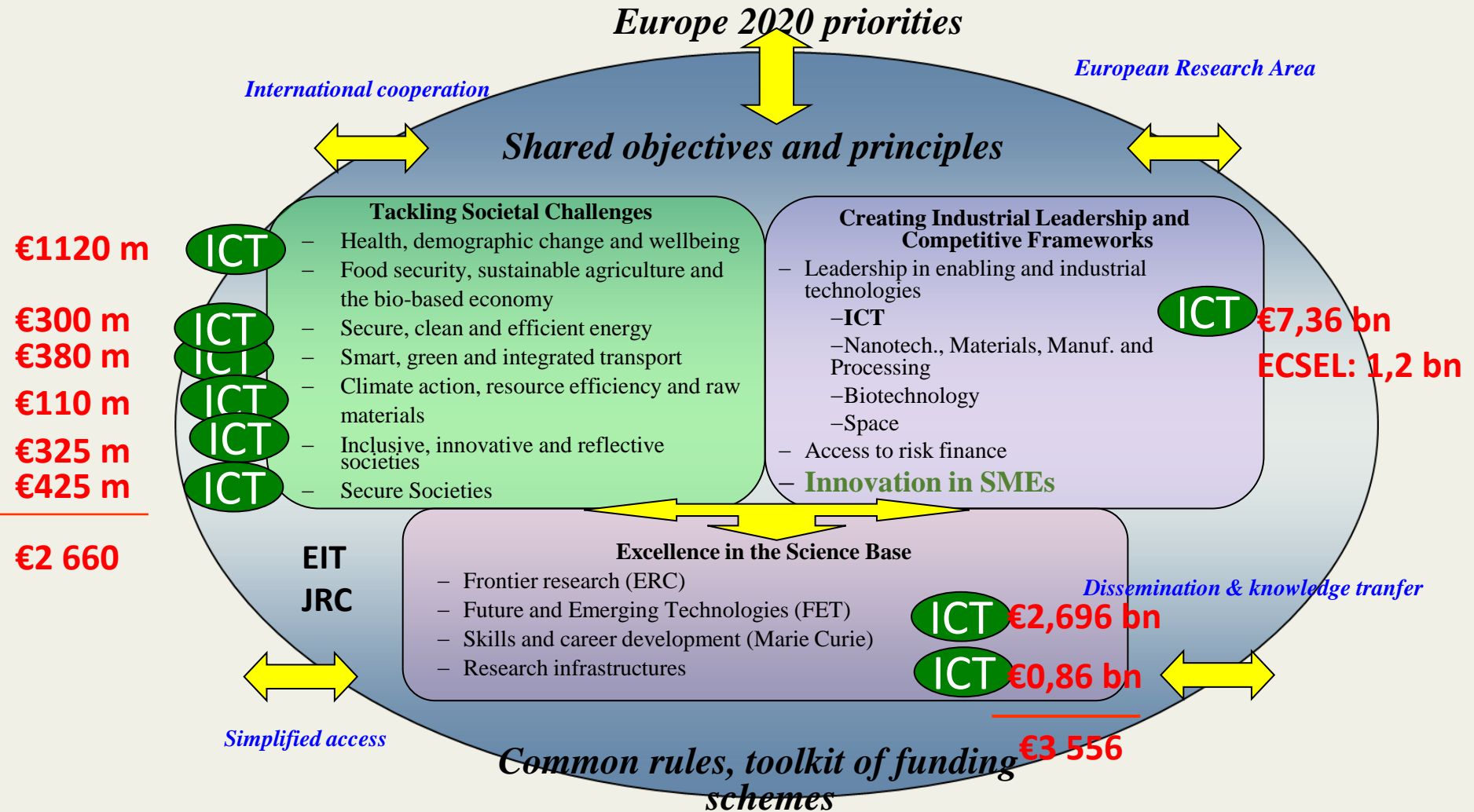
# Simplification?



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# ICT in H2020 (€ 13 576)





Where to find cybersecurity and privacy R&D&I in  
H2020?

**Everywhere!**

**change of mindset**



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# Contents

- **Introduction**
- **Call - Digital Security Focus Area (DS)**
  - Topics & Planning
- **Call - Critical Infrastructure Protection (CIP)**
  - Topic & Planning
- **Call – SME Instrument (SMEInst)**
  - Topic & Planning



# Introduction

- **Situation:** ICT-driven transformations bring opportunities across many important sectors.
- **Complication:** "Smart", "Connected", "Digital" also introduce vulnerabilities to critical infrastructures, products and services, which can have significant consequences on the functioning of society, economic growth and the technological innovation potential of Europe.
- **R&D&I challenge:** Innovative and multidisciplinary actions addressing cyber security, data protection and privacy across individual H2020 pillars and calls.



# Call – Digital Security Focus Area – Topics

- **DS-01-2016:** Assurance and Certification for Trustworthy and Secure ICT systems, services and components;
- **DS-02-2016:** Cyber Security for SMEs, local public administration and Individuals;
- **DS-03-2016:** Increasing digital security of health related data on a systemic level;
- **DS-04-2016:** Economics of Cybersecurity;
- **DS-05-2016:** EU Cooperation and International Dialogues in Cybersecurity and Privacy Research and Innovation;
- **DS-06-2017:** Cryptography;
- **DS-07-2017:** Addressing Advanced Cyber Security Threats and Threat Actors;
- **DS-08-2017:** Privacy, Data Protection, Digital Identities;



# Call - DS - Topics

- DS-01-2016: Assurance and Certification for Trustworthy and Secure ICT systems, services and components;
- DS-02-2016: Cyber Security for SMEs, local public administration and Individuals;
- DS-03-2016: Increasing digital security of health related data on a systemic level;
- DS-04-2016: Economics of Cybersecurity
- DS-05-2016: EU Cooperation and International Dialogues in Cybersecurity and Privacy Research and Innovation;



# DS-01-2016: Assurance and Certification for Trustworthy and Secure ICT systems, services and components

- Assurance (RIA);
  - Evidence, metrics, standardisation
- Security Certification (IA);
  - Improve effectiveness and efficiency of existing security certification processes
- Building trustworthiness: economic, legal and social aspects of security assurance and certification (CSA);
  - Economic and legal aspects
  - Social, cultural, behavioural, gender and ethical factors
  - Barriers and incentives in the market



# DS-02-2016: Cyber Security for SMEs, local public administration and Individuals (IA)

- Considering the adequate level of security commensurate with the considered use-case, proposals may address one types of end-user: SMEs, local PA, individual citizens.
- Basic cyber security threats
- Organisation size and budgetary constraints
- Individuals, the "weakest link" ?
- Human factors, behaviour
- Usability, automation
- Guidance, best practices and standards



# DS-04-2016: Economics of Cybersecurity (RIA)

- [...] combining methods from microeconomics, econometrics, qualitative social sciences, behavioural sciences, decision making, risk management and experimental economics.
- Cost-benefit
  - Intangible assets, metrics, optimal investment, insurance
- Incentives and business models
  - Incentives, cooperative and regulatory approaches
  - Information security markets (e.g. bug bounties, vulnerability disclosure)
  - Revenue models for criminal activity
- Institutional innovation





# DS-05-2016: EU Cooperation and International Dialogues in Cybersecurity and Privacy Research and Innovation (CSAs)

- A better overview of EU, MS and regional activities.
- Exchange of views on global level; promote EU stakeholder participation.
- 3 separate CSAs
  - Synergies between H2020, EU Member States and associated countries R&I activities and cybersecurity innovation clusters.
    - ✓ 4 years
  - International dialogue with Japan
  - International dialogue with the USA



# Call - DS – 2016 - Schedule

## Three separate opening dates - deadlines for submission

Topic(s)	DS-03-2016		DS-01-2016	DS-02-2016 DS-04-2016 DS-05-2016
<b>Opening</b>	20 Oct 2015		20 Oct 2015	15 Mar 2016
<b>Deadline</b>	16 Feb 2016		12 Apr 2016	25 Aug 2016
Topic	Instr.	Funding (M)		
DS-01-2016	RIA	13.50	➤ Only the best proposal may be funded for part c) Coordination and Support Action	
	IA	9.0		
	CSA	1.0		
DS-02-2016	RIA	22.0		
DS-03-2016	RIA	11.0		
DS-04-2016	RIA	4.0		
DS-05-2016	CSA	2;0.5;0.5	➤ Only the best proposal may be funded for strands 1, 2 and 3. ➤ Proposals addressing strand 1 shall be of a 4 year duration.	
	3 strands			



# Call - DS – 2017 - Schedule

## Three separate opening dates - deadlines for submission

<b>Topic(s)</b>	DS-06-2017	DS-07-2017 DS-08-2017
<b>Opening</b>	8 Dec 2016	8 Mar 2017
<b>Deadline</b>	25 Apr 2017	24 Aug 2017

Topic	Instr.	Funding (M)	
DS-06-2017	RIA	18.50	
DS-07-2017	RIA	10	
	IA	8	
DS-08-2017	RIA	18	



# Call - CIP – Topic & Planning

- CIP-01-2016-2017: Prevention, detection, response and mitigation of the **combination of physical and cyber threats** to the critical infrastructure of Europe.

<u>Opening date - deadline for submission</u>			
<b>Opening</b>	15 Mar 2016		
<b>Deadline</b>	25 Aug 2016		
Topic	Instr.	Funding (M)	
CIP-01-2016-2017	IA	20.0	<ul style="list-style-type: none"><li>➤ At least 2 operators of the chosen type of critical infrastructure operating in 2 countries must be beneficiaries (possibly, but not necessarily: coordinator) of the grant agreement and should be directly involved in the carrying out of the tasks foreseen in the grant.</li><li>➤ The participation of industry able to provide security solutions is required.</li></ul>



# Call – SMEInstr – Topic & Planning

- **SMEInst-13-2016-2017:** Engaging SMEs in security research and development.
- **Topic:** "[...] cover any aspect of the Specific Programme for "secure societies - protecting freedom and security of Europe and its citizens" (Horizon 2020 Framework programme and Specific programme):"
  - 7.1. *Fighting crime, illegal trafficking and terrorism, ...*
  - ...
  - **7.4. *Improving cyber security***
  - 7.5. *Increasing Europe's resilience to crises and disasters*
  - **7.6. *Ensuring privacy and freedom, including in the Internet, and enhancing the societal legal and ethical understanding of all areas of security, risk and management***
  - ...
- **Funding:** Approximately 21.5M in 2016

## ➤ **Logistics and more information on SME Instrument:**

<https://ec.europa.eu/programmes/horizon2020/en/h2020-section/sme-instrument>

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Where **ELSE** to find cybersecurity and privacy R&D&I  
in H2020?

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## Structure, budget

2016 – 17:	1526,2
Y1:	736,2
Y2:	790,0

### ICT Cross-Cutting Activities

#### Manufacturing

#### Internet of Things

#### Cyber-Security

#### Open Disruptive Innovation

#### Fast track to Innovation

#### RRI/SSH and creative dialogue

#### Horizontal Innovation

#### International Activities

#### CH1: Components and Systems

#### CH2: Advanced computing and Cloud Computing

#### CH3: Future Internet

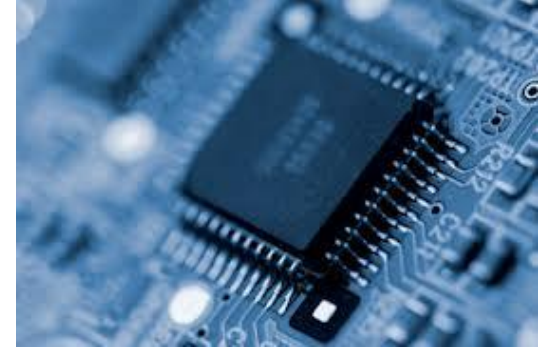
#### CH4: Content technologies

#### CH5: Robotics

#### CH6: Micro-Nano and Photonics



# Industrial Leadership - ICT



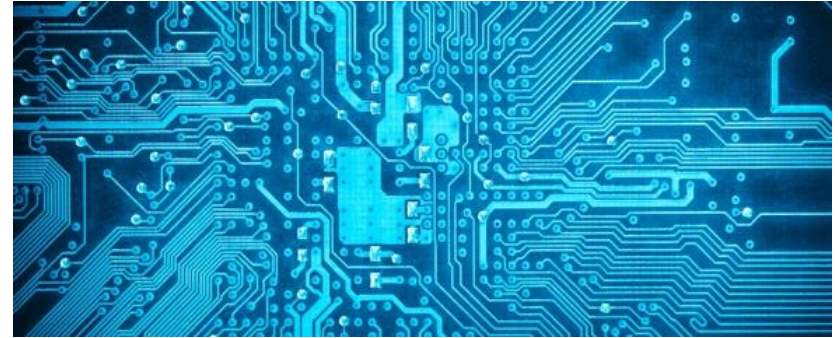
- **A new generation of components and systems:**
  - engineering of advanced embedded and resource efficient components and systems
- **Next generation computing:**
  - advanced and secure computing systems and technologies, including cloud computing
- **Future Internet:**
  - software, hardware, infrastructures, technologies and services
- **Content technologies and information management:**
  - ICT for digital content, cultural and creative industries
- **Advanced interfaces and robots:**
  - robotics and smart spaces
- **Micro- and nanoelectronics and photonics:**
  - key enabling technologies





# Components and systems 2016-2017

84 M€



- Cover **systemic integration from smart integrated components to cyber-physical systems**
- **Complementary to the JTI Electronic Components and Systems (ECSEL)**
- Organised in four topics:
  - **Smart cyber-physical systems** (20 M€)
    - Next generation embedded and connected systems
  - **Thin, Organic and Large Area Electronics** (20 M€)
  - **Smart system integration** (18,5 M€)
    - Integration of heterogeneous micro- and nanotechnologies into smart systems
  - **Smart Anything Everywhere** initiative (25,5 M€)

# Advanced Computing and Cloud Computing

## 2016-2017

71 M€



- Reinforce and expand Europe's industrial and technology strengths in **low-power ICT**
- Foster the evolution of **Cloud technology** to increase its uptake
- Complementary to the work in the Excellent Science pillar under Research Infrastructures and FET (on High Performance Computing)
- Organised in two topics:
  - **Customised and low energy computing** (26 M€)
  - **Cloud Computing** (45 M€)

# Future Internet 2016-2017

253 M€



- Integrated response to **technology** challenges and **innovation** needs of the future Internet
- Organised in seven topics:

**5G PPP**  
(148 M€)

- **5G PPP** Research and Validation of critical technologies and systems (103 M€)
- **5G PPP** Convergent Technologies (45 M€)
- **Networking research beyond 5G** (18 M€)
- **Software Technologies** (31 M€)
- **Future Internet Experimentation** - Building a European experimental Infrastructure (26 M€)
- **Collective Awareness Platforms for Sustainability and Social Innovation** (10 M€)
- **Net Innovation** Initiative (20 M€)

# Content technologies

## 2016-2017

278 M€



- Improve **access, creation, management** and **use of data** and **content** through advances along the **data, content and knowledge value chains**.
- Organised in eleven topics (+ one prize):
  - **Big data PPP (153 M€)**
    - Cross-sectorial and cross-lingual data integration and experimentation (54 M€)
    - Large scale pilots in sectors best benefitting from data-driven innovation (50 M€)
    - Research addressing main technology challenges of the data economy (31 M€)
    - Support, industrial skills, benchmarking and evaluation (7 M€)
    - Privacy-preserving big data technologies (9 M€)
    - *Big Data inducement prize (2 M€)*
  - **Media and content convergence (39 M€)**
  - Tools for **smart digital content in the creative industries (17 M€)**
  - Support **technology transfer to the creative industries (14 M€)**
  - Technologies for **Learning and Skills (31 M€)**
  - Interfaces for **accessibility (12 M€)**
  - **Gaming and gamification (12 M€)**

# Robotics and autonomous systems 2016-2017

164 M€

- **Technology-driven** actions to keep EU at the cutting edge of research + **market-driven** actions to accelerate take-up and deployment of robots
- **Roadmap-based approach**  
→ **Robotics PPP**
- Organised in four topics in LEIT-ICT + one topic in SC2:
  - **Advanced robot capabilities research and take-up** (64 M€)
  - **System abilities, development and pilot installations** (42 M€)
  - **System abilities, SME & benchmarking actions, safety certification** (46 M€)
  - **Robotics competition, coordination and support** (5 M€)
  - **Robotics Advances for Precision Farming** (7 M€) (SC2)



# ICT key enabling technologies 2016-2017

181 M€

- Translate Europe's S&T excellence in **photonics** and **micro- and nano-electronics** into strengthened competitiveness and market leadership
- **Address the whole research and innovation value chain in photonics technology:** from materials to manufacturing, products and services, through equipment and devices – from advanced R&D to pilot lines
  - **Photonics PPP (153 M€)**
  - Complemented by activities of LEIT-NMBP and **FoF PPP**
- Cover **generic technology developments on micro- and nano-electronics** focused on exploratory research and lower Technology Readiness Levels (TRLs) (23 M€)
  - Complementary to the JTI Electronic Components and Systems
- Organised in three topics in LEIT-ICT + one in LEIT-NMBP + one in FoF

# ICT for the Factories of the Future 2016-2017

116 M€

- Part of the '**Industry 2020 in the Circular Economy**' cross-cutting focus area
- Focus on **ICT components of innovative production systems in all sectors** (for a more personalised, diversified and mass-produced product portfolio and for rapid and flexible reaction to market changes)
- Implementation of the **FoF PPP**
- Organised in three topics:
  - Digital automation (53 M€)
  - ICT Innovation for Manufacturing SMEs (I4MS) (33 M€)
  - Photonics laser-based production (30 M€)





# Digital Security

## 2016-2017

118 M€



- **Focus area**

- Combining contributions from **LEIT-ICT, SC1** and **SC7**

- **Grouping the main R&D&I activities in digital security**, from enabling technologies to specific use cases

- Organised in eight topics:

- **Cryptography** (18,5 M€)
- **Assurance and Certification** for Trustworthy and Secure ICT systems, services and components (23,5 M€)
- Addressing **Advanced Cyber Security Threats and Threat Actors** (18 M€)
- **Privacy, Data Protection, Digital Identities** (18 M€)
- **Cyber Security for SMEs, local public admin. and individuals** (22 M€)
- **Economics of Cybersecurity** (4 M€)
- **EU Cooperation and International Dialogues** in Cybersecurity and Privacy Research and Innovation (3 M€)
- Increasing **digital security of health related data** on a systemic level (11 M€)

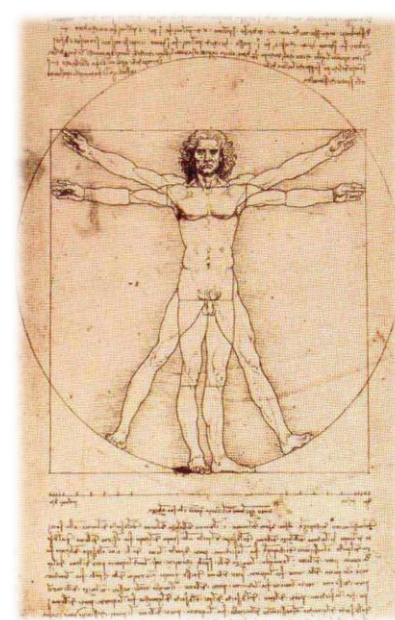
# Innovation and Entrepreneurship support 2016-2017

156+ M€

- Reinforce the **involvement of users** in R&D&I
- Support **digital entrepreneurship**
- Strengthen the **support to start-ups** and **SMEs**
- Facilitate the meeting between **investors** and start-ups
- Increase the **entrepreneurial skills**
  
- Organised in five topics + inducement prizes:
  - **Startup Europe for growth and Innovation Radar** (12 M€)
  - **Innovation procurement networks** (4 M€)
  - **Pre-commercial procurement open** (4 M€)
  
  - **Open Disruptive Innovation** scheme – SME instrument (**126 M€**)
  - **Fast Track to Innovation** (100 M€ - for all fields of LEIT and SCs)
  
  - **ICT Horizon prizes** (10 M€)

# Responsibility and creativity 2016-2017

15+ M€



- Cross-cutting activities supporting the **nexus between technology, social sciences, humanities and arts.**
- Foster collaboration with SSH on **responsible research and innovation.**
- Engage with artists in innovation process to foster **creativity** and help enhance **user acceptance.**
- Two dedicated topics:
  - **Enabling responsible ICT-related research and innovation**  
(7 M€)
  - **Boost synergies between artists, creative people and technologists**  
(8 M€)
- ...Complemented by **other activities embedded in technical topics** and a **large hub supported through SC6.**

# International cooperation

40,8 M€



- **International partnership building in low and middle income countries** (13,8 M€) / Target: **sub-Saharan Africa and ASEAN**

## • Coordinated calls

- **EU-Brazil** (7 M€)

- Cloud computing
- IoT pilots



- **EU-Japan** (7 M€)

- 5G – Next Generation Communication Networks
- IoT/Cloud/Big Data platforms in social application contexts
- Experimental testbeds on Information-Centric Networking



- **EU-South Korea** (6 M€)

- 5G – Next Generation Communication Networks
- IoT joint research
- Federated Cloud resource brokerage for mobile cloud services



- **Cooperation with Taiwan in 5G PPP topic on Convergent Technologies** (5 M€)

## • Other international cooperation activities

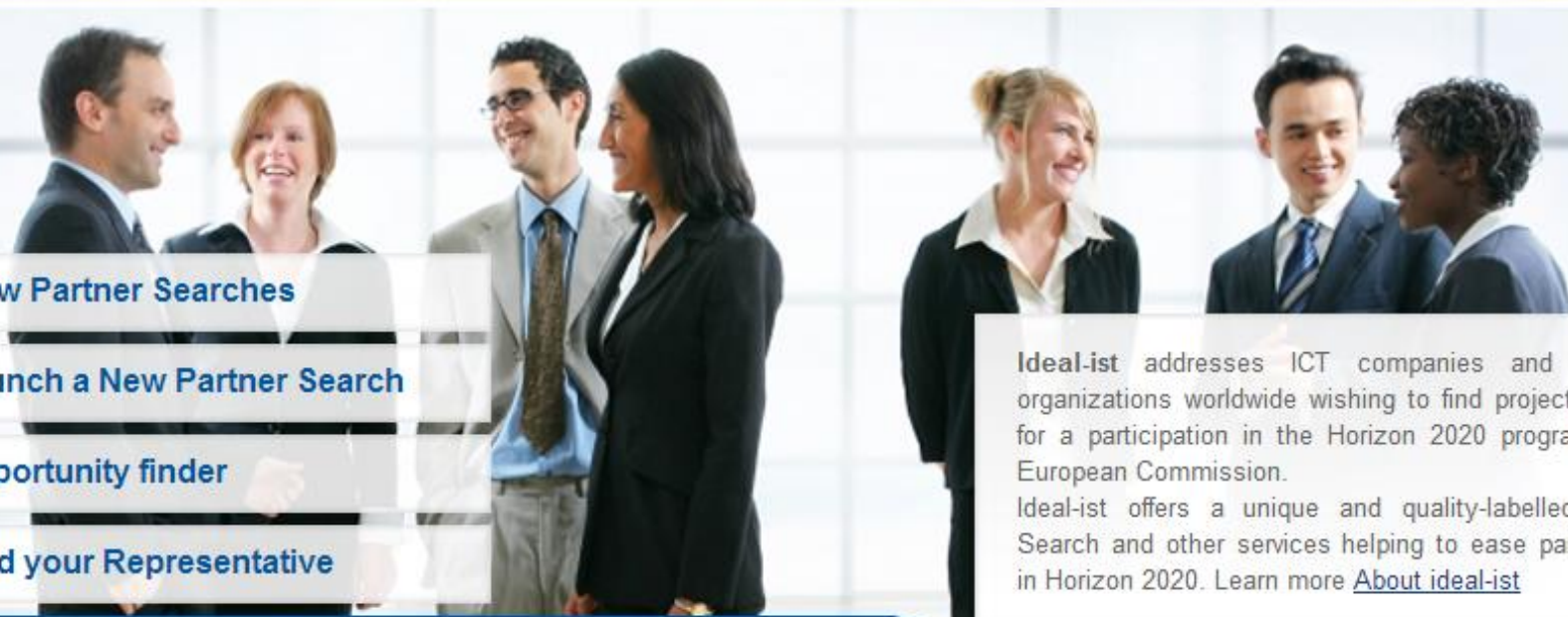
- **China:** Collaboration on Future Internet (1 M€)
- **Mexico:** Collaboration on ICT (with a focus on FIWARE) (1 M€)



# SME Instrument – ICT 2016-2017



- **SME Instrument dedicated call (739 M€ overall)**
  - **Open Disruptive Innovation Scheme (126 M€)**
  - Accelerating the uptake of nanotechnologies advanced materials or advanced manufacturing and processing technologies by SMEs (67 M€)
  - **Accelerating market introduction of ICT solutions for Health, Well-Being and Ageing Well (30,5 M€)**
  - Stimulating the innovation potential of SMEs for a low carbon and efficient energy system (96 M€)
  - Small business innovation research for Transport and Smart Cities Mobility (119 M€)
  - **New business models for inclusive, innovative and reflective societies (22 M€)**
  - **Engaging SMEs in security research and development (30 M€)**



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Ideal-ist offers a unique and quality-labelled Partner Search and other services helping to ease participation in Horizon 2020. Learn more [About ideal-ist](#)

**Open calls** [View All](#)

- > H2020 – EU-JAPAN – 2014  
Close date:  
10/04/2014
- > H2020 – FoF – 2014/2015

**Recently Published Partner Searches**

- > PS-AT-89331:  
K4FoF
- > PS-SK-89303:  
[ EuroLangNet 21+3 ]  
European network

**In QA process**

- > PS-NO-89154:  
Inclusive-MT
- > PS-NO-89152:  
Inclusive-MT

[View All](#)

**ICT Events**

[View All](#)

- > European Data Forum 2014
- > Future Internet Assembly

**ICT News**

# Key events

ICT Proposers Day 2016

26-27 Sep 2016

Bratislava, Slovakia



Információ – kapcsolatépítés – konzorciumalakítás - kiállítás

<https://twitter.com/ICTproposerEU>



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# Köszönöm a figyelmet!

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