
H2020 Theme Oriented Training on ICT

ICT in H2020 Part 1

Thies Wittig

Deputy Team Leader

Project "Turkey in Horizon 2020"

ICT related topics in the WP 2014-15

- **Excellent Science:**

Advanced research to uncover radically new technological possibilities, ICT contributions to research and innovation in

- **Future and Emerging Technologies and**
- **European research infrastructures ('eInfrastructures')**



ICT related topics

- **Leadership in enabling and industrial technologies (LEIT):**



Research and innovation activities on generic technologies, driven by industrial roadmaps or through a bottom up approach, in

- **Information and communication technologies**

ICT related topics

- **Societal challenges:**

Multi-disciplinary application-driven research and innovation to tackle societal challenges



THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

ICT in 'Excellent science'



ICT in 'Excellent science'

1. Future and Emerging Technologies (FET)

FET Open: fostering novel ideas



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.

ICT in 'Excellent science'

Call - FET-Open – Novel ideas for radically new technologies

- FETOPEN-01-2016-2017: FET-Open research and innovation actions
- FETOPEN-03-2017: FET-Open Coordination and Support Actions
- FETOPEN-04-2016-2017: FET Innovation Launchpad

Call - FET Proactive – Boosting emerging technologies

- FETPROACT-02-2017: FET ERANET Cofund



ICT in 'Excellent science'

Call - FET Proactive – High Performance Computing

- FETHPC-02-2017: Transition to Exascale Computing
- FETHPC-03-2017: Exascale HPC ecosystem development

Call - FET FLAGSHIPS – Tackling grand interdisciplinary science and technology challenges

- - No call in 2017 -



2. Research Infrastructures

- Research infrastructures are facilities, resources and services that are used by the research communities to conduct research and foster innovation in their fields.
- Where relevant, they may be used beyond research, e.g. for education or public services.
- They include:
 - major scientific equipment (or sets of instruments);
 - knowledge-based resources such as collections, archives or scientific data;
 - e-infrastructures, such as data and computing systems and communication networks;
 - and any other infrastructure of a unique nature essential to achieve excellence in research and innovation..



Research Infrastructure calls in 2017

Call - Development and long-term sustainability of new pan-European research infrastructures

- INFRADEV-01-2017: Design Studies
- INFRADEV-03-2016-2017: Individual support to ESFRI and other world-class research infrastructures



Call - Integrating and opening research infrastructures of European interest

- INFRAIA-01-2016-2017: Integrating Activities for Advanced Communities
- INFRAIA-02-2017: Integrating Activities for Starting Communities

Research Infrastructure calls in 2017

Call - E-Infrastructures

- EINFRA-12-2017: Data and Distributed Computing e-infrastructures for Open Science
- EINFRA-21-2017: Platform-driven e-infrastructure innovation

Call - Fostering the innovation potential of Research Infrastructures

- INFRAINNOV-01-2017: Fostering co-innovation for future detection and imaging technologies

Call - Support to policy and international cooperation

- INFRASUPP-02-2017: Policy and international cooperation measures for research infrastructures



THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

ICT in 'Leadership in Enabling and Industrial Technologies' - LEIT



ICT in LEIT 2016/17

This part covers the following ICT technological areas:

1. A new generation of components and systems
2. Advanced Computing and Cloud Computing
3. Future Internet
4. Content
5. Robotics and Autonomous Systems
6. ICT Key Enabling Technologies
7. Innovation and Entrepreneurship support
8. Responsibility and Creativity

9. International Cooperation Activities
10. Call - EU-Japan Joint Call
11. Call - EU-Brazil Joint Call
12. Call - EU-South Korea Joint Call



ICT in 2014/15

1. Call:

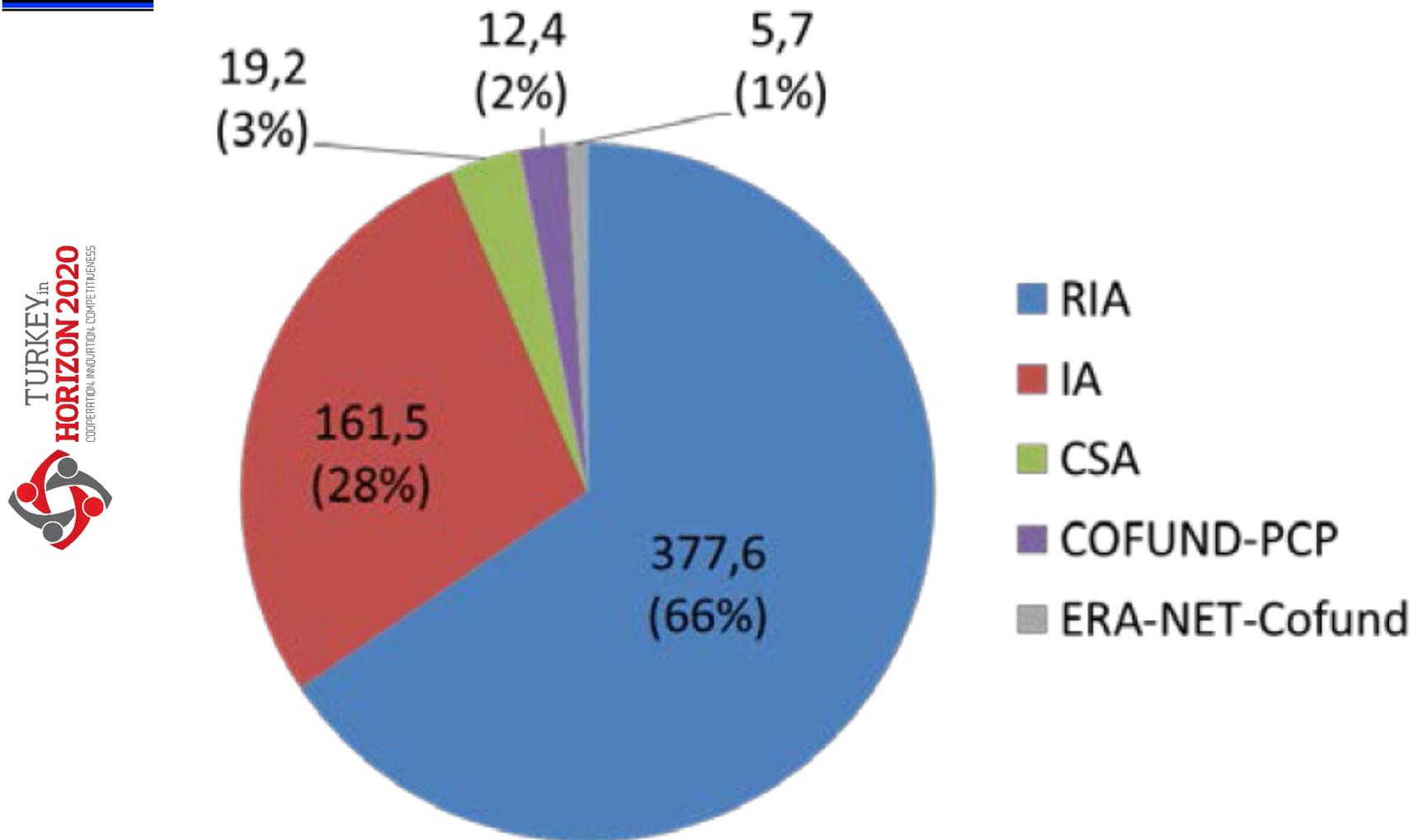
- 1616 proposals
- 207 accepted
- 663 mill Euro funding



2. Call:

- 1298 proposals
- 159 accepted
- 561 mill Euro funding

ICT in 2014/15



ICT 2016 – 2017 CALL 2

A new generation of components and systems

ICT-04-2017: Smart Anything Everywhere Initiative

Advanced Computing and Cloud Computing

ICT-05-2017: Customised and low energy computing

Future Internet

ICT-07-2017: 5G PPP Research and Validation of critical technologies and systems

ICT-08-2017: 5G PPP Convergent Technologies

ICT-09-2017: Networking research beyond 5G

ICT-11-2017: Collective Awareness Platforms for Sustainability and Social Innovation



ICT 2016 – 2017 CALL 2

Content

ICT-16-2017: Big data PPP: research addressing main technology challenges of the data economy

ICT-19-2017: Media and content convergence

ICT-20-2017: Tools for smart digital content in the creative industries

ICT-23-2017: Interfaces for accessibility



ICT 2016 – 2017 CALL 2

Robotics and Autonomous Systems

ICT-25-2016-2017: Advanced robot capabilities research and take-up

ICT-27-2017: System abilities, SME & benchmarking actions, safety certification

ICT-28-2017: Robotics Competition, coordination and support

ICT Key Enabling Technologies

ICT-30-2017: Photonics KET 2017

ICT-31-2017: Micro- and nanoelectronics technologies



ICT 2016 – 2017 CALL 2

Innovation and Entrepreneurship support

ICT-32-2017: Startup Europe for Growth and Innovation Radar

ICT-33-2017: Innovation procurement networks

Responsibility and Creativity – *no calls*

International Cooperation Activities

ICT-39-2016-2017: International partnership building in low and middle income countries

Call - Internet of Things [WP: 17. Cross-cutting activities (Focus Areas)]

IoT-03-2017: R&I on IoT integration and platforms



ICT 2016 – 2017 CALL (1) - draft

Factory of the Future

FoF2 – 2017: ICT Innovation for Manufacturing SMEs
(I4MS)



THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

ICT in 'Societal challenges'



ICT in 'Societal challenges'

Important ICT contributions are in the Societal Challenges in Horizon 2020:

- SC1: Health, demographic change and wellbeing
- SC2: Food security, sustainable agriculture ... 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



SC1 - Health, demographic change and wellbeing

Personalised Medicine



PM 18 - 2017- Research activities in Personalised coaching for well-being of older persons

PM 19 - 2017- In-silico clinical trials

PM 21 - 2017 - Personalised computer modelisation and in-silico systems for well-being

PM 23 - 2017 - PPI for uptake of standards for the exchange of digitalised healthcare records

SC2 - Food

- Nothing for 2017



SC3 - Secure, clean and efficient energy

ENERGY EFFICIENCY

EE 7 – 2017: Engaging private consumers towards sustainable energy

EE 8 – 2016/2017: Behavioural change toward energy efficiency through ICT

EE 15 – 2017: Demand response and energy management in buildings

COMPETITIVE LOW-CARBON ENERGY

LCE 4 – 2017: Demonstration of smart transmission grid, storage and system integration technologies with increasing share of renewables



SC3 - Secure, clean and efficient energy

SMART CITIES

SCC 1 – 2016/2017: Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse (large scale demonstration - first of the kind) project



SC4 - Smart, green and integrated transport

- Innovative ICT solutions for future logistics operations
- Big Data in Transport: Research opportunities, challenges and limitations
- Improving accessibility and mobility: new tools and business models for
 - public transport in rural and remote areas
 - Demonstration (pilots) for integration in urban transport system of
 - electrified L-category vehicles
- ICT enabled transition towards road transport automation





Call - 2016-2017 Mobility for Growth

- 1 AVIATION
- 2 WATERBORNE
- 3 SAFETY
- 4 URBAN MOBILITY
- 5 LOGISTICS
 - MG-5.1-2016: Networked and efficient logistics clusters
 - MG-5 .2-2017: Innovative ICT solutions for future logistics operations
- 6 INTELLIGENT TRANSPORT SYSTEMS
 - None in 2017

7 INFRASTRUCTURE

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

Call - 2016-2017 Automated Road Transport

- ART-01-2017: ICT infrastructure to enable the transition towards road transport automation
- ART-03-2017: Multi-Brand platooning in real traffic conditions

Call - 2016-2017 Green Vehicles

SC5 - Climate action, environment, resource efficiency and raw materials

ICT is not explicitly mentioned but expected to play a supporting role in all themes:

- Climate services
- Climate-smart Europe
- Nature-based solutions for resilience
- Water
- Raw Materials
- Earth Observation
- Cultural heritage for sustainable growth



SC6 - Europe in a changing world - Innovative, inclusive and reflective societies

CO-CREATION FOR GROWTH AND INCLUSION

- CO-CREATION-2017-4: Towards a new growth strategy in Europe - Better economic and social measurement
- CO-CREATION-2017-8: Policy-making in the age of big data: evidence-informed policymaking and policy-modelling

REVERSING INEQUALITIES AND PROMOTING FAIRNESS

- REV-INEQUAL-2017-9: Social Sciences and Humanities - Responsible Research and Innovation (SSH-RRI) hub for information and communication technologies (ICT)



SC6 - Europe in a changing world - Innovative, inclusive and reflective societies

UNDERSTANDING EUROPE PROMOTING THE EUROPEAN PUBLIC AND CULTURAL SPACE

- CULT-COOP-2017-9: European heritage, memory, identity and cultural interaction



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

The most relevant section of this challenge is:

Digital Security

- Cyber Security for SMEs public administration and individuals
- Economics of Cybersecurity
- EU Cooperation and International Dialogues in Cybersecurity
- Advanced Cybersecurity Threats and Threat Actors
- Privacy and Data Protection and Digital Identities



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

Call - 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

Call - SECURITY Disaster-resilience: safeguarding and securing society

- SEC-04-DRS-2017: Broadband communication systems
- SEC-05-DRS-2016-2017: Chemical, biological, radiological and nuclear (CBRN) cluster 20 Fight against crime and Terrorism
- SEC-09-FCT-2017: Toolkits integrating tools and techniques for forensic laboratories
- SEC-10-FCT-2017: Integration of detection capabilities and data fusion with utility providers' networks



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

Border Security and External Security

- SEC-13-BES-2017: Next generation of information systems to support EU external policies
- SEC-17-BES-2017: Architectures and organizations, big data and data analytics for customs risk management of the international goods supply chain trade movements
- SEC-19-BES-2016: Data fusion for maritime security applications
- SEC-20-BES-2016: Border Security: autonomous systems and control systems

Call - Digital Security Focus Area

- DS-06-2017: Cryptography DS-07-2017: Addressing Advanced Cyber Security Threats and Threat Actors
- DS-08-2017: Privacy, Data Protection, Digital Identities





H2020 reference documents are available at:

- http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html

Work programmes published by the EC:

- http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html#h2020-work-programmes