

ICT



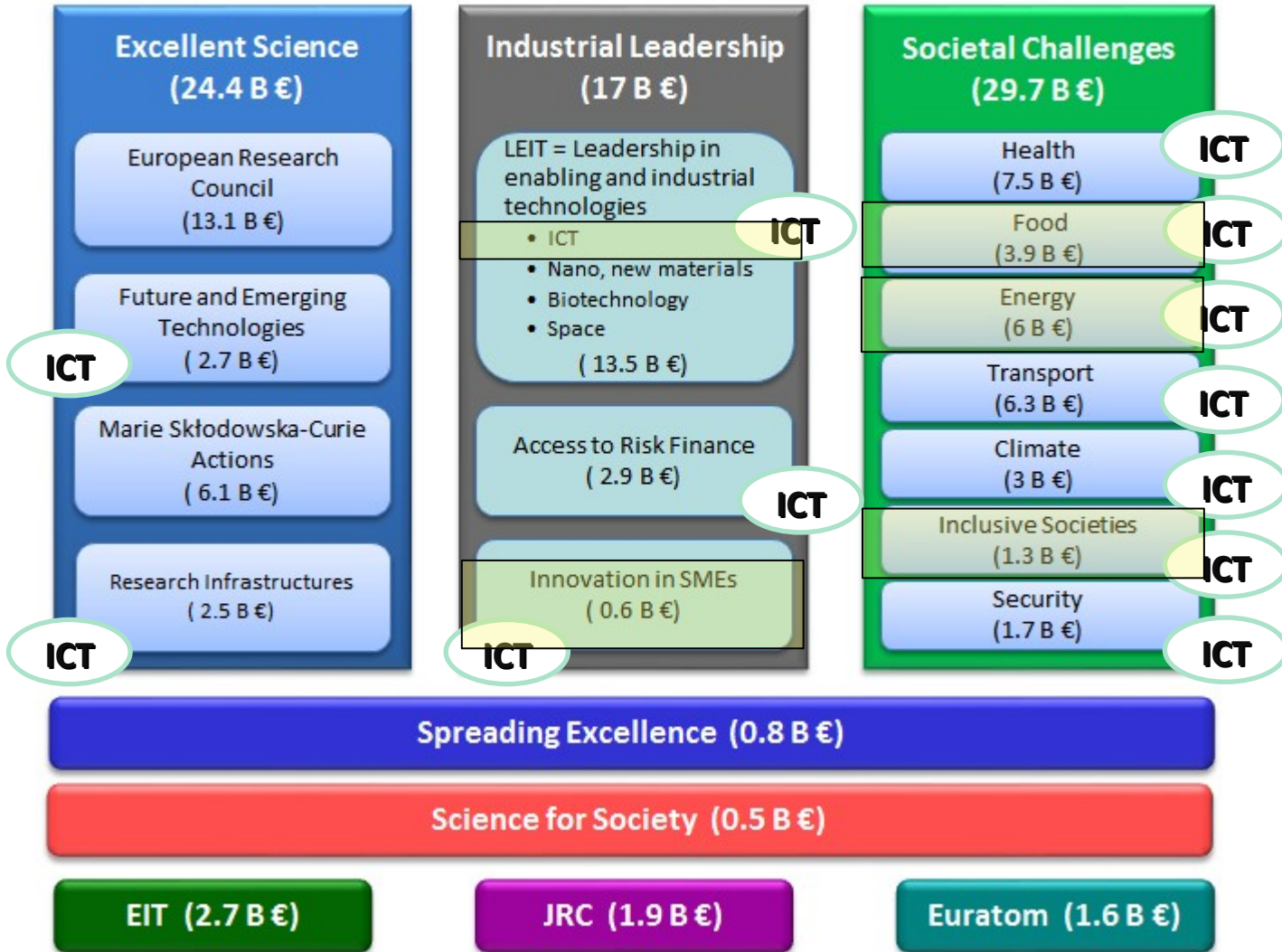
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Three priorities





ICT in Excellent science



Excellent Science - ICT



2,5 b€*

• Future and Emerging Technologies (FET)

- **FET Open**: fostering novel ideas
- **FET Proactive**: nurturing emerging themes and communities
- **FET Flagships**: pursuing grand interdisciplinary science and technology challenges
 - **Graphene**
 - **Human Brain Project**

** Including budget for other areas than ICT covered in FET*

• Research infrastructures

- Developing the European research infrastructure for 2020 and beyond
- **Development, deployment and operation of ICT-based e-infrastructures**
 - **ICT infrastructure resources and services for Research**
 - **Access to and management of scientific data**
 - **High Performance Computing**

862 m€

ICT in Industrial leadership



Industrial Leadership - ICT

7,3 b€



- **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



ICT LEIT WP 2016-2017*

Future Internet

ICT3.5 – 2017: Collective Awareness Platforms for Sustainability and Social Innovation

Content

ICT4.3 – 2016: Big Data PPP: Large Scale Pilot projects in sectors best benefitting from datadriven innovation

ICT4.4 – 2017: Big data PPP: research addressing main technology challenges of the data economy

ICT4.10 – 2016: Support technology transfer to the Creative Industries

ICT4.16 – 2016: Gaming and gamification

Internet of Things

ICT7.2 – 2016: IoT Horizontal activities

ICT7.3 – 2016: R&I on IoT integration and platforms

Innovation and Entrepreneurship support

ICT9.1 – 2017: Startup Europe for Growth

ICT9.3 – 2017: Innovation procurement open

ICT & Tourism

Innovation Actions

- Develop innovative Information and Communications Technologies (ICT) products
- Tools, applications & services for the cultural and creative sectors (e.g. 3D, augmented reality, advanced user interfaces, visual computing).
- Proposals should clearly demonstrate their high commercial and innovation potential.

Coordination & Support

- Non-research activities such as disseminating results and promoting the use of ICT-driven innovation thanks to a sustainable network of 'multipliers'.
- Connect SMEs from the creative sectors with appropriate sources of funding (e.g. loans, venture capital, business angels' investment, crowd-funding ...) and with international business networks.

ICT4.8 – 2016: Media and content convergence

- To develop new services as a consequence of the convergence of broadband, broadcast and social media.
- To move closer to a **fully personalised and interactive user experience** (e.g. hyper-personalized, realtime storytelling, QoE, free view point, augmented reality).
- To increase the use of ICT technologies in the **Media industry**
- Solutions that can speed up to the success of the Digital Single Market
- Exploiting synergies between the participation of individuals connected through social media and the convergence environment.
- Development and advancement of accessibility solutions specifically for converging media and content.

ICT4.9 – 2017: Tools for smart digital content in the Creative Industries

- **High quality content** is the main source of revenue for the Creative Industries and also instrumental for their competitiveness in a large, international market.
- The challenge is to maximise the potential for **re-use** and re-purposing of all types of digital content, for instance, by directly conceiving and creating content usable in different contexts and technical environments;
- improving its **granularity**;
- increasing its ability to dynamically adapt to the users;
- generating more **realistic digital models**;
- embedding **semantic** knowledge;
- and other approaches to make content "smarter" thanks to **new and emerging technologies**.

Case Study

EU Research programme / FP7



<http://www.chessexperience.eu/>



Content personalization

Digital storytelling

Augmented Reality Experience

Gaming

Revisit the site from the web

Pilot: Acropolis Museum

Uses various techniques for delivering personalised interactive stories

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Related ideas

Tourism

- IDEA 4. Innovative management of cultural heritage
- IDEA 5. ICT based applications for thematic itineraries
- IDEA 6. Personalised tourism
- IDEA 7. ICT tools for tourism
- IDEA 8. Digital business innovation in tourism

Wine

- IDEA 2. Vineyard network with GIS tools
- IDEA 11. Wine, gastronomy, culture & entertainment
- IDEA 12. Branding regional wines
- IDEA 13. Wine-Gastronomy / Cultural Tourism

ICT in Societal challenges



Key principles for **ICT R&I** in the Societal Challenges



- **Interoperability**
- **Re-use and economies of scale**
- **Breakthroughs leveraging the transformative power of ICT**
- **Preparation for market deployment**
- +
- **Information for future digital policy**

Societal Challenges - ICT



- **Health, demographic change and wellbeing**
- **Food security, sustainable agriculture, and forestry, marine, maritime and inland water research, and the bioeconomy**
- **Secure, clean and efficient energy**
- **Smart, green and integrated transport**
- **Climate action, environment, resource efficiency and raw materials**
- **Europe in a changing world – inclusive, innovative and reflective societies**
- **Secure societies – protecting freedom and security of Europe and its citizens**

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LEIT-ICT [2016]: Data driven agri-food chains

- IoT concept
- Existing open architectures, platforms and standards
- Pilot demonstration in the farm and in the agri-food chain.



ICT 5.6 [2017]: Robotics in precision farming

- Design, development and testing of robotics systems for precision farming.
- Autonomous or semi-autonomous farm vehicles or sophisticated sensors and intervention mechanisms.
- Selective harvesting, more targeted weed reduction or environment friendly fertilization, based on better planning and targeted intervention, using sensors (local and aerial, even maybe earth observation satellite).
- Tagging of agricultural produce with crop and field data for better traceability and subsequent big data processing, optimizing the whole agricultural process.



Smart Cities-[2017] Resource-efficient urban agriculture for multiple benefits

- Innovative integrated urban farming systems
- Usage of resources efficiently (e.g. space, energy, water, nutrients)
- Reuse or recycle heat, water, CO₂, waste or by-products from urban sources (e.g. industry, households) for agricultural production
- **Products:** fruits, vegetables, herbs, sprouts, mushrooms, algae, ornamental trees and plants.
- **How:** open urban spaces (e.g. rooftop/vertical farming, individual/collective gardens, unused spaces) and in several cities

CULT-COOP-2017-6: Social innovation in culture

- To understand how to integrate **European tangible and intangible cultural heritage** into sustainable economic, environmental and community development, hence the crucial role of **social innovation**.
 - Engage with younger and more mature audiences, with minority, migrant or socially disadvantaged groups.
- Promote innovative ways in which to manage increasing flows of EU and non-EU tourists, which are currently largely limited to a number of urban destinations only ("theme park Europe").
 - Balance needs for managing material collections and opening culture and cultural heritage to new audiences through meaningful digital collections.

Reflective Societies 2016-2017*

- **CULT-COOP-2017-4:** Contemporary histories of the representations of Europe in literature and the arts
- **CULT-COOP-2017-5:** Religious diversity in Europe - past, present and future
- **CULT-COOP-2017-6:** Social innovation in culture
- **CULT-COOP-2017-7:** Promoting the cultural heritage of European coastal and maritime regions
- **CULT-COOP-2016-8:** Virtual Museums and Social Platform on European digital heritage, memory, identity and cultural interaction

ICT for SMEs



SME Instrument phases

PHASE 1

Concept & Feasibility Assessment
Idea to concept (6 months)

The SME will draft an initial **business proposal**.

The European Union will provide
€50 000 in funding
and business coaching.

PHASE 2

Demonstration, Market Replication, R&D
Concept to Market-Maturity (1-2 years)

The SME will further develop its proposal through **innovation activities**, and draft a more developed **business plan**.

The EU may contribute between
€0.5 million and **€2.5 million***
and provide business coaching.

PHASE 3

Commercialisation
Prepare for Market Launch

The SME will receive extensive support to help polish its concept into a marketable product, and have access to **networking opportunities**.

The EU will not provide funding in this phase.

Themes for 2014-2015



- **ICT**: open disruptive innovation
- **Nanotech**, or other advanced tech for manufacturing and materials
- **Space** research and development
- **Diagnostics** devices and biomarkers
- Sustainable **food production** and processing
- **Blue growth**
- **Low carbon** energy systems
- Greener and more integrated **transport**
- Eco-innovation and sustainable **raw material** supply
- Urban critical **infrastructure**
- Biotechnology-based industrial **processes**
- **Mobile e-government** applications
- SME **business model innovation**

Open Disruptive Innovation

1. Nurture promising **innovative** and **disruptive** ideas

2. Support their **prototyping, validation and demonstration** in real world conditions

3. Help for wider deployment or **market uptake.**

Case study

PastGuide



Fast Track to Innovation

- Only fully **bottom-up** measure in Horizon 2020
(within the "Societal Challenges" and "Leadership in Enabling and Industrial Technologies")
- Addresses **close to the market** innovation activities
- Reduces time from idea to market
- Increases participation of **industry**
- Stimulates private sector investment in research and innovation

Important dates

Work Programme 2016-2017

Jan – July 2015

Preparation of the detailed work programme 2016/17 content, prepared on the basis of the endorsed strategic programming document, including input from Advisory Groups and discussion with PC configurations

Summer 2015

Opinions of the Programme Committee configurations

Third quarter 2015

Adoption by the Commission of the Work Programme; publication of the calls for 2016

20-22 October 2015

ICT2015 Conference, Lisbon, Portugal:
Presentation of ICT Work Programme 2016-17

Find out more

- On the Horizon2020 web site
 - ✓ <http://ec.europa.eu/programmes/horizon2020>
- On the participants portal
 - ✓ <http://ec.europa.eu/research/participants/portal/desktop/en/home.html>
- H2020 Helpdesk, including FAQ
 - ✓ <http://ec.europa.eu/research/index.cfm?pg=enquiries>
- Contact your National Contact Points
 - ✓ http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html
- Enterprise Europe Network - Hellas
 - ✓ <http://www.enterprise-hellas.gr>



Thank you!



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