



Vezető szerep a lehetőség-teremtő és az ipari technológiák területéről:

ICT - Információs és Kommunikációs Technológiák

Bottka Sándor
FP7-ICTC- és H2020-ICTC tag
NIH, Külső Kapcsolatok Főosztálya

HU in FP7-ICT, 2007-2012(3)

(funded from ICT Budget)

EC Funding:	FP7-ICT:	41,55M,	0,6%	} 65 M€
	FP-7 eInfra:	7,1 M€,	1,4%	
	CIP ICT PSP:	3,77 M€,	0,81%	
	JETIs+AAL JP:	13 M€ public funding (national+EU)		

Nr of participants:	ICT:	173, 0.9% (+ evaluated 18)	} 286
	eInfr.	44, 2,4%	
	CIP-IST:	51, 1,5%	

Number of co-ordinations:	ICT:	3 (2 in 2013)	} 3
	eInfr.	0	
	CIP-IST:	0	



FP7-ICT by regions in Europe, by funding and by participation, 2007-2012

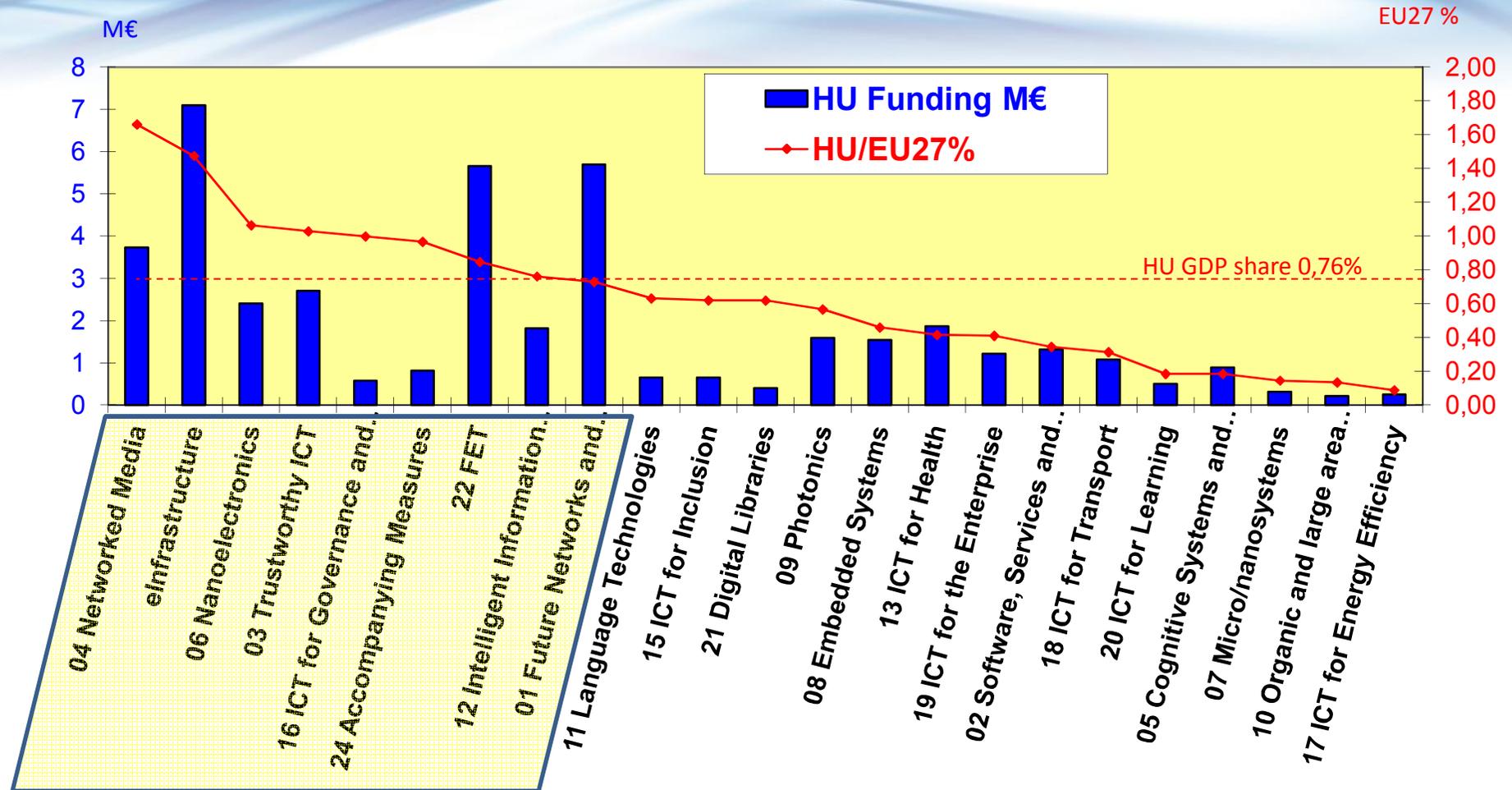
#	NIUS_3	COUNTRY	TOTAL CUMULATED FUNDING 2007 - 2012 (million €)	NIUS_3	COUNTRY	TOTAL CUMULATED PARTICIPATIONS 2007 - 2012
1	MÜNCHEN, KREISFREESTADT	DE	€297	PARIS	FR	809
2	PARIS	FR	€266	MÜNCHEN, KREISFREESTADT	DE	611
3	MADRID	ES	€190	MADRID	ES	562
4	Athi	GR	€151	Athi	GR	460
5	BARCELONA	ES	€127	ROMA	IT	417
6	ROMA	IT	€125	MILANO	IT	374
7	INNERLONDON - WEST	UK	€124	BARCELONA	ES	360
8	MILANO	IT	€122	INNERLONDON - WEST	UK	327
9	ARR. LEUVEN	BE	€108	HELSINKI - UUSIMAA	FI	310
10	HELSINKI - UUSIMAA	FI	€105	WIEN	AT	286
11	HAUTS-DESEINE	FR	€93	HAUTS-DESEINE	FR	255
12	WIEN	AT	€86	ARR. LEUVEN	BE	234
13	STOCKHOLMS LÄN	SE	€85	STOCKHOLMS LÄN	SE	217
14	RHEIN-NECKAR-KREIS	DE	€78	ARR. DEBRUKELLES-CAPITALE / ARR. VAN BRUSSEL-HOOFDSTAD	BE	214
15	ZUIDOOST-NOORD-BRABANT	NL	€77	BERLIN	DE	198
16	DELFT EN WESTLAND	NL	€74	YVELINES	FR	193
17	BERLIN	DE	€69	ZUIDOOST-NOORD-BRABANT	NL	192
18	YVELINES	FR	€66	TORINO	IT	185
19	GROOT-AMSTERDAM	NL	€59	GROOT-AMSTERDAM	NL	168
20	STUTTGART, STADTKREIS	DE	€59	GRANDELISBOA	PT	166
21	TORINO	IT	€58	VÄSTRA GÖTALANDS LÄN	SE	162
22	GRAZ	AT	€58	DELFT EN WESTLAND	NL	143
23	VÄSTRA GÖTALANDS LÄN	SE	€58	BUDAPEST	HU	138
24	ARR. DEBRUKELLES-CAPITALE / ARR. VAN BRUSSEL-HOOFDSTAD	BE	€57	KARLSRUHE, STADTKREIS	DE	135
25	GRANDELISBOA	PT	€51	Städteregion Aachen	DE	129
26	KARLSRUHE, STADTKREIS	DE	€49	STUTTGART, STADTKREIS	DE	128
27	THESSALONIKI	GR	€49	GRAZ	AT	127
28	Städteregion Aachen	DE	€48	TRENTO	IT	122
29	TWENTE	NL	€44	DUBLIN	IE	118
30	TRENTO	IT	€43	ALPES-MARITIMES	FR	117
31	ESA	IT	€43	PEA	IT	116
32	SURREY	UK	€42	ISERE	FR	114
33	EDINBURGH, CITY OF	UK	€41	MIASTO WARSZAWA	PL	114
34	DRESDEN, KREISFREESTADT	DE	€40	THESSALONIKI	GR	106
35	GENOVA	IT	€39	VALENCIA / VALÈNCIA	ES	108
36	DUBLIN	IE	€38	GENOVA	IT	101
37	ARR. GENT	BE	€37	GUIPÚZCOA	ES	100
38	KÖLN, KREISFREESTADT	DE	€35	BOLOGNA	IT	99
39	VALENCIA / VALÈNCIA	ES	€34	OSREDNIESLOVENSKA	SI	97
40	GUIPÚZCOA	ES	€33	TWENTE	NL	95
41	ALPES-MARITIMES	FR	€32	ESSONNE	FR	95
42	INNERLONDON - EAST	UK	€31	Cambridgeshire CC	UK	94
43	BREMEN, KREISFREESTADT	DE	€31	DRESDEN, KREISFREESTADT	DE	92
44	Cambridgeshire CC	UK	€31	ARR. GENT	BE	90
45	SOUTHAMPTON	UK	€30	RHEIN-NECKAR-KREIS	DE	88
46	BUDAPEST	HU	€29	HLAVNI MESTO PRAHA	CZ	88
47	KAISERSLAUTERN, KREISFREIE STADT	DE	€29	SURREY	UK	86



FP7-ICT HU támogatás és EU27 arány

kutatási célonként

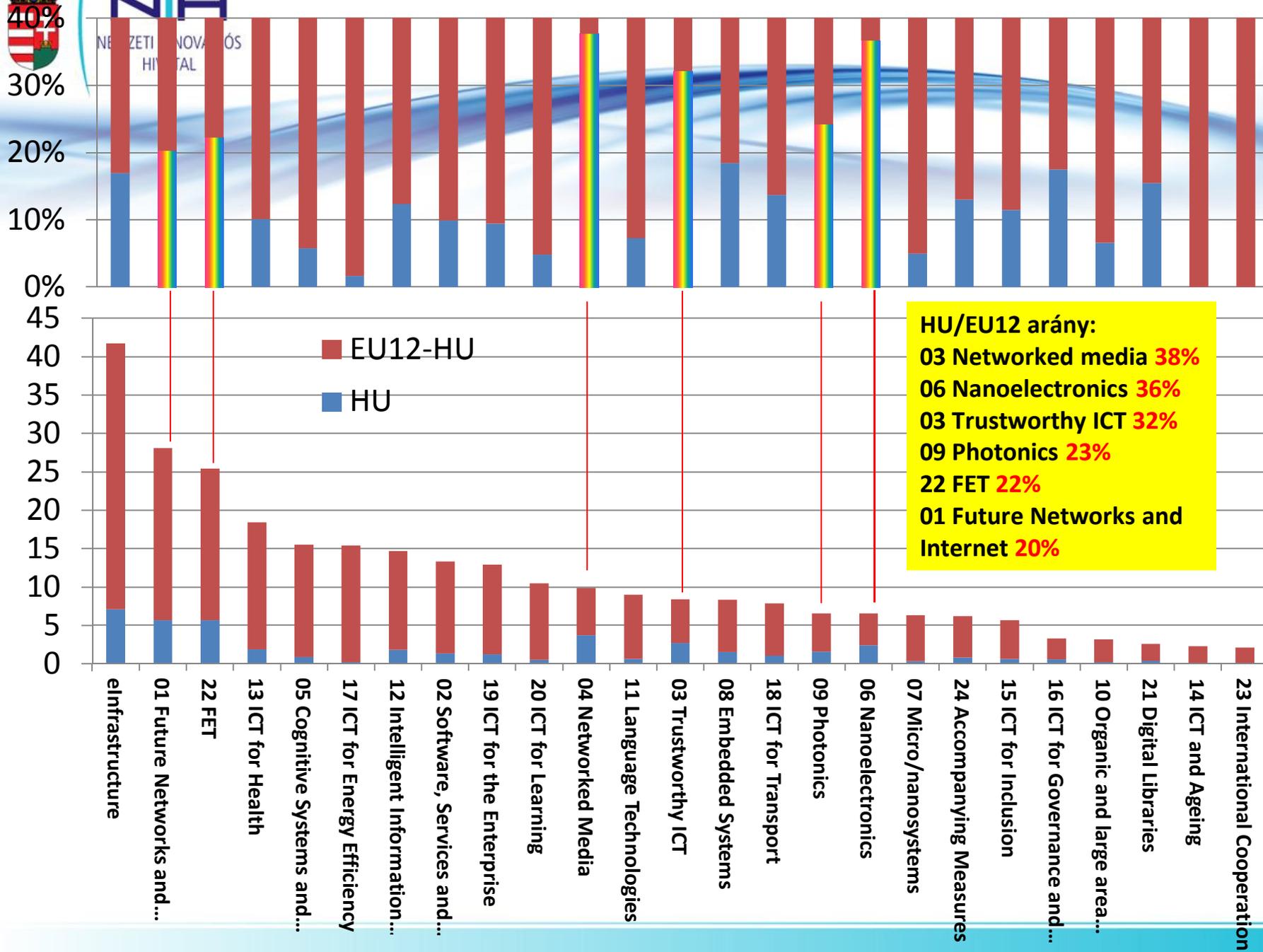
Contract DB, 9 October 2013



Magyar átlagos részesedés fölötti szakterületek

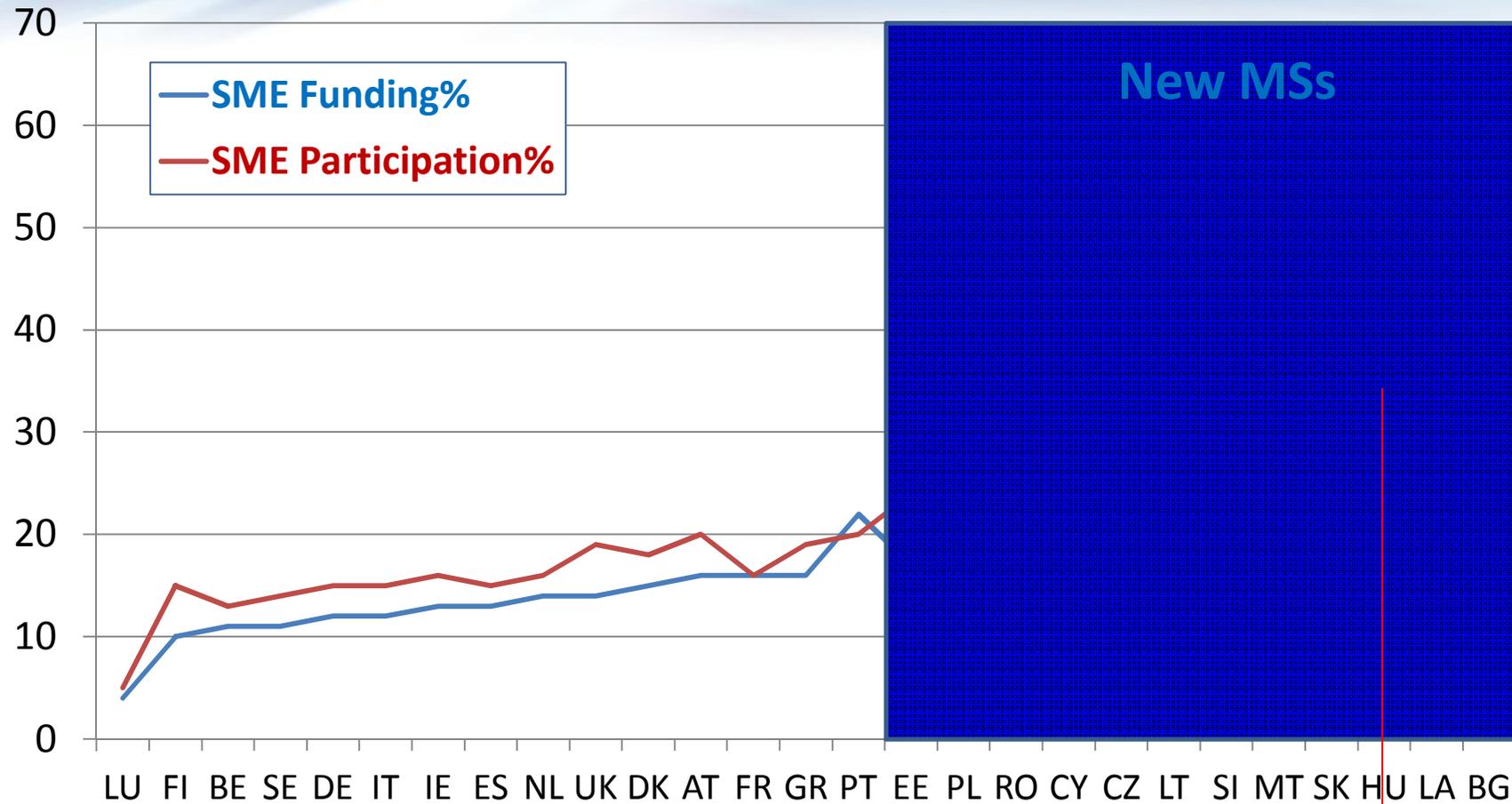


FP7-ICT HU és EU12 részesedés SO szerint, Contract DB, 9 Oct. 2013



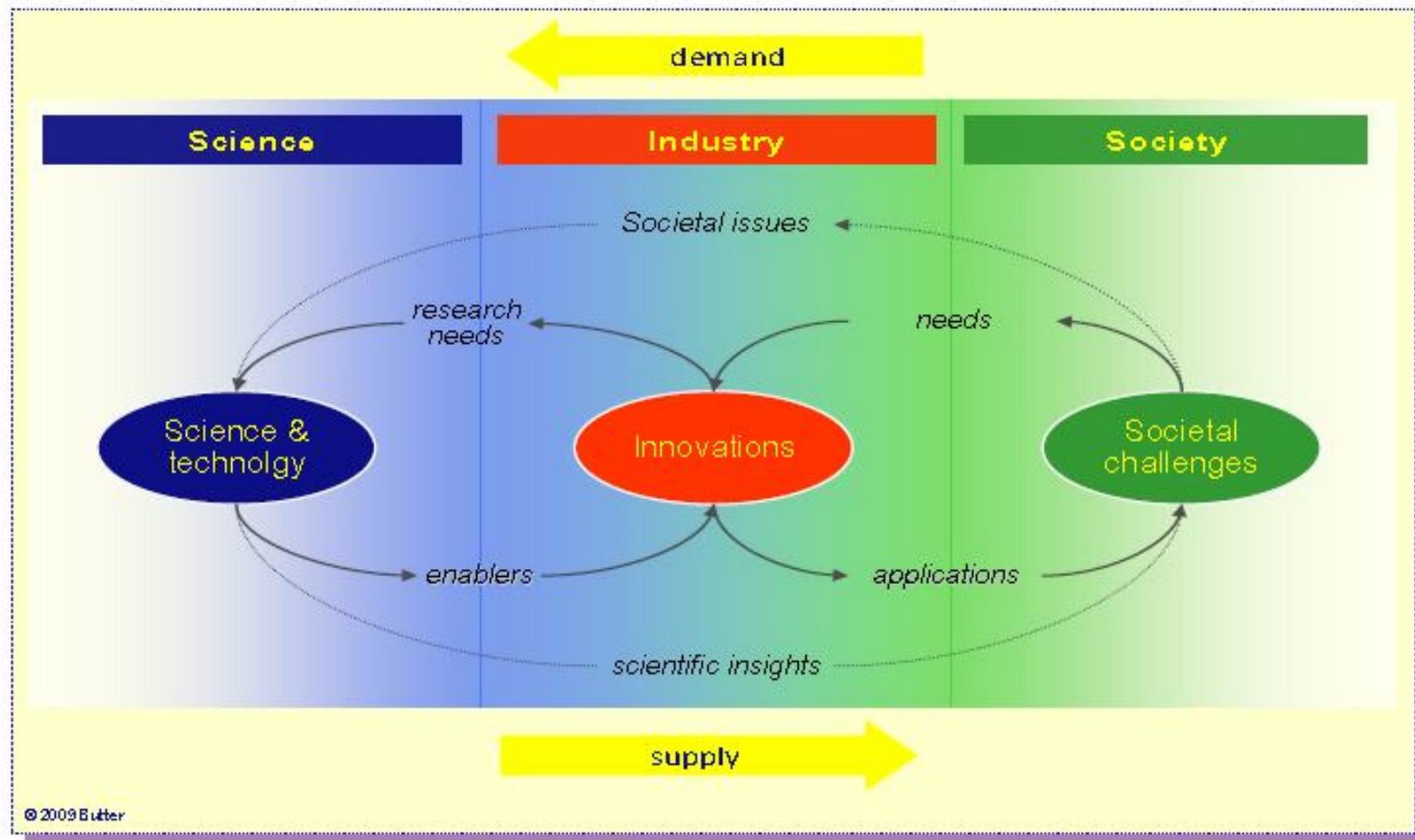


FP7 ICT Share of SMEs by Member State (as % of total funding and participations, cumulated figures 2007 - 2012)



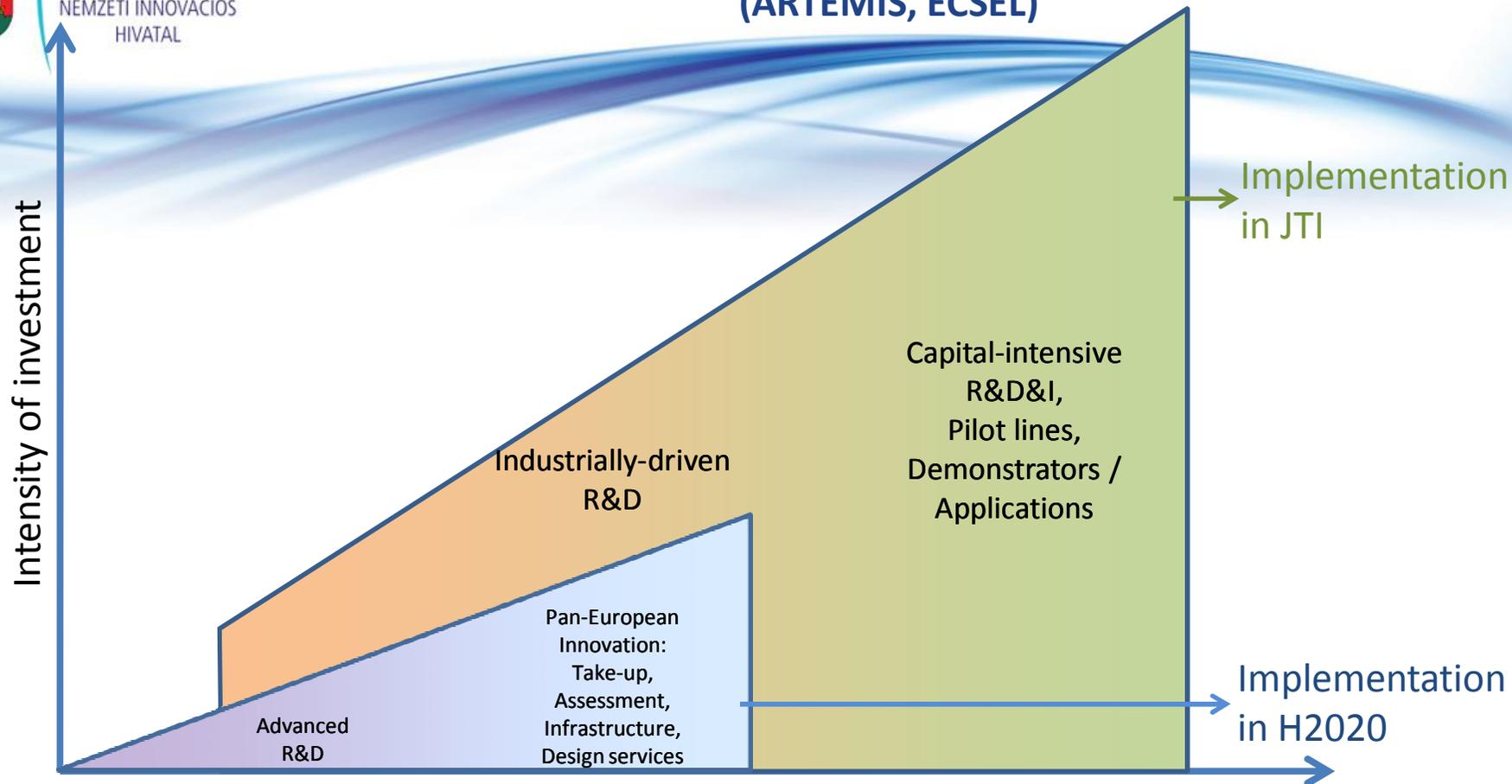
Hogyan látja az ipar az innovációt

Innovation systems view as reference





Cyber-Physical Systems – driven by JTI (ARTEMIS, ECSEL)



TRL

1	2	3	4	5	6	7	8	9
Basic Principles Observed	Technology Concept Formulated	Experimental Proof of Concept	Technology Validation In lab	Tech valid. In relevant environment	Demonstration In relevant environment	Demonstration in operational environment	System complete and qualified	Successful mission operations

←-----→

*Technological Research
Pillar 1*

←-----→

*KET Pilot Line
and demonstrator projects
Pillar 2*

←-----→

*Manufacturing &
KET Deployment Project
Pillar 3*



Technology Readiness Level

TRL 9 = Actual technology system qualified through successful mission operations

TRL 8 = Actual technology system completed and qualified through test and demonstration

TRL 7 = Technology prototype demonstration in an operational environment

TRL 6 = Technology demonstration in a relevant environment

TRL 5 = Technology validation in a relevant environment

TRL 4 = Technology validation in a laboratory environment

TRL 3 = Analytical and experimental critical function and/or characteristic proof-of-concept

TRL 2 = Technology concept and/or application formulated

TRL 1 = Basic principles observed and reported

KET's
pilot
lines

R&D

Individual ETPs: H2020-ban elismert ETP-k

Bio-based economy	Energy	Environment	ICT	Production and processes	Transport
<u>EATIP</u>	<u>Biofuels</u>	<u>WssTP</u>	<u>ETP4HPC</u>	<u>ECTP</u>	<u>ACARE</u>
<u>ETPGAH</u>	<u>EU PV TP</u>		<u>EUROP</u>	<u>ESTEP</u>	<u>ERRAC</u>
<u>Food for Life</u>	<u>TPWind</u>		<u>ARTEMIS</u>	<u>EuMaT</u>	<u>ERTRAC</u>
<u>Forest-based</u>	<u>RHC</u>		<u>ENIAC</u>	<u>FTC</u>	<u>Logistics</u>
<u>Plants</u>	<u>SmartGrids</u>		<u>EPoSS</u>	<u>SusChem</u>	<u>Waterborne</u>
<u>FABRE TP</u>	<u>SNETP</u>		<u>ISI</u>	<u>Nanomedicine</u>	
<u>TP Organics</u>	<u>ZEP</u>		<u>Net!Works</u>	<u>ETP-SMR</u>	
			<u>NEM</u>	<u>Manufuture</u>	
			<u>NESSI</u>		
			<u>Photonics 21</u>		
Cross ETP Initiatives					
<u>Nanofutures</u>					
<u>Industrial Safety</u>					

Joint Technology Initiatives (JTIs: ECSEL)

e.g. <http://www.eniac.eu/web/documents/general.php>

Lead Market Initiative (PCP-PPI)

http://ec.europa.eu/invest-in-research/action/2006_ahogroup_en.htm

Strategic Energy Technology Plan (SET-Plan)

http://ec.europa.eu/energy/technology/set_plan/set_plan_en.htm

Public Private Partnerships (PPP: 5G, Robotics, Photonics)

<http://ec.europa.eu/research/index.cfm?lg=en&pg=newsalert&year=2009&na=ppp-310309>

European Innovation Partnerships (EIP-AHA)

http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=eip

Joint Programming Initiatives (ERA-NETs)

http://ec.europa.eu/research/era/joint-programming-initiatives_en.html

Knowledge and Innovation Communities (EIT ICT KIC)

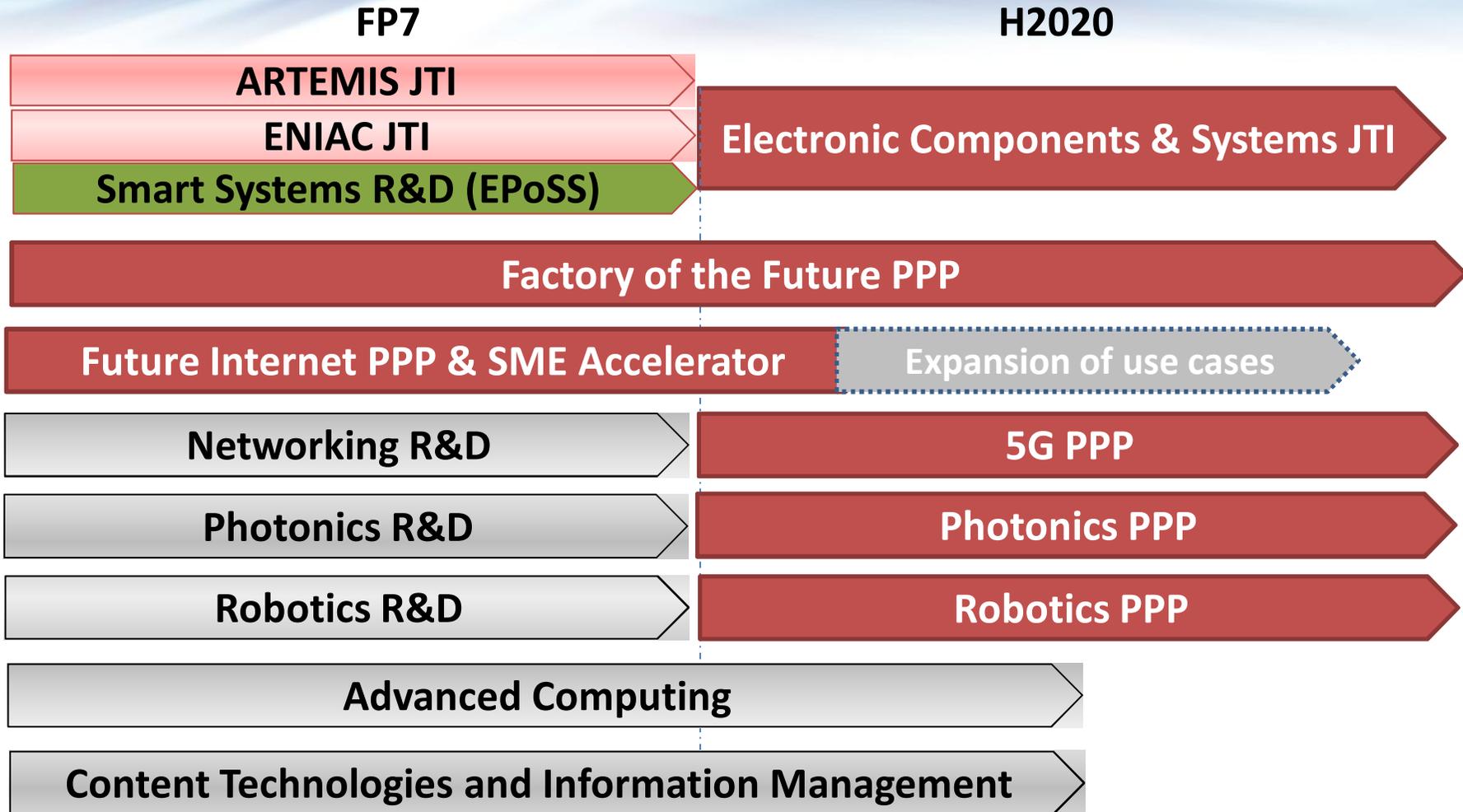
<http://eit.europa.eu/kics/>

Industrial policy

http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/index_en.htm

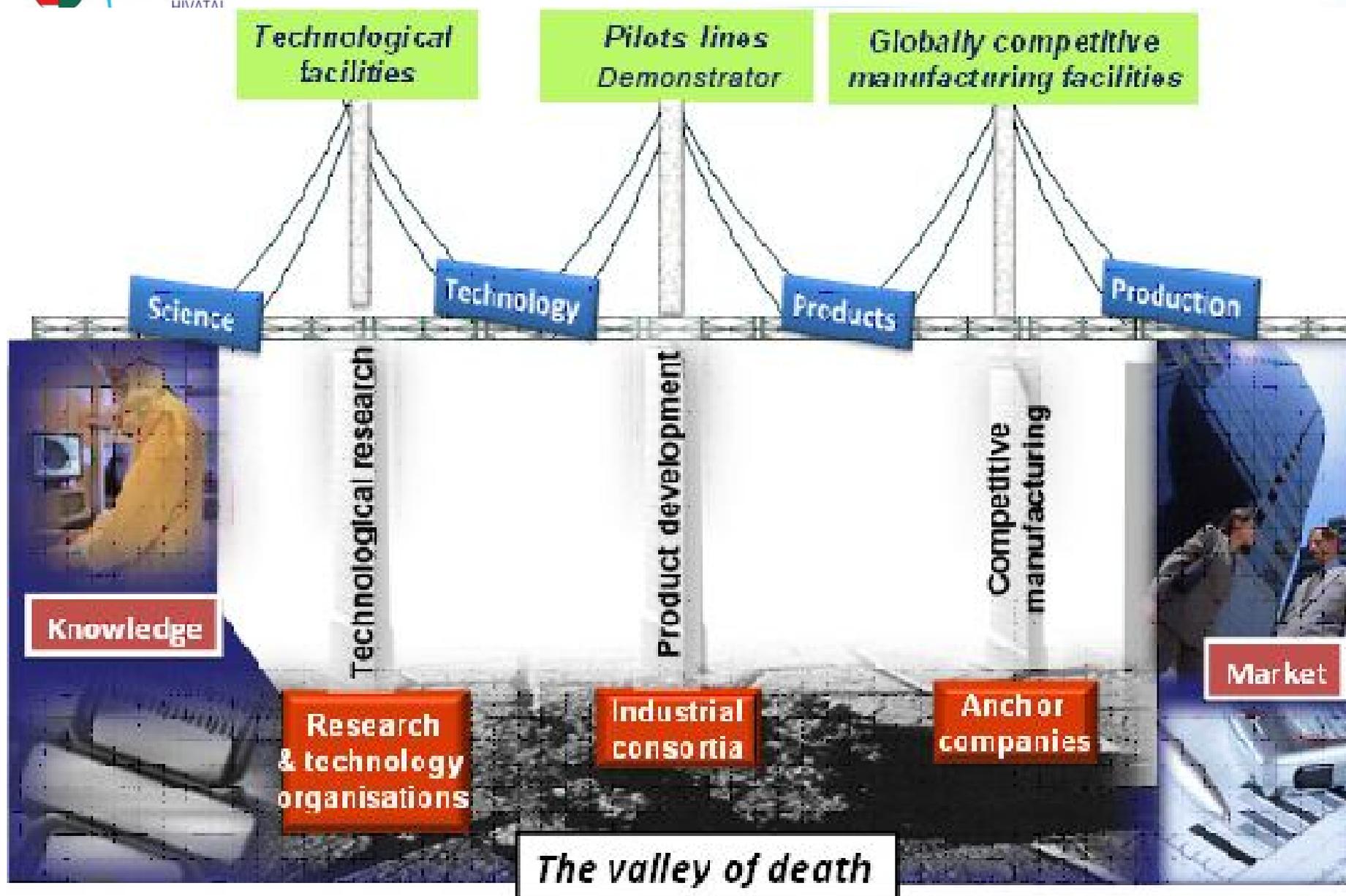


ICT Roadmap-based research: Continuity and consolidation



Key Enabling Technologies Study: A „halál völgye”

http://ec.europa.eu/enterprise/sectors/ict/key_technologies



Proposals under article 185 (tagországi programok)

- Supporting research-performing small and medium-sized enterprises (**Eurostars-2**):
 - Impact assessment:
 - Executive summary of the Impact Assessment:
- European Metrology Programme for Innovation and Research (**EMPIR**):
 - Impact assessment:
 - Executive summary of the Impact Assessment:
- European and Developing Countries Clinical Trials Partnership (**EDCTP 2**):
 - Impact assessment:
 - Executive summary of the Impact Assessment:
- Active and Assisted Living Research and Development Programme (**AAL**):
 - Impact assessment:
 - Executive summary of the Impact Assessment:

Proposals for Joint Undertakings under article 187 (EU „PPP” programok)

- **Innovative Medicines Initiative (IMI) 2:**
 - Impact assessment:
 - Executive summary of the Impact Assessment:
- **Fuel Cells and Hydrogen (FCH) 2:**
 - Impact assessment:
 - Executive summary of the Impact Assessment:
- **Clean Sky 2:**
 - Impact assessment:
 - Executive summary of the Impact Assessment:
- **Bio-Based Industries:**
 - Impact assessment:
 - Executive summary of the Impact Assessment:
- **Electronic Components and Systems for European Leadership (ECSEL):**
 - Impact assessment:
 - Executive summary of the Impact Assessment:
- **Single European Sky Air Traffic Management Research (SESAR):**
 - Revision of Regulation:



Horizon 2020 Strategic Programme for the 2014-2016 Work Programmes, Focus Areas

1. *Personalising health and care*
2. *Sustainable food security*
3. *Blue growth: unlocking the potential of the oceans*
4. *Smart cities and communities*
5. *Competitive low-carbon energy*
6. *Energy Efficiency*
7. *Mobility for growth*
8. *Waste: a resource to recycle, reuse and recover raw materials*
9. *Water innovation: boosting its value for Europe*
10. *Overcoming the crisis: new ideas, strategies and governance structures for Europe*
11. *Disaster-resilience: safeguarding and securing society, including adapting to climate change*
12. **Digital security**

A H2020 források
60%-át a
fenntarthatóságra
kell fordítani



NIH
NEMZETI INNOVÁCIÓS
HIVATAL



EIT ICT Labs operates from 5 Nodes and 3 Associated Partner Groups

-  EIT ICT Labs Node
-  Associated Partner Groups



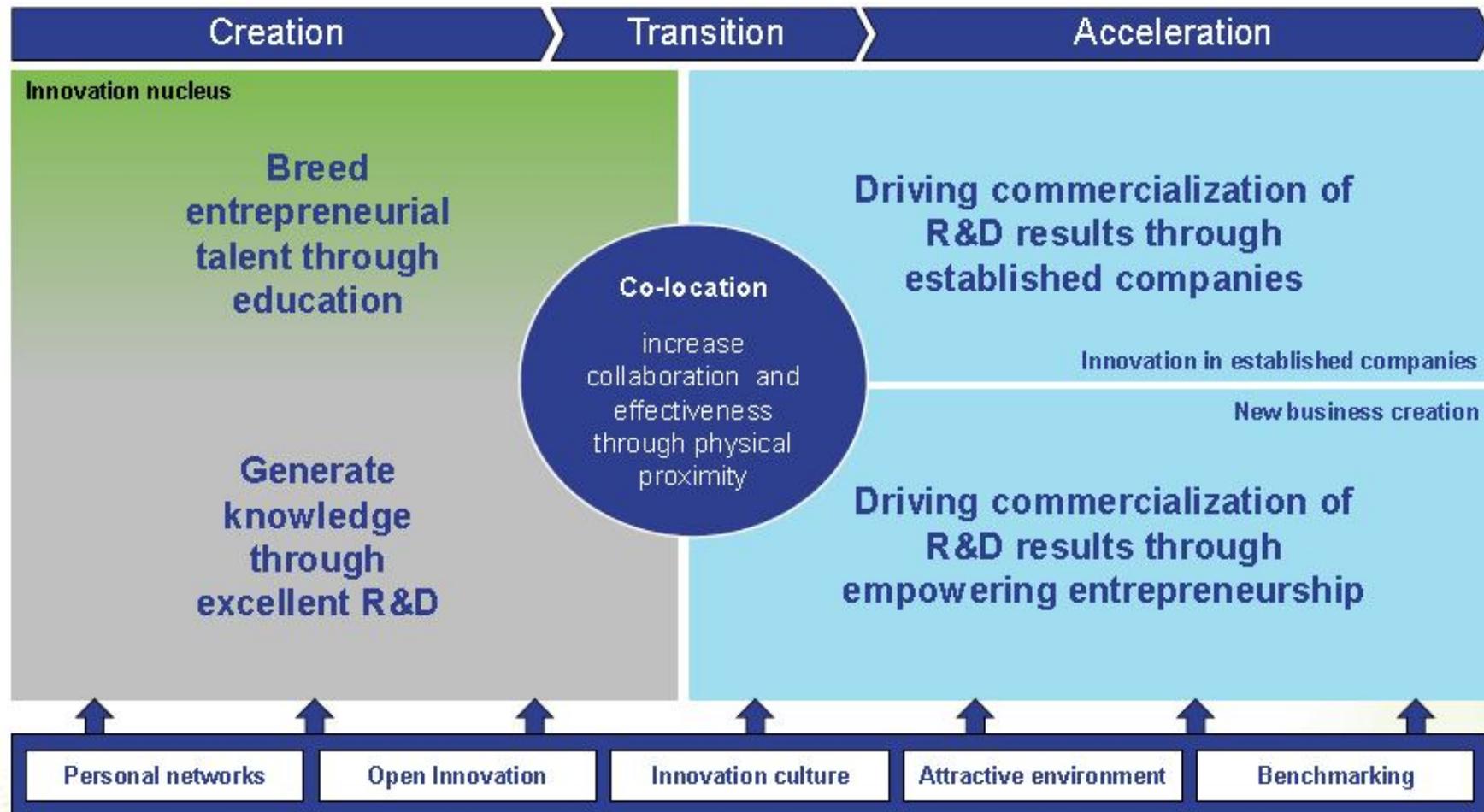
<http://ictlabs.elte.hu/index.php?id=budapesti-tarsult-csomopont>

Európai Innovációs és Technológiai Intézet (EIT) a H2020 első két évében

- Kutatás, innováció és képzés összekapcsolása a KIC-ekben
- **Költségvetése a H2020-ból: kb. 2 437 M€**
- Első hullámban (2014) induló 2 KIC:
Healthy Living Active Ageing, Raw materials, továbbiak 2016 - Food, Manufacturing, 2018 - Urban mobility

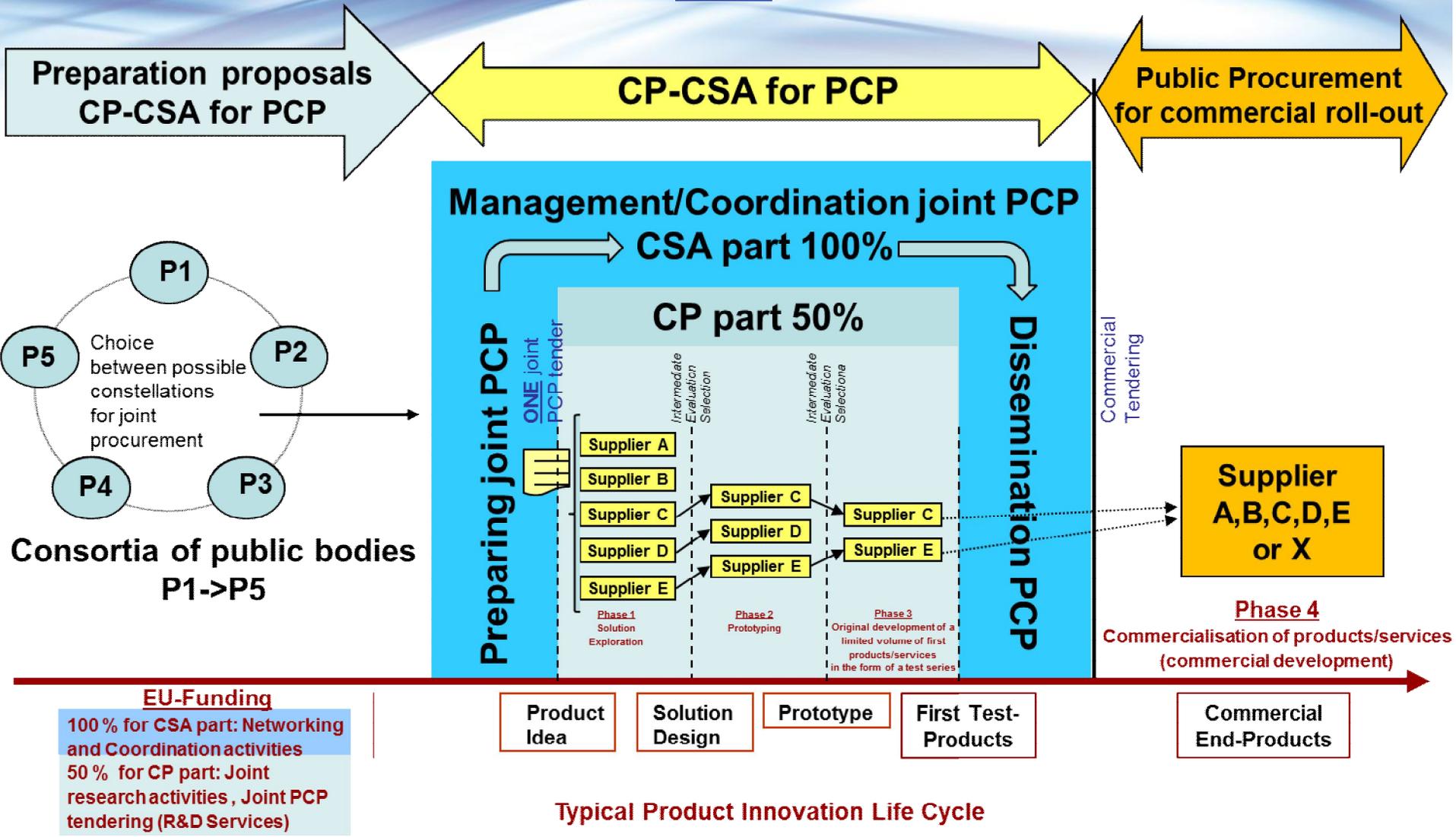


Our framework drives innovations to the market





ICT 8: PCP - PPI



- 1) Strategic configuration, covering also 'Spreading Excellence and Widening Participation' and 'Science with and for Society'
- 2) European Research Council, Marie Skłodowska-Curie actions, Future and Emerging Technologies
- 3) Research Infrastructures
- 4) Information and Communication Technologies**
- 5) Nanotechnologies, Advanced materials, Biotechnology, Advanced manufacturing and processing
- 6) Space
- 7) SMEs and Access to Risk Finance
- 8) Health, demographic change and wellbeing
- 9) Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy
- 10) Secure, Clean and Efficient Energy
- 11) Smart, Green and Integrated Transport
- 12) Climate Action, Environment, Resource Efficiency and Raw Materials
- 13) Europe in a changing world - Inclusive, Innovative and Reflective societies
- 14) Secure Societies – Protecting Freedom and security of Europe and its citizens
(and Fusion & Fission for the Euratom programme)



Proposed funding (€ million, 2014-2020) 1st Pillar

<i>European Research Council (ERC)</i> Frontier research by the best individual teams	13 095
<i>Future and Emerging Technologies</i> Collaborative research to open new fields of innovation	2 696
<i>Marie Skłodowska-Curie actions (MSCA)</i> Opportunities for training and career development	6 162
<i>Research infrastructures (including e-infrastructure)</i> Ensuring access to world-class facilities	2 488 (ICT: 863)

3 559

Proposed funding (€ million, 2014-2020)

2nd Pillar

<p><i>Leadership in enabling and industrial technologies (LEITs)</i> (ICT, nanotechnologies, materials, biotechnology, manufacturing, space)</p>	<p>13 557 (ICT: 7 360)</p>
<p><i>Access to risk finance</i> Leveraging private finance and venture capital for research and innovation</p>	<p>2 842</p>
<p><i>Innovation in SMEs</i> Fostering all forms of innovation in all types of SMEs</p>	<p>616 + complemented by expected 20% of budget of societal challenges + LEITs and 'Access to risk finance' with strong SME focus</p>

7 360



Proposed funding (€ million, 2014-2020)

3rd Pillar

		ICT
Health, demographic change and wellbeing	7 472	15%
Food security, sustainable agriculture, marine and maritime research & the Bioeconomy	3 851	0
Secure, clean and efficient energy	5 931	5%
Smart, green and integrated transport	6 339	6%
Climate action, resource efficiency and raw materials	3 081	3.5%
Innovative, inclusive and reflective societies	1 309	25%
Secure societies	1 695	25%
<i>Science with and for society</i>	<i>462</i>	<i>0</i>
<i>Spreading excellence and widening participation</i>	<i>816</i>	<i>0</i>
	30 956	2 660

A guide to ICT-related activities in WP2014-15

http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=3511

Guide to the presence of ICT in H2020

Find out more:

<http://ec.europa.eu/programmes/horizon2020/>

A guide to ICT-related activities in WP2014-15:

http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=3511

H2020 launched first calls:

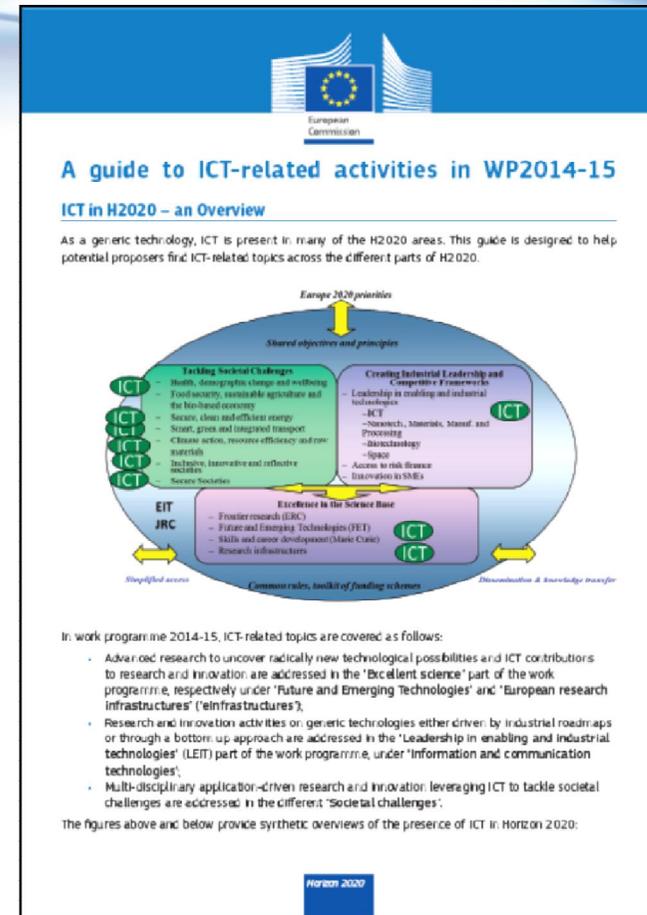
<http://ec.europa.eu/programmes/horizon2020/en/news/horizon-2020-launched-%E2%82%AC15-billion-over-first-two-years>

H2020 Calls published, see here:

https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/master_calls.html#h2020-fof-2014-2015

The Participant Portal:

<https://ec.europa.eu/research/participants/portal/desktop/en/home.html>



A guide to ICT-related activities in WP2014-15
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.

The diagram illustrates the presence of ICT across H2020 priorities and funding schemes. It shows three main areas: 'Tackling Societal Challenges', 'Creating Industrial Leadership and Competitiveness', and 'Excellence in the Science Base'. Each area lists specific ICT-related activities and funding schemes like EIT, JRC, and Horizon 2020.

In work programme 2014-15, ICT-related topics are covered as follows:

- Advanced research to uncover radically new technological possibilities and ICT contributions to research and innovation are addressed in the 'Excellent science' part of the work programme, respectively under 'Future and Emerging Technologies' and 'European research infrastructures' ('infrastructures').
- Research and innovation activities on generic 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, under 'Information and communication technologies'.
- Multi-disciplinary application-driven research and innovation leveraging ICT to tackle societal challenges are addressed in the different 'societal challenges'.

The figures above and below provide synthetic overviews of the presence of ICT in Horizon 2020.

http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=3511

ICT in 1st Pillar: FET

Future and Emerging Technologies (FET)

- **FET Open: fostering novel ideas**
- **FET Proactive: nurturing emerging themes and communities**
 - **FETHPC 1 - 2014: HPC Core Technologies, Programming Environments and Algorithms for Extreme Parallelism and Extreme Data Applications**
 - **FETHPC 2 - 2014: HPC Ecosystem Development**
 - **FETHPC 3 - 2014: Targeted Opening with Russia**
 - **Global Systems Science (GSS),**
 - **Knowing, doing, being: cognition beyond problem solving.**

The deadline for the submission of proposals for these two topics will be in **2014**.

- **FET Flagships: pursuing grand interdisciplinary science and technology challenges**

Two flagship initiatives will be further developed and supported:

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

ICT in 1st Pillar: eInfrastructure

Research Infrastructure : **Development, deployment and operation of ICT-based e-infrastructures**

- ICT e-infrastructures cover the following main priorities:
- development and integration of ICT infrastructure resources and services for research,
- access to and management of research data,
- implementation of the e-infrastructure part of the EU strategy on high-performance computing.

e-infrastructure is covered in a dedicated call ('**e-Infrastructures**' (EINFRA)) with the nine following topics:

- **EINFRA 1-2014 – Managing, preserving and computing with big research data**
- **EINFRA 2-2014 – e-Infrastructure for Open Access**
- **EINFRA 3-2014 – Towards global data e-infrastructures – Research Data Alliance**
- **EINFRA 4-2014 – Pan-European High Performance Computing infrastructure and services**
- **EINFRA 5-2015 – Centres of Excellence for computing applications**
- **EINFRA 6-2014 – Network of HPC Competence Centres for SMEs**
- **EINFRA 7-2014 – Provision of core services across e-infrastructures**
- **EINFRA 8-2015 - Research and Education Networking – GÉANT**
- **EINFRA 9-2015 – e-Infrastructures for virtual research environments (VRE)**

In addition to eInfrastructures, ICT is also covered in the following topic:

- **INFRAIA 1-2014/2015: Integrating and opening existing national and regional research infrastructures of pan-European interest**

ICT in 2nd Pillar-LEIT-ICT1

- **ICT in 'Leadership in Enabling and Industrial Technologies'**
- **A new generation of components and systems**
 - ICT 1 – 2014: Smart Cyber-Physical Systems
 - ICT 2 – 2014: Smart System Integration
 - ICT 3 – 2014: Advanced Thin, Organic and Large Area Electronics (TOLAE) technologies
- **Advanced Computing**
 - ICT 4 – 2015: Customised and low power computing
- **Future Internet**
 - ICT 5 – 2014: Smart Networks and novel Internet Architectures
 - ICT 6 – 2014: Smart optical and wireless network technologies
 - ICT 7 – 2014: Advanced Cloud Infrastructures and Services
 - ICT 8 – 2015: Boosting public sector productivity and innovation through cloud computing services
 - ICT 9 – 2014: Tools and Methods for Software Development
 - ICT 10 – 2015: Collective Awareness Platforms for Sustainability and Social Innovation
 - ICT 11 – 2014: FIRE+ (Future Internet Research & Experimentation)
 - ICT 12 – 2015: More experimentation for the Future Internet
 - ICT 13 – 2014: Web Entrepreneurship
 - ICT 14 – 2014: Advanced 5G Network Infrastructure for the Future Internet

ICT in 2nd Pillar-LEIT-ICT2

- **Content technologies and information management**
 - ICT 15 – 2014: Big data Innovation and take-up
 - ICT 16 – 2015: Big data - research
 - ICT 17 – 2014: Cracking the language barrier
 - ICT 18 – 2014: Support the growth of ICT innovative Creative Industries SMEs
 - ICT 19 – 2015: Technologies for creative industries, social media and convergence
 - ICT 20 – 2015: Technologies for better human learning and teaching
 - ICT 21 – 2014: Advanced digital gaming/gamification technologies
 - ICT 22 – 2014: Multimodal and Natural computer interaction
- **Robotics**
 - ICT 23 – 2014: Robotics
 - ICT 24 – 2015: Robotics

ICT in 2nd Pillar-LEIT-ICT3

- **Micro- and nano-electronic technologies, Photonics**
 - ICT 25 – 2015: Generic micro- and nano-electronic technologies
 - ICT 26 – 2014: Photonics KET
 - ICT 27 – 2015: Photonics KET
 - ICT 28 – 2015: Cross-cutting ICT KETs
 - ICT 29 – 2014: Development of novel materials and systems for OLED lighting
- **ICT Cross-Cutting Activities**
 - ICT 30 – 2015: Internet of Things and Platforms for Connected Smart Objects
 - ICT 31 – 2014: Human-centric Digital Age
 - ICT 32 – 2014: Cybersecurity, Trustworthy ICT
 - ICT 33 – 2014: Trans-national co-operation among National Contact Points
- **Horizontal ICT Innovation actions**
 - ICT 34 – 2015: Support for access to finance
 - ICT 35 – 2014: Innovation and Entrepreneurship Support
 - ICT 36 – 2015 Pre-commercial procurement open to all areas of public interest requiring new ICT solutions
 - ICT 37 - 2014-15: Open Disruptive Innovation Scheme (implemented through the SME instrument)
- **Fast track to Innovation – pilot**
 - Fast track to Innovation – ICT topic

ICT in 2nd Pillar-LEIT-ICT4

- **International Cooperation actions**
 - ICT 38 – 2015: International partnership building and support to dialogues with high income countries
 - ICT 39 – 2015: International partnership building in low and middle income countries
- **EU-Brazil Research and Development Cooperation in Advanced Cyber Infrastructure**
 - EUB 1 – 2015: Cloud Computing, including security aspects
 - EUB 2 – 2015: High Performance Computing (HPC)
 - EUB 3 – 2015: Experimental Platforms
- **EU-Japan Research and Development Cooperation in Net Futures**
 - EUJ 1 – 2014: Technologies combining big data, internet of things in the cloud
 - EUJ 2 – 2014: Optical communications
 - EUJ 3 – 2014: Access networks for densely located users
 - EUJ 4 – 2014: Experimentation and development on federated Japan – EU testbeds



ICT in 3rd Pillar- LEIT-(ICT-NMP)-FoF PPP

- **FoF 1 – 2014: Process optimisation of manufacturing assets**
- FoF 2 – 2014: Manufacturing processes for complex structures and geometries with efficient use of material
- FoF 3 – 2014: Global energy and other resources efficiency in manufacturing enterprises
- FoF 4 – 2014: Developing smart factories that are attractive to workers
- FoF 5 – 2014: Innovative product-service design using manufacturing intelligence
- FoF 6 – 2014: Symbiotic human-robot collaborations for safe and dynamic multimodal manufacturing systems
- FoF 7 – 2014: Support for the enhancement of the impact of FoF PPP projects
- **FoF 8 – 2015: ICT-enabled modelling, simulation, analytics and forecasting technologies**
- **FoF 9 – 2015: ICT Innovation for Manufacturing SMEs (I4MS)**
- FoF 10 – 2015: Manufacturing of custom made parts for personalised products
- FoF 11 – 2015: Flexible production systems based on integrated tools for rapid reconfiguration of machinery and robots
- FoF 12 – 2015: Industrial technologies for advanced joining and assembly processes of multi-materials
- FoF 13 – 2015: Re-use and re-manufacturing technologies and equipment for sustainable product life cycle management
- FoF 14 – 2015: Integrated design and management of production machinery and processes

ICT in 3rd Pillar-Health1

SC1 - Health, demographic change and wellbeing

- **Advancing active and healthy ageing**, with three out of the four proposed topics:
 - PHC 19 – 2014: Advancing active and healthy ageing with ICT: **Service robotics** within assisted living environments
 - PHC 20 – 2014: Advancing active and healthy ageing with ICT: ICT solutions for **independent living** with cognitive impairment
 - PHC 21 – 2015: Advancing active and healthy ageing with ICT: **Early risk detection** and intervention
- **Integrated, sustainable, citizen-centred care**, with six out of eight topics:
 - PHC 25 – 2015: Advanced ICT systems and services for **Integrated Care**
 - PHC 26 – 2014: Self-management of health and disease: **citizen engagement and mHealth**
 - PHC 27 – 2015: **Self-management** of health and disease and patient empowerment supported by ICT
 - PHC 28 – 2015: Self-management of health and disease and decision support systems based on **predictive computer modelling** used by the patient him or herself
 - PHC 29 – 2015: **Public procurement of innovative eHealth** services (PPI)
 - PHC 30 – 2015: eHealth Sectoral Inducement **Prize**

ICT in 3rd Pillar-Health2

- **Improving health information, data exploitation and providing an evidence base for health policies and regulation**, with two out of six topics:
 - PHC 31 – 2015: Digital representation of **health data** to improve disease diagnosis and treatment
 - PHC 35 – 2014: eHealth **interoperability**
- In addition to the above, coordination and support actions are foreseen with the two following topics:
 - HCO 1 – 2014: Innovation Partnership: Support for the European Innovation Partnership on Active and Healthy Ageing – **EIP-AHA**
 - HCO 2 – 2014: Joint Programming: Coordination Action for the Joint Programming Initiative (JPI) "**More Years, Better Lives** - the Challenges and Opportunities of Demographic Change"

ICT in 3rd Pillar - Energy

SC3 - Secure, clean and efficient energy

ICT are present in the three calls, with a particularly prominent role in the third one (i.e. SCC).

- 'Energy Efficiency' (EE),
- 'Competitive Low-Carbon Energy' (LCE),
- 'Smart Cities and Communities' (SCC).

In the '**Energy Efficiency**' call, ICT appear in the activities focused on **buildings and consumers**: in the following topics:

- EE 8 – 2014: Public procurement of innovative sustainable energy solutions, where the scope includes the support to public authorities in procuring fast-evolving information and communication technologies such as **Green Data Centres**
- EE 11 - New ICT-based solutions for **energy efficiency**.

In the '**Competitive Low-Carbon Energy**' call, ICT appears in one topic of the activities grouped under the title '**Modernising the European electricity grid**':

- LCE 7 – 2015: Distribution grid and retail market, where the scope takes into account the contribution of ICT infrastructure to **smart grids and smart metering**.

The call on '**Smart Cities and Communities**' explicitly addresses solutions combining technologies from the energy, transport and ICT domains to address the issue of sustainable development in urban areas.

- SCC 1 – 2014/2015: Smart Cities and Communities solutions **integrating energy, transport, ICT sectors through lighthouse** (large scale demonstration - first of the kind) projects, which represents by far the main part of this call
- SCC 2 – 2014: Developing a framework for common, transparent data collection and performance measurement to allow **comparability** and **replication** between solutions and **best-practice identification**
- SCC 3 – 2015: Development of **system standards** for smart cities and communities solutions
- SCC 4 – 2014: Establishing **networks of public procurers** in local administrations on smart city solutions
- SCC 5 – 2014: Establishing a **challenge prize competition**: Smart solutions for creating better cities and communities

ICT in 3rd Pillar – Transport/Mobility

SC4 - Smart, green and integrated transport. Three calls are planned in 2014-15 for this challenge:

- 'Mobility for Growth' (MG), which actually constitutes the main call,
- 'Green vehicles' (GV),
- 'Small Business and Fast Track Innovation for Transport' (IT).

In the '**Mobility for Growth**' call, ICTs are expected to contribute to four of the nine targeted areas:

- **Road transport**, with two dedicated topics:
 - MG.3.5-2014 Cooperative **ITS** for safe, congestion-free and sustainable mobility
 - MG.3.6-2015 Safe and connected **automation** in road transport
- **Urban mobility**, where ICT can play a role in the following topic:
 - MG.5.3-2014 Tackling **urban road congestion**
- **Logistics**, with the following topic clearly requiring contribution from ICT:
 - MG.6.3-2015 Common communication and navigation **platforms for pan-European logistics applications**
- **Intelligent Transport Systems**, with the two following topics also clearly requiring contribution from ICT:
 - MG.7.1-2014 Connectivity and information sharing for **intelligent mobility**
 - MG.7.2-2014 Towards **seamless mobility** addressing fragmentation in ITS deployment in Europe

In the '**Green Vehicles**' call, ICTs are concerned by the following topic:

- GV.8-2015 **Electric vehicles'** enhanced performance and integration into the transport system and the grid,

ICT in 3rd Pillar – Environment

SC5 - Climate action, environment, resource efficiency and raw materials, ICT is expected to contribute to the activities foreseen in two calls:

- 'Waste: A Resource to Recycle, Reuse and Recover Raw Materials' (WASTE),
- 'Water Innovation: Boosting its value for Europe' (WATER),

The contribution in **waste management** is in four topics, for which ICT solutions are part of the scope:

- WASTE-1-2014: Moving towards a **circular economy** through industrial symbiosis
- WASTE-2-2014: A **systems approach** for the reduction, recycling and reuse of food waste
- WASTE-3-2014: **Recycling of raw materials** from products and buildings
- WASTE-4-2014/2015: Towards **near-zero waste** at European and global level

In the area of **water management**, the contribution of ICT is expected in the following topic:

- WATER-1-2014/2015: Bridging the gap: **from innovative water solutions to market replication**

ICT in 3rd Pillar – Inclusion

SC6 - Europe in a changing world - Innovative, inclusive and reflective societies. ICTs are contributing with specific topics of the third and the fifth of these calls:

- 'Reflective societies: cultural heritage and European identities' (REFLECTIVE),
- 'New forms of innovation' (INSO).

In '**Reflective societies: cultural heritage and European identities**', two topics deal with the use of ICT for the access to and the exploitation of cultural assets:

- REFLECTIVE 6 – 2015: Innovation ecosystems of **digital cultural assets**
- REFLECTIVE 7 – 2014: Advanced **3D modelling** for accessing and understanding European cultural assets

In '**New forms of innovation**', three topics address the role of ICT in modernising the public sector:

- INSO 1 - 2015: **Innovation in the public sector** by using emerging ICT technologies
- INSO 2 – 2014, 2015: ICT-enabled **open government**
- INSO 9 – 2014: Innovative **mobile e-government** applications by **SMEs**

It is also proposed to have a coordination and support action in the area of ICT for learning and inclusion:

- INSO 8 - 2014: Platform for **ICT for Learning and Inclusion**

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

In this challenge, one out of the four calls is dedicated to ICT: '**Digital Security: Cybersecurity, Privacy and Trust**' (DS). This call comprises the six following topics:

- DS 1 – 2014: **Privacy**
- DS 2 – 2014: **Access Control**
- DS 3 - 2014: The role of ICT in **Critical Infrastructure Protection**
- DS 4 -2015: Secure **Information Sharing**
- DS 5 – 2015: Trust **eServices**
- DS 6 – 2015: **Risk management and assurance models**

Description of the topics

- 3 key features
 - **Specific Challenge** – sets the context, the problem to be addressed, why intervention is necessary
 - **Scope** – delineates the problem, specifies the focus and the boundaries of the potential action BUT without overly describing specific approaches
 - **Expected Impact** – describes the key elements of what is expected to be achieved
- Simplified types of action (instruments): Research & Innovation 100%; Innovation 70%; Coordination and Support Action etc.
- Size of projects is indicated

Forms of funding

- **Grants**
 - Direct financial contribution by way of donation in order to finance an action
- **Prizes**
 - Financial contribution given as reward following a contest (recognition or inducement prizes)
- **Procurement**
 - Supply of assets, execution of works or provision of services against payment
- **Financial instruments**
 - Equity or quasi-equity investments; loans; guarantees; other risk-sharing instruments

Types of actions supported by grants

- Research and innovation actions
- Innovation actions
- Coordination and support actions
- SME instrument
- ERANET Co-fund
- Pre-commercial procurement Co-fund
- Public procurement of innovative solutions Co-fund

H2020-ICT-2014-1 Call

Publication date:2013-12-11 Deadline Date2014-04-23 +17:00:00 (Brussels local time)
Budget€658,500,000Main Pillar Industrial Leadership Status Open OJ reference [OJ C361 of 11.12.2013](#)

- Legal basis - Framework Programme H2020 [en](#)
- Legal basis - Rules for Participation [en](#)
- Legal basis - Specific Programme H2020 [en](#)
- WP H2020 - 1. Introduction [en](#)
- WP H2020 - 5. Introduction to Leadership in enabling and industrial technologies (LEITs) [en](#)
- WP H2020 - 5i. Information and communication technologies (ICT) [en](#)
- WP H2020 - 17. Communication and Dissemination [en](#)
- WP H2020 - 18. General Annexes [en](#)
- A guide to ICT-related activities in WP2014-15 [en](#)

2013.dec.11
149 Call
published

Call planning overview, LEIT

- **H2020-ICT-2014 (ICT Call 1)**
 - Publication date: 11 December 2013
 - Deadline: **23 April 2014** (all topics except 5G Future Internet)
 - Deadline for 5G Future Internet: **25 November 2014**
- **H2020-FoF-2014/2015 (Factory of the Future)**
 - Publication date: 11 December 2013
 - Deadlines: **13 March 2014** and **9 December 2014**
- **H2020-EUJ-2014 (EU-Japan Call)**
 - Publication date: 7 January 2014
 - Deadline: **10 April 2014**
- **H2020-ICT-2015 (ICT Call 2)**
 - Publication date: 15 October 2014
 - Deadline: **14 April 2015**
- **H2020-EUB-2015 (EU-Brazil Call)**
 - Publication date: 15 October 2014
 - Deadline: **21 April 2015**

Quick finder for topics linked to H2020 cross-cutting priorities:

- [Cross-cutting Key-Enabling Technologies \(KETs\)](#)
- [ERA-NET](#)
- [Gender](#)
- [Contractual Public-Private Partnerships \(cPPPs\)](#)
- [International cooperation](#)
- [SME Instrument](#)
- [Socio-economic sciences and humanities](#)

http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/search/search_topics.html



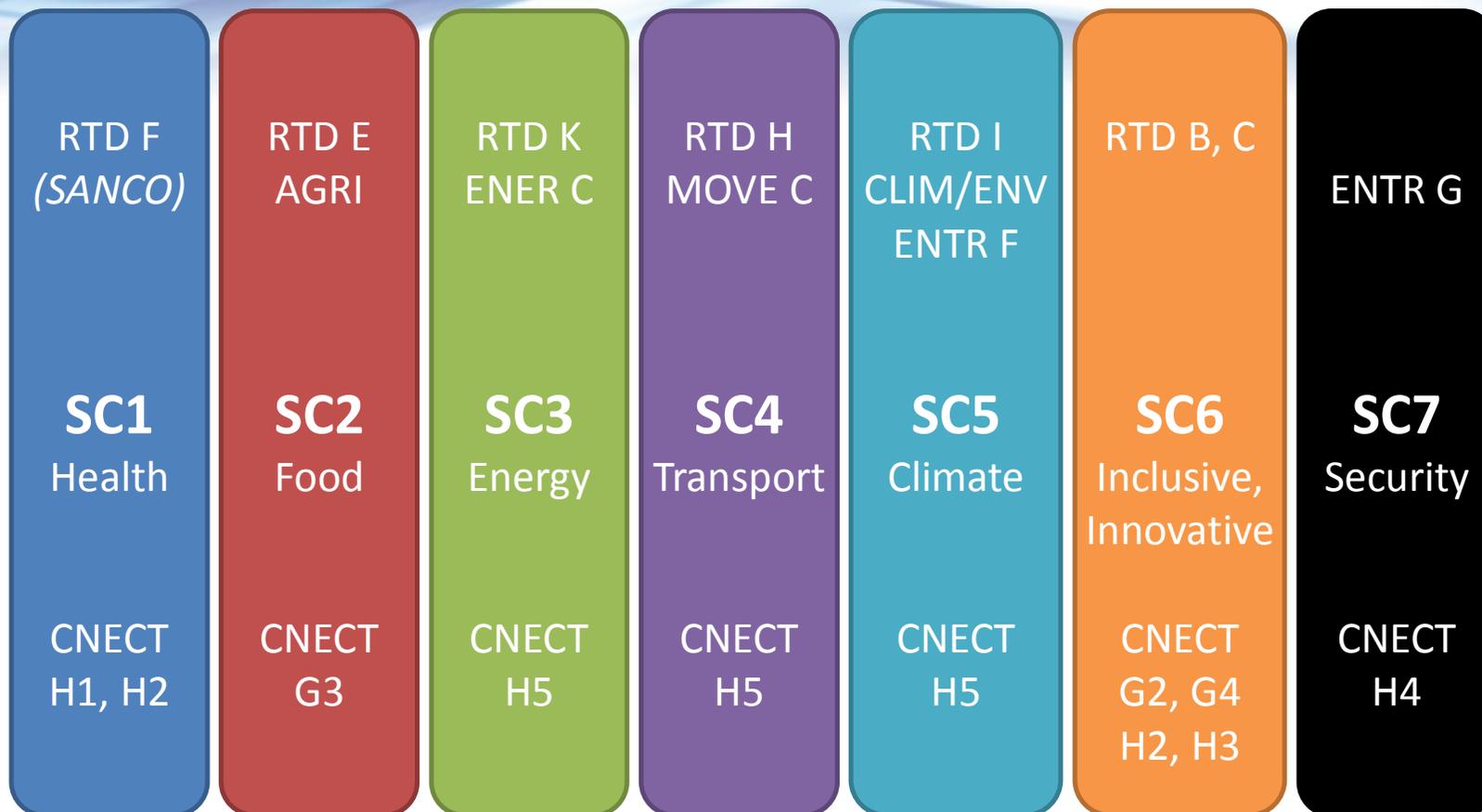
Mapping of the Organic Approach to RRI/SSH in WP14-15

<i>Focus Areas:</i>		LEIT	EXC	SC
<i>Need for SSH-expertise and RRI-actions assured via:</i>				
An Explicit Mention in the Introduction		<i>Yes</i>	<i>Yes</i>	<i>Yes, for SC 1, 3, 4 & 7</i>
Mainstreaming in Individual Topics	<u>Embedded</u>	<i>Yes: ICT 5, 15, 21, 22 & 39</i>	<i>Yes: EINFRA 1 & 5; FETOPEN 1, 2 & 3</i>	<i>Yes: PHC 19, 20, 25, 26, 27, 28, 30 & 34; HCO 1 & 2; EE 11; LCE 7; SCC 1, 2, 3, 4 & 5; MG 3.5 & 3.6; GV8; EURO 6; YOUNG 5; INSO 1 & 6; REFLECTIVE 6 & 7 & DS 1,2, 4, 5 & 6</i>
	<u>Dedicated</u>	<i>Yes: ICT 1, 2, 7, 14 & 24</i>	<i>Yes, EINFRA 9 & INFRASUPP 7</i>	<i>Yes: PHC 29 & WASTE 4</i>
SSH/RRI-Intensive Topics		<i>Yes: ICT 10</i>	<i>Yes: FETPROACT 1 & 2</i>	-
The Hub Topic		<i>Yes: ICT 31</i>	-	-

Útmutatás/magyarázat az RRI/SSH szempontok ICT területeken való megjelenéséről:

http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?action=display&doc_id=4160

H2020 Societal Challenges Organisational Configuration



ICT-2015 Call fiche in WP-2014-15

H2020-ICT-2015

Publication date: 15 October 2014⁴⁴

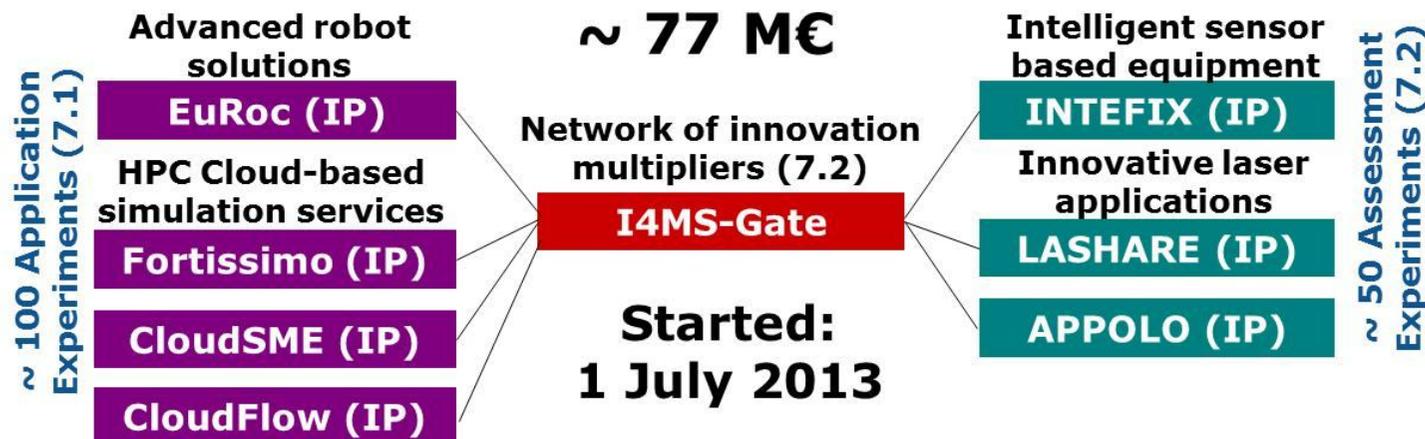
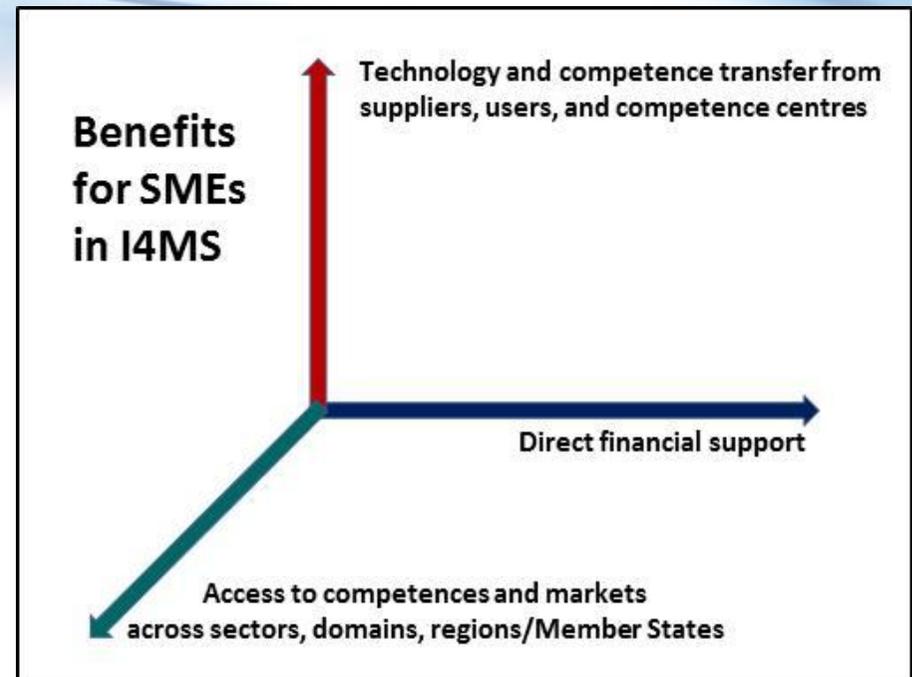
Deadline(s): at 17.00.00 Brussels time on the following dates

For all topics	[14 April 2015] ⁴⁵
----------------	-------------------------------

Overall indicative budget: EUR 583 million from the 2015 budget⁴⁶

<i>All single stage</i>		2015 EUR million
Customised and low power computing	ICT4.a	37
	ICT4.b	17
	ICT4.c	3
Boosting public sector productivity and innovation through cloud computing services	ICT8.a	9
	ICT8.b	13
Collective Awareness Platforms for Sustainability and Social Innovation	ICT10.a	25
	ICT10.b	4
	ICT10.c	7
	ICT10.d	1
More experimentation for the Future Internet	ICT12.a	13
	ICT12.b	5
Big Data - research	ICT16.a	38
	ICT16.b	1
Technologies for creative industries, social media and convergence	ICT19.a	18
	ICT19.b	21
	ICT19.c	2
Technologies for better human learning and teaching	ICT20.a	9
	ICT20.b	5
	ICT20.c	28
	ICT20.d	10

- Key role of SMEs in value chains: users and suppliers
- SME need more than €s
- 150 application experiments along value chains clustered
- Clustered around networks of competence centres
- Open Calls for experiments during course of projects



www.i4ms.eu/

Funding opportunities through existing projects in FP7

Project	Event	Dates to remember
EChORD++	<u>Call 1 for Experiments:</u>	Call opening: 3rd March 2014
	Call opening for pre-proposals and proposals submission	Call closing: 24th March 2014
EuRoC	<u>Call for Challengers</u> + <u>Call for End Users</u>	Deadline: 1st April 2014
euRathlon	<u>Call for participation:</u>	Part 1 deadline: 30 May 2014
	Underwater robotics challenge 2014, La Spezia, Italy, 29th September-3rd October, 2014.	Part 2 deadline: To Be Confirmed
RoCKIn	<u>Call for participation:</u>	Deadline: 1st June 2014 (tentative)
	Competition Event 2014, Toulouse, 26-30 November 2014 (European Robotics Week)	
RoCKIn	<u>Call for participation:</u>	Deadline: 1st June 2015 (tentative)
	Competition Event 2015, Lisbon, 25-29 November 2015 (tentative)	

Forrás: <http://ec.europa.eu/digital-agenda/en/news/funding-opportunities-through-existing-projects-fp7>

Dátum	Rendezvény	ICT téma a felhívásban	Helyszín
January 13-14	Robotics	ICT 23, 24	Luxembourg
January 15-16	Data Value Chain & Language Technologies	ICT 15, 16, 17, 22	Luxembourg
January 15	Trust & Security	ICT 32, DS 1, 2, 6	Brussels
January 16	Web Entrepreneurship	ICT 13	Webinar
January 16	Photonics	ICT 26	Brussels
January 20	FET Proactive and Flagships	FETHPC 1, 2, FETPROACT 1, 2, 3	Brussels
January 21	SSH & RRI Actions for ICT	ICT 10, ICT 31	Brussels
January 23	Creative Industries & Cultural Heritage	ICT 18, 22	Luxembourg
January 23	Pre-commercial Public Procurement (PCP) and Public Procurement of Innovative Solutions (PPI) calls	ICT 35 & 36	Brussels
January 24	Open disruptive innovation / innovation & entrepreneurship	ICT 35 & 37	Brussels
January 31	Future Internet	ICT 5, 6, 7, 9, 11, 13, 14, EUJ	Brussels
February 6	Gaming, interaction	ICT 21, 22	Luxembourg
February 10	Innovation and Public Sector	eGov WP topics	Brussels
February 12	Innovation and ICT and Water management	WATER-1-2014	Brussels
February 12	Distribution grid and retail market	LCE 7 – 2014	Brussels
February 13-14	e-Infrastructures	EINFRA, INFRASUPP, INFRADEV	Brussels
February 14	Organic Electronics	ICT 3, 19	Brussels
February 26-27	Achieving impact Conference - Social Sciences and Humanities in Horizon 2020	REFLECTIVE, EURO, YOUNG, INSO	Athens
February 28	Smart Cities	SCC 1, 2, 5	Brussels
March 11	Brokerage Event in the area of Smart Systems Integration	ICT 2	Brussels
March 18	H2020 Info Day: Smart, Green and Integrated Transport	MG3.5-2014	Brussels
March 18-20	Future Internet Assembly	ICT 5-14	Athens
March 19-20	European Data Forum	ICT 15, 16	Athens

Németh Edina, ICT és FET nemzeti kapcsolattartó, e-mail: edina.nemeth@ist.hu; Tel: +36702210387

<http://www.nih.gov.hu/nemzetkozi-tevekenyseg/rendezvenyek/horizont2020-ict>

2014. február 27.

www.nih.gov.hu

H2020 prezentációk

- H2020 hivatalos ábrák: <http://prezi.com/dycpimkrkgml/horizon-2020-official-version-2013/>
- Magyar H2020 nyitó konferencia: <http://www.nih.gov.hu/nemzetkozi-tevekenyseg/rendezvenyek/uj-lehetosegek>
- H2020 ICT-LEIT: AnnalisaBogliolo-Horizon2020ICT2013.11.26.pdf
<http://www.nih.gov.hu/nemzetkozi-tevekenyseg/rendezvenyek/uj-lehetosegek>
- H2020 ICT nyitókonferencia, Vilnius:
<http://ec.europa.eu/digital-agenda/en/ict-2013>
- H2020 LEIT ICT WP 2014-15:
[http://ec.europa.eu/research/horizon2020/pdf/work-programmes/information and communication technologies draft work programme.pdf#view=fit&page=mode=none](http://ec.europa.eu/research/horizon2020/pdf/work-programmes/information%20and%20communication%20technologies%20draft%20work%20programme.pdf#view=fit&page=mode=none)
- ICT részvételi és finanszírozási szabályok:
WP_participants.ppt : <http://ec.europa.eu/digital-agenda/en/ict-2013>

Köszönjük figyelmüket!

Bottka Sándor
Nemzeti Innovációs Hivatal
sandor.bottka@ist.hu,
NCP: Edina.Nemeth@ist.hu