



ICT Pályázati Lehetőségek Horizon 2020-ban

NIH, Külkapcsolatok Főosztálya AAL Információs Nap – Budapest, 2014.05.16.

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ICT a 3 pillérben

~25%

•Excellent science

~55%

•Industrial leadership

•Societal challenges

~20%



Egyszerűsítés?



Europe 2020 priorities

Shared objectives and principles



ICT in H2020 (€ 13 576)

NEMZETI INNOVÁCIÓS HIVATAL





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/docum ent.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/opp ortunities/h2020/master_calls.html#h2020-fof-2014-2015

The Participant Portal:

https://ec.europa.eu/research/participants/portal/desktop/en/hom e.html



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

ICT in Industrial leadership

Excellent science

Industrial Societal leadership challenges

HORIZON 2020



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**

NiH ICT in Industrial Leadership - 100%

^{ciós} Támogatás felosztás 2014-15-ben

- 1. Components and systems -12%
- 2. Advanced Computing 3%
- 3. Future Internet-21%
- 4. Content technologies and information management -14%
- 5. Robotics 8%

HIVATAI

- Key Enabling Technologies: Micronano-electronics and photonics -21%
- + Factory of the Future cPPP 6%
- + International Cooperation actions (EU-Brazil, EU-Japan) – 1%

ICT Cross cutting activities: -5%

- Internet of Things
- Human-centric Digital Age
- Cybersecurity
- Support to NCPs

ICT Innovation actions – 9%

- Access to finance
- Innovation policy support
- Open disruptive innovation scheme (SME instrument) -5%



ICT in 2nd Pillar-LEIT-ICT

ICT in 'Leadership in Enabling and Industrial Technologies'

- Advanced Computing
 - ICT 4 2015: Customised and low power computing
- Future Internet
 - ICT 8 2015: Boosting public sector productivity and innovation through cloud computing services
 - ICT 10 2015: Collective Awareness Platforms for Sustainability and Social Innovation
 - ICT 12 2015: More experimentation for the Future Internet
- Content technologies and information management
 - ICT 16 2015: Big data research
 - ICT 19 2015: Technologies for creative industries, social media and convergence
 - ICT 20 2015: Technologies for better human learning and teaching
- Robotics
 - ICT 24 2015: Robotics

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2015



ICT in 2nd Pillar-LEIT-ICT

• ICT in 'Leadership in Enabling and Industrial Technologies'

- Robotics
 - ICT 24 2015: Robotics

• Micro- and nano-electronic technologies, Photonics

- ICT 25 2015: Generic micro- and nano-electronic technologies
- ICT 27 2015: Photonics KET
- ICT 28 2015: Cross-cutting ICT KETs
- ICT Cross-Cutting Activities
 - ICT 30 2015: Internet of Things and Platforms for Connected Smart Objects
- Horizontal ICT Innovation actions
 - ICT 34 2015: Support for access to finance
 - 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)

2015



Open Disruptive Innovation – LEIT-ICT

http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/2538-ict-37-2014-1.html

Implementation: SME instrument

Budget: 90M € for 2014-15

Funding: 70% of eligible cost

Scope: No restriction on ICT area

"Disruptive ICT innovation":

Innovative ICT concept, product and service applying new sets of rules, values and models which ultimately disrupt existing markets

Cut off dates:

H2020-SMEInst-2014-2015 <u>H2020-SMEINST-1-2014</u> <u>H2020-SMEINST-1-2015</u> <u>H2020-SMEINST-2-2015</u> <u>H2020-SMEINST-2-2014</u>

ODI-ICT37 call cut-off dates: Phase 1: 18/06/2014; 24/09/2014; 17/12/2014; 18/03/2015; 17/06/2015; 17/09/2015; 16/12/2015 Phase 2: 09/10/2014; 17/12/2014; 18/03/2015; 17/06/2015; 17/09/2015; 16/12/2015







ICT ODI költségvetés 2014-2015

	ICT téma	2014 Budget EUR million	2015 Bud EUR mill	•	
Open Disruptive innovation Scheme (ODI)	ICT37 [SME instrument]	45 of which: 4.5 for phase1, 39.6 for phase2. 0.9 for mentoring & coaching support and phase 3.	45 of which: 4.5 for phase1, 39.6 for phase2. 0.9 for mentoring & coaching support and phase 3.		
	Single stage for both phase 1 and phase 2. The budget available for phase 1 and phase 2 will be divided equally between each cut-off date.				
Concept & Feasibility Assessment Demonstration R&D Commercialisation SME window EU financial facilities Quality label for		H2020-SMEINST-1-2014 H2020-SMEINST-1-2015		Call Budget 25 M€ 26,557 M€ 220,8976 M	
risk assessment, prototypir technological & market replic commercial feasibility up, minia	stration, Quality label for g, testing, successful projects, cation, scaling access to risk turisation, finance, indirect support	H2020-SMEINST-	2-2014	233,7016 N	

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50 k€

6 months

continued support throughout the project

1 to 2,5 M€

1 – 2 years

IDEA

MARKET

Eg: Access to risk

finance



EU ICT-ODI információs nap

http://ec.europa.eu/digital-agenda/en/news/info-day-open-disruptiveinnovation-innovation-and-entrepreneurship-support-horizon-2020-work

- <u>1 Introduction</u>
- 2 Advice on writing a good proposal
- <u>3 Open Disruptive Innovation and</u> <u>SME Instrument (Call ICT- 37-2014)</u>
- <u>4 Innovation and Entrepreneurship</u> Support (Call ICT- 35 -2014)
- **Q&A ODI/SME Instrument**





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- 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 - NMP

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ICT in Excellent science

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ICT in 1st Pillar: FET

Future and Emerging Technologies (FET)

• FET Open: fostering novel ideas

30/09/2014, 31/03/2015, 29/09/2015

- 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

25/11/2014

- **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).





FET Open: fostering novel ideas

lovelty

Long-term vision

말먹다

Foundation

S&T targeted

Hiah-Risk

- Collaborative research
- 'Open is open': all technologies, no topical scope.
 > Bottom-up, but targeted not blue sky research
- 40% of the FET budget in H2020 (>1B€).
- FET gatekeepers define the kind of research that FET is looking for.
- An end-to-end light and fast scheme:
 - Deadline free, open 24/7
 - 15 page proposals
 - 1 step submission, 1 stage evaluation
 - 3 evaluation criteria
- Instruments: Research and Innovation Actions, Coordination and Support actions



FET Proactive (except HPC) – Thematic call

ONLINE CONSULTATION on FUTURE FET PROACTIVE TOPICS

Have your say on Future and Emerging Technologies!

Do you have a great idea for a new technology that is not possible yet? Do you think it can become realistic by putting Europe's best minds on the task?

https://ec.europa.eu/digital-agenda/en/content/consultation-new-fet-proactive-topics



High Performance Computing PPP

- The EC Communication "High-Performance Computing: Europe's place in a global race", adopted 15 Feb 2012, describes an ambitious strategy for HPC, combining three elements:
 - > a) Computer Science: towards exa-scale High Performance Computing;



FET

FET+

RI

- b) providing access to the best supercomputing facilities and services for both industry and academia;
- c) achieving excellence in HPC applications;

Complemented with training, education and skills development in HPC



FET Flagships

FET Flagships are ambitious, large-scale, long-term, science-driven, goal-oriented, roadmap-based research initiatives, which are expected to:

- provide a strong S&T basis for future technological innovation and substantial benefits for society
- help overcome fragmentation and increase the impact of European research and innovation efforts

and which will require:

- cooperation among a range of scientific communities/disciplines, with industries and with the involvement of representatives from the civil society
- a long-term commitment of all key stakeholders sharing a common scientific vision and under a strong leadership
- a joint effort of EU and national programmes to provide a large financial support (~ 100 M€/year) over a long period (~10 years)



FET Flagship: Graphene



Graphene, is a 2D material , a single layer of carbon atoms, stronger than diamond, yet lightweight and flexible

and an exceptional electricity conductor.

The Graphene Flagship will bring graphene, and related 2D materials, **from academic labs to industry, manufacturing and society.**

Examples of products:

- ✓ electronic paper
- bendable smartphones
- enhanced solar cells and batteries
- lighter and more energy efficient airplanes

On the longer term, graphene is expected to give rise to new computers and revolutionary medical applications such as artificial retinas.



Artistic impression of a corrugated graphene sheet Credit: Jannik Meyer





FET Flagship: Human Brain

The Human Brain Project

HBP

HBP will create the wold's largest experimental facility for developing the most detailed models of the brain

(from genes to mind), for studying how the human brain works and ultimately for simulating and developing personalised treatment of brain diseases.

This research lays the scientific and **technical foundation for medical progress:** identifying new drug targets and treatment, in response to the urgent need to combat brain diseases and their associated costs to society.

HBP will also produce braininspired **'neuromorphic' computing** systems that could drastically reduce powerconsumption for super-computers and enhance robots.





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

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- Advancing active and healthy ageing topics:
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 - 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 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



- 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 – 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 6 - 2014: Platform for ICT for Learning and Inclusion



Benefits of Partnerships - ICT

Joint Technology Initiatives

- ECSEL (Electronic Components and Systems for European Leadership)
 - 1,215 b€ from EU (250m€ in 2014-15)
 - 3,6 b€ (out of which 1,2 b€ from Member States) from industry partners and other sources

Contractual PPPs

- 5G \rightarrow 700m€ indicatively earmarked in H2020 (125m€ in WP2014-15)
- **Photonics** -> **700m**€ (156m€ in WP2014-15)
- **Robotics** -> **700m**€ (157m€ in WP2014-15)
- High Performance Computing -> 700m€ (157m€ in WP2014-15)
- Factories of the Future (ICT part) -> 450m€ (102m€ in WP2014-15)
- Green Vehicles (ICT part) -> 80m€ (20m€ in WP2014-15)



Funding opportunities through existing projects in FP7

2014. május 20.



I4MS: ICT Innovation I4MS – Phase II for Manufacturing SMEs



- 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







Open Call CloudSME

- New experiments in manufacturing and engineering based on cloud computing simulations
- **Deadline:** 25th June 2014 (17:00 Brussels time)
- **Submission** via email to: opencall@cloudsme.eu
- Expected duration: 1st January 2015 31st December 2015
- **Call budget:** 400.000 Euro for 10 new beneficiary companies (not necessarily evenly)
- Further information: G.Z.Terstyanszky@westminster.ac.uk
- New! Info session on 23rd May, 11:30 CET. <u>Register for the</u> <u>webinar</u>



SME instrument

- **SME Instrument** (1 SME or consortium of SME)
 - Continuously open call; organised around 3 rounds
 - 1. lump sum to explore technical feasibility and commercial potential of a new idea
 - 2. grants to perform R&I with a particular focus on demonstration activities
 - 3. support measures and networking actions for helping exploitation of outcomes



Partnerkeresés



Open calls View All	() Recently Published	In QA proccess	ICT Events
· · · · · · · · · · · · · · · · · · ·	Partner Searches	> PS-NO-89154:	View All
> H2020 - EU-JAPAN -		Inclusive-MT	
2014	> PS-AT-89331:	Addet to Address and Speak and Inc.	> European Data Forum
Close date:	K4FoF	> PS-NO-89152:	2014
10/04/2014	C. PARTICIPATION CONTRACTOR	Inclusive-MT	
	> PS-SK-89303:		> Future Internet
> H2020 - FoF -	[EuroLangNet 21+3]	View All	Assembly
2014/2015	European network		
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8 Public-Private Partnerships

- <u>Factories of the Future (FoF)</u>, to support the manufacturing industry through the development of sustainable production technologies and systems (1150 M€)
- <u>Energy-efficient Buildings (EeB)</u>, to increase the competitiveness and energy efficiency of the construction industry (600 M€)
- <u>European Green Vehicles Initiative (EGVI)</u>, to develop a competitive and resource efficient transport system with significantly less CO2 emissions (750 M€)
- <u>Sustainable Process Industry (SPIRE)</u>, to make the process industry more resource- and energy-efficient (900 M€)
- <u>Photonics</u>, one of the key enabling technologies for our future prosperity and an essential element of many sectors, from energy and health, to everyday products like DVD players and mobile phones (700 M€)
- <u>Robotics</u>, a key driver of industrial competitiveness and essential to address key societal challenges in areas such as demographic change, health and well-being, food production, transport and security (700 M€)
- <u>High Performance Computing (HPC)</u>, which plays a pivotal role in stimulating Europe's economic growth and advancing European science (700 M€)
- <u>Advanced 5G networks for the Future Internet (5G)</u>, stimulate development of network internet infrastructure to ensure advanced ICT services for all sectors and users (700 M€)



Individual ETPs: H2020-ban elismert ETP-k

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





 ICT Proposers Day Florence, Italy Oct 9-10, 2014

 FET Information Day (OPEN, HPC) Budapest, MTA June 25-26, 2014



Köszönöm figyelmüket!

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