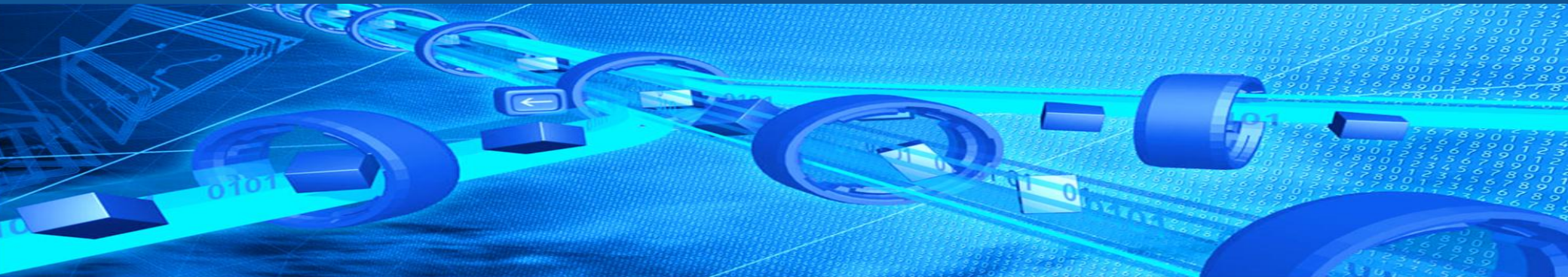


Internet of Things and H2020



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@IoT360 in Rome, 29 October 2014



IoT in the (current and coming) LEIT-ICT Work Programmes under H2020

Outline

- ICT-30 (LEIT-ICT WP 2014-15) on IoT
- ICT-37: Open Disruptive Innovation scheme
- The SME Instrument
- Large-scale Pilots
- Useful links

Recent and next steps / Call 2 ICT-30

- Publication of the Call on 15 October 2014
 - **Deadline:** 14th April 2015, 17:00
- 2014 Community building
 - Networking day in Brussels (Centre Borschette): 7 November 2014
 - See also: <https://ec.europa.eu/digital-agenda/en/news/community-building-event-internet-things-and-platforms-connected-smart-objects>

ICT-30 (*H2020 Call 2, WP 2014-15*): IoT and Platforms for Connected Smart Objects (51 MEUR funding)

*"Create **ecosystems** of platforms integrating future generation of **devices**, embedded systems and network technologies for a multiplicity of novel applications"*

Architectures supporting:

- Dynamic configuration;
- Integrated smartness and connectivity;
- Self-organising, autonomous systems;
- Interoperable use cases and applications

ICT-30, Cont'd

- **Cutting across** several LEIT-ICT areas (smart systems integration, cyber-physical systems, smart networks, big data);
- Stronger **combination** of the IoT with Cloud Computing, Future Internet, network technologies (**5G**), CPS;
- Research and Innovation Actions (**RIA**) & Coordination and Support Actions (**CSA**);
- **Large** Projects (EU contribution €5M-€8M);
- Mechanism of open competitive calls up to 30% of total budget

ICT-30, targeted communities

- HW and SW providers, device manufacturers;
- Service providers, industrial and home application providers;
- Integrators and telecoms;
- Research institutes and universities;
- Stakeholders from IERC, Smart Cities, Living labs,...
- National IoT initiatives;
- Relevant European technology platforms such as ARTEMIS, EPOSS, EUROP;
- Creative industries

Expected impact

- **European offer** for integrated IoT systems and platforms;
- Availability of architectures and methodologies to provide IoT **turnkey solutions**;
- Dissemination and availability of results for technology adoption and pre-normative activities, e.g. **in standardisation fora and bodies like the EIT**;
- Facilitation of **platforms** for co-creation of products and services **in open innovation ecosystems** including all relevant stakeholders

Open Disruptive Innovation (ODI)

ODI in WP2014-15

ICT 37 in WP LEIT ICT: Specific Challenge:

- To provide support to a large set of early-stage high-risk innovative SMEs in the ICT sector. Focus will be on SMEs proposing innovative **ICT concepts, products and services applying new sets of rules, values and models which ultimately disrupt existing markets;**
- Nurture promising innovative and disruptive ideas (**Phase 1**)
- Support prototyping/validation/demonstration in real world conditions (**Ph. 2**)
- Help for wider deployment or market uptake (**Phase 3**)
- Proposed projects to have a potential for disruptive innovation and **fast market up-take in ICT;**
- Particularly interesting for **entrepreneurs and young innovative companies** looking for swift support to their innovative ideas;
- The ODI objective will support the validation, fast prototyping and demonstration of disruptive innovation bearing **a strong EU dimension!**

ODI - ICT LEIT

Implementation:	Through the SME instrument	
Budget:	90M€ for WP 2014-15 (45 M€ per year)	
Funding:	A lump sum of 50k€ in phase 1; 0.5 to 2.5 M€ in phase 2 (70% of eligible costs)	
Scope:	No restriction on ICT area, Focus on Disruptive ICT innovation	
Projects:	90 ~50 to >100	"Phase 1" projects in 2014 "Phase 2" projects in 2014
State of play: by the 1st cut-off, there were 900 applicants, out of which 30 have been selected	90 ~50 to >100	"Phase 1" projects in 2015 "Phase 2" projects in 2015



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The **SME** Instrument

Your highway to
innovation

Research and
Innovation

<https://ec.europa.eu/digital-agenda/en/sme-instrument-0>

Phase 1: Concept and feasibility assessment

Input: Idea/Concept:
"Business Plan 1"
(~ 10 pages)
10% budget

Activities:
Feasibility of concept
Risk assessment
IP regime
Partner search
Design study
Pilot application
etc.

10% success

Output: elaborated
"Business plan 2"

Lump sum: 50.000 €
~ 6 months

Phase 2: R&D, demonstration, market replication

Input: "Business plan 2"
plus description of activities
under Phase 2 (~ 30
pages)
88% budget

Activities:
Development, prototyping,
testing, piloting,
miniaturisation, scaling-up,
market replication.

30-50% success

Output: "investor-ready
Business plan 3"

0,5-2,5 (5) M€ EC funding
~ 12 to 24 months

Phase 3: Commercialisation

Promote instrument as
quality label for successful
projects
Facilitate access to private
finance

Support via networking ,
training, information,
addressing *i.a.* IP
management, knowledge
sharing, dissemination

SME window in the EU
financial facilities (debt
facility and equity facility)
Possible connection to PCP
(and PPI?)

No direct funding

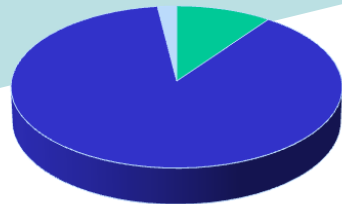
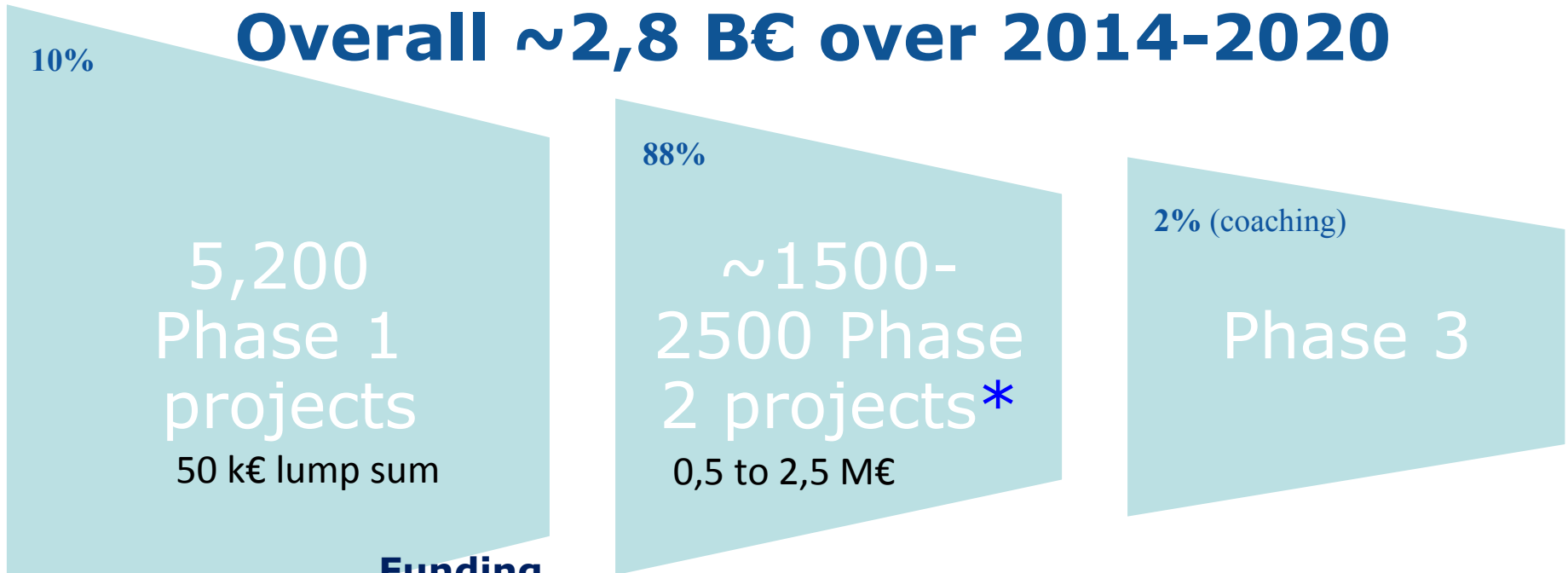
SME instrument main features

- Targeted at **all types of innovative SMEs** (new actors / FP7);
- Company-focused (**only SMEs** allowed to apply for funding; single company support possible);
- Competitive, **market-oriented**;
- **EU** dimension;
- **Quality** of evaluation!



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H2020 SME instrument: Total Volume Overall ~2,8 B€ over 2014-2020



Funding

- Phase 1
- Phase 2
- Phase 3

*Depending on funding per project

- **Implemented centrally** by one agency (EASME)
- **Bottom-up approach** within the frame of the societal challenges and enabling technologies
→ each SC & LEIT defines a broad topic
- **Continuous** open call with (2 to) 4 cut-off dates per year: Applications started in March 2014

Phase 1	Phase 2	Phase 1	Phase 2
18/06/2014 ✓	09/10/2014 ✓	[18/03/2015	[18/03/2015
24/09/2014 ✓	17/12/2014	17/06/2015	17/06/2015
17/12/2014		17/09/2015	17/09/2015
		16/12/2015]	16/12/2015]

Internet of Things Large-scale Pilots

- **Large scale pilots** could play an important role in tackling specific challenges for IoT, relating to deployment, technological and business model validation and acceptability;
- The concept is not new, but so far many of the pilots have been typically designed with a reduced scope, or for showcases only;
- The following objectives could be addressed in the LSPs:
 - **Solving remaining technological barriers**, with a strong focus on security;
 - **Exploring the integration potential** of IoT architectures and components together with Cloud solutions and Big Data approaches;
 - **Validating user acceptability**, focusing on applications not yet operational;
 - **Promoting innovation on sensor/object platforms**;
 - **Demonstrating X-use cases**, to validate the concepts of generic technologies

IoT – Large Scale Pilots

- Beyond technology demonstration
- Specific features of the pilots
 - *Make use of advanced ICT Technologies*
 - *Include feed-back loop mechanism for adaptation/variations*
 - *Are large scale (dimension, geographical, systemic/integral)*
 - *Involve all value-chain actors*
 - *Address business model validation*
 - *Address user validation and acceptability*
 - *Position as close to real-life/market conditions as possible*
 - *Promote European IoT supply and demand partnership*

IoT - Pilot candidates

Smart living environments
Smart Energy, Smart Grid
Smart Transportation & Mobility
Smart Production Environments
*Connected hospital and smart
operating rooms*
Smart Farming
Wearables IoT

Autonomous vehicles
Environmental monitoring & mgmt
Urban autonomous services
Public policy support by IoT
Building construction & maint.
Public safety
Disaster management
Creative industries

.....

Which EU Internet of Things Large Scale Pilots?

Consultation and Invitation for Commitment until 30 November 2014

<http://ec.europa.eu/digital-agenda/en/news/which-eu-internet-things-large-scale-pilots-consultation-and-invitation-commitment>

IoT - Horizontal issues

- *Reference Architecture*
- *IoT Governance (naming and addressing)*
- *Authentication and identity management*
- *Common platforms*
- *Standardisation and interoperability*
- *Business case and sustainability*
- *Development support tools*
- *End-to-end security and privacy*
- *Usability, convenience and friendliness*
- *International cooperation*
- *Community building*
- *IoT entrepreneurs / developers of APIs*
- *SME access*
- *.....*

Useful links:

- DAE – Digital Agenda for Europe:
<https://ec.europa.eu/digital-agenda/en>
- Internet of Things in DAE:
<http://ec.europa.eu/digital-agenda/en/internet-things>
- Horizon 2020 – The EU Framework Programme for research and Innovation:
http://ec.europa.eu/research/horizon2020/index_en.cfm
- IERC – Internet of Things European Research Cluster
<http://www.internet-of-things-research.eu/>



Thank you for your attention!

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Disclaimer: The opinions in this presentation are those of the author and do not commit in any way the European Commission