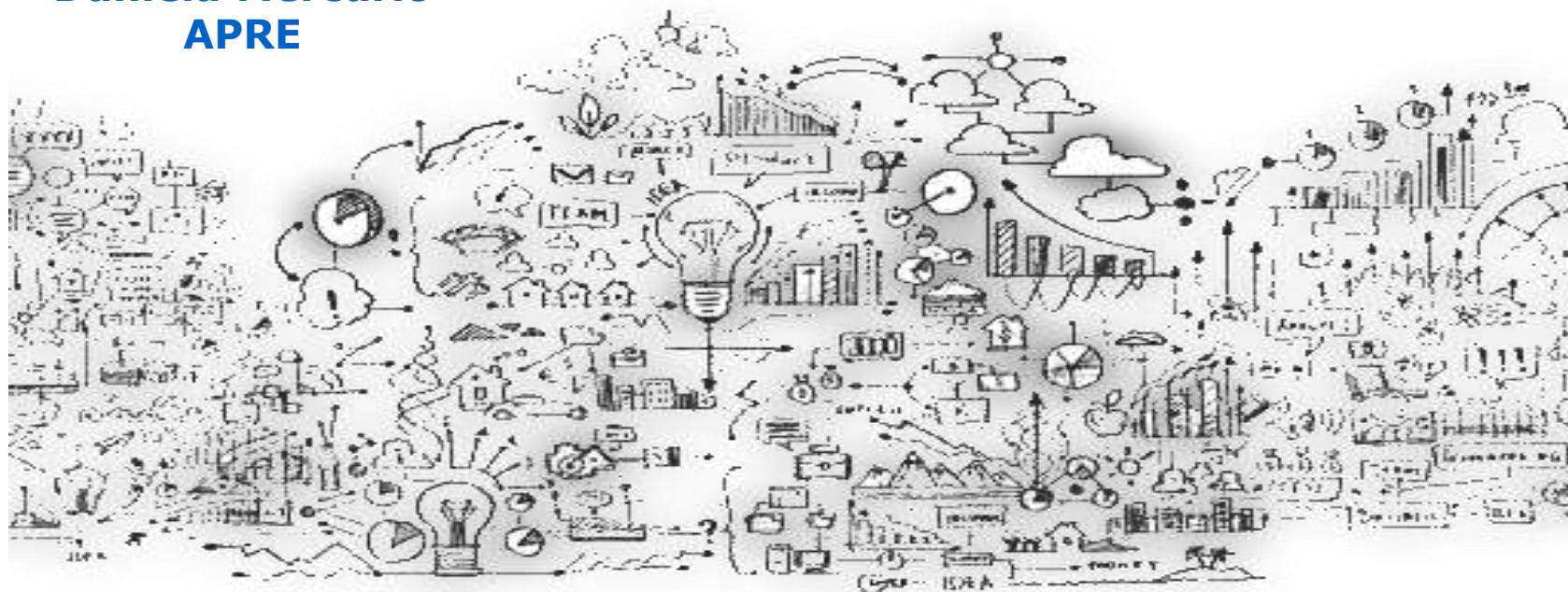# ICT IN H2020:
FUNDING OPPORTUNITIES IN 2015

Daniela Mercurio
APRE

Italian **non-profit research organisation**

1989 **- created as a "Task Force"** of the Ministry
          of Education, University and Research

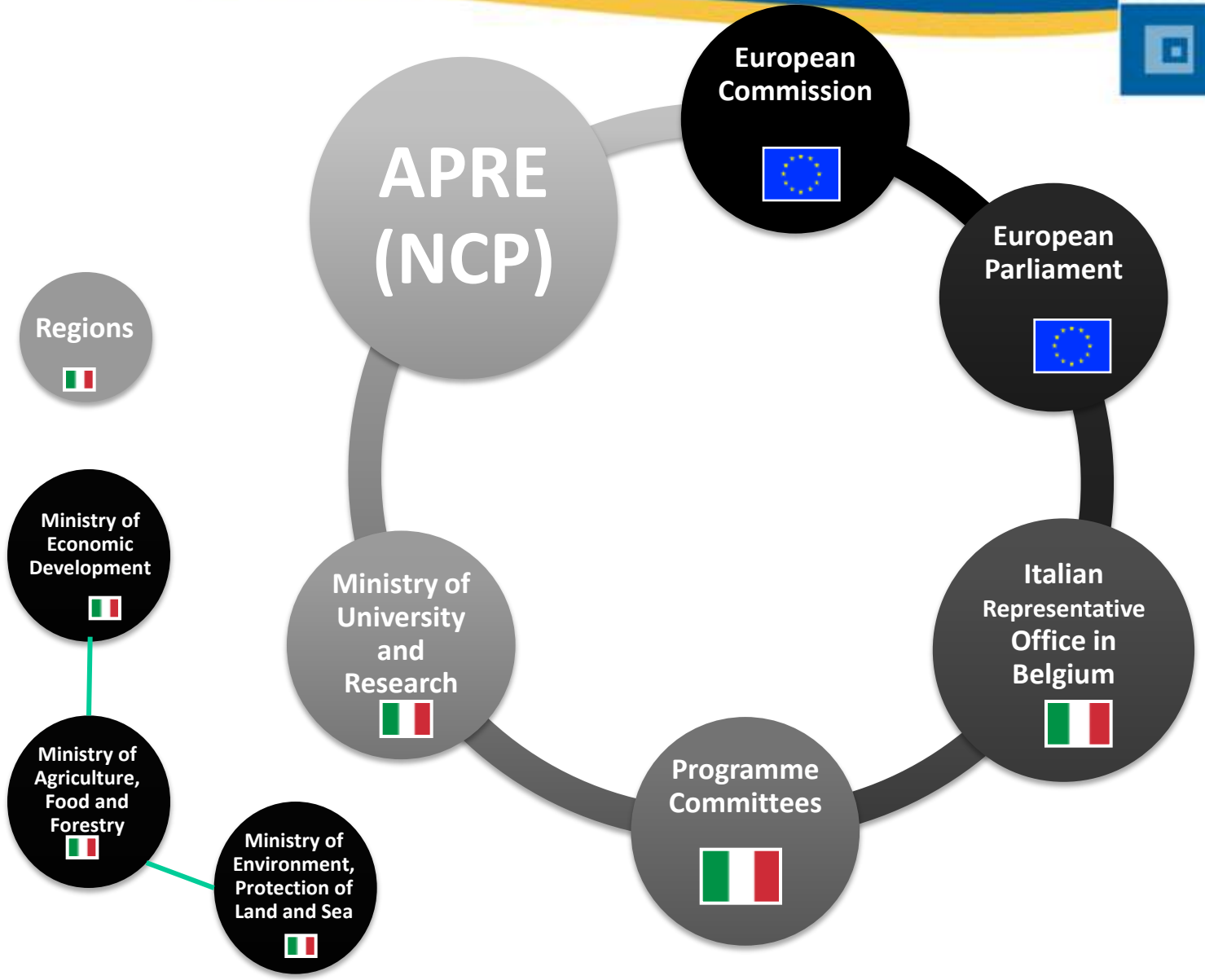**25** **years of
experience**

MISSION

- Promoting and supporting **Italian participation** to the EU Research and Innovation programmes (R&I)
- Improve the "**Quality**" of the Italian participation in European programmes for R&I.
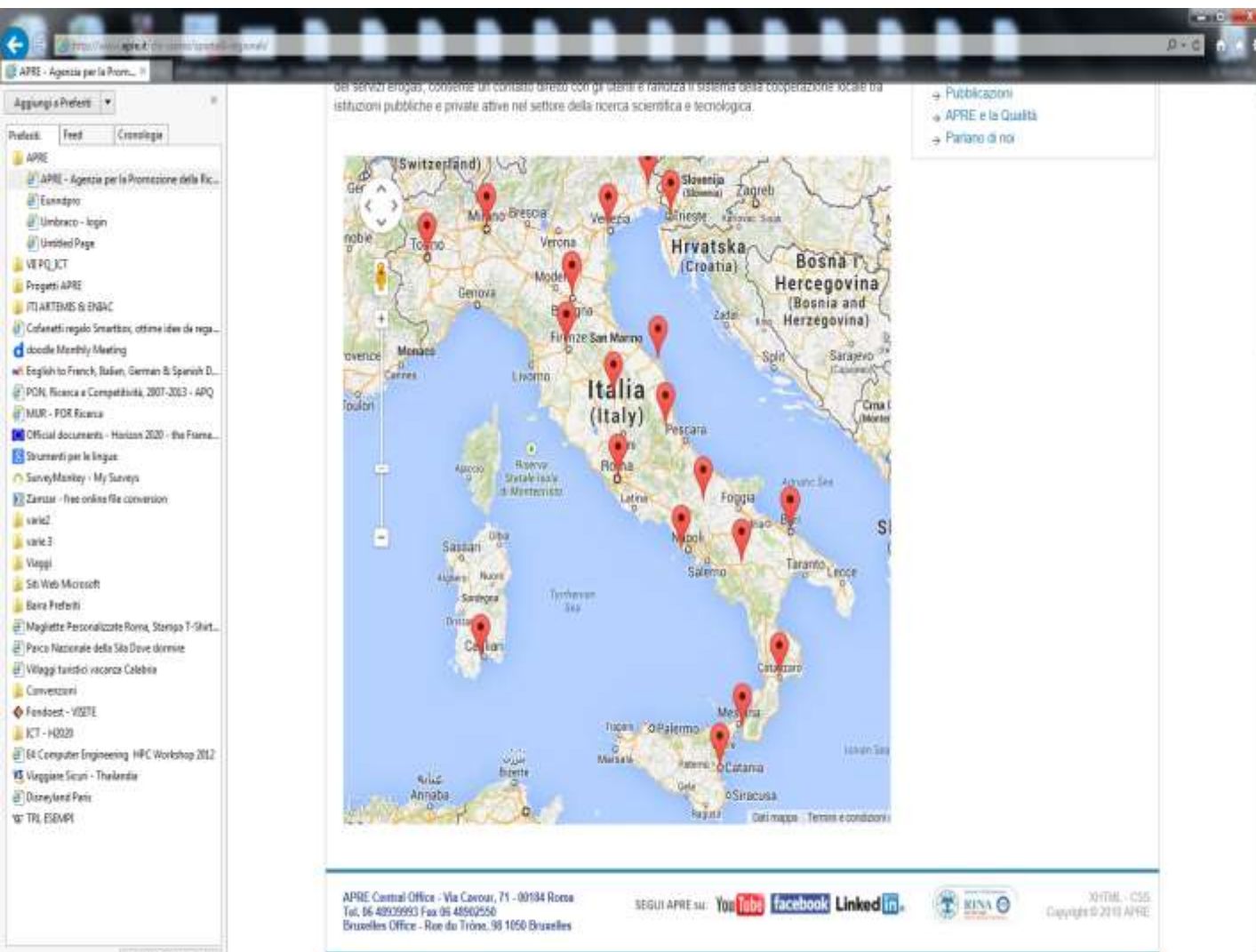
[WHAT IS APRE?]

@APRE 2013

[Institutional Interlocutors]

APRE' Regional Helpdesks

APRE Lombardia

c/o Innovhub - Stazioni Sperimentali per l'Industria CCIAA di Milano
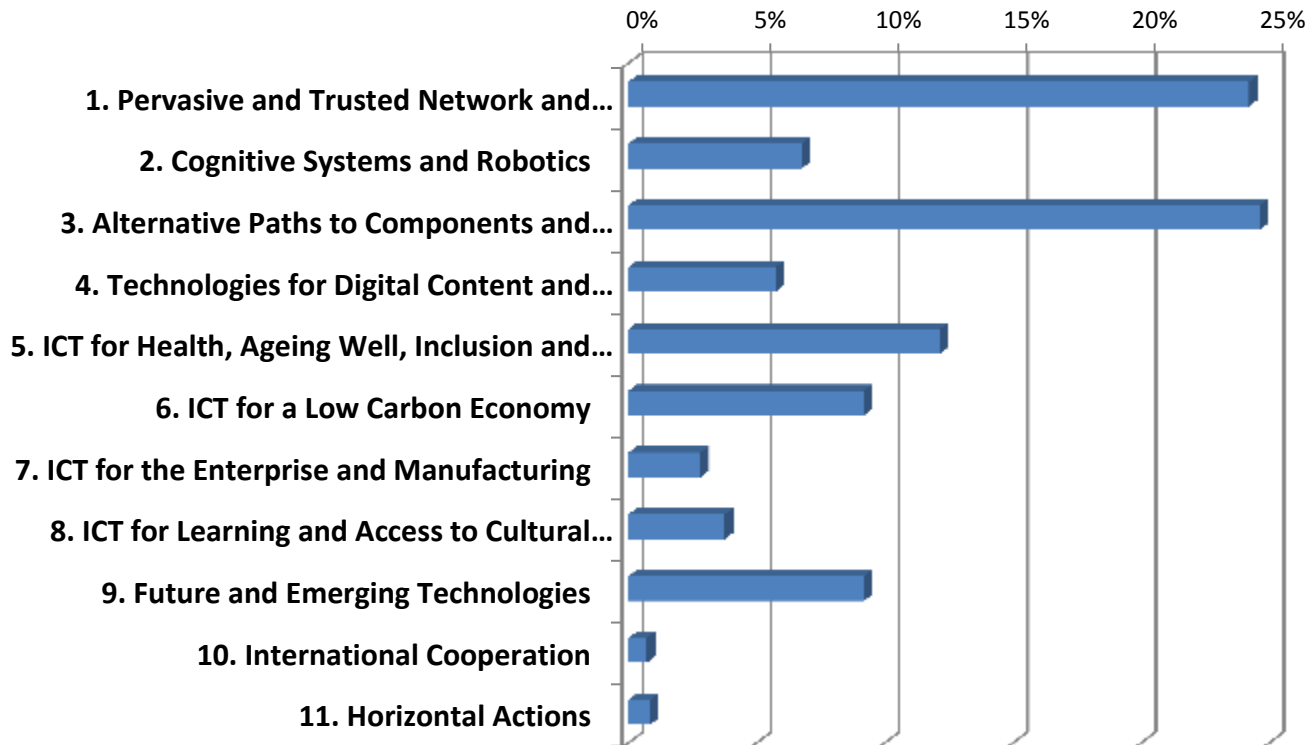**Contacts:**
Mrs Susy Longoni
Mrs Cinzia Morisco

Content of presentation

❑ *ICT CALLS – THE PAST EXPERIENCE*

❑ *ICT FUNDING OPPORTUNITIES IN 2015*

❑ *H2020 FUNDING SCHEMES*

The past experience:
FP7 - ICT

Budget per FP7 Challenge/Area
(2007-13 - % of total - 8.7B€)

Funded projects in FP7 ICT

CORDIS

Community Research and Development Information Service

European Commission > CORDIS > FP7 > ICT > Programme > ICT for Health, Ageing Well, Inclusion and Governance > ICT Challenge 5: ICT for Health, Ageing Well, Inclusion and Governance: Projects

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ICT for Health, Ageing Well, Inclusion and Governance

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ICT Challenge 5: ICT for Health, Ageing Well, Inclusion and Governance

Overview | **Projects** | Contact

Projects

This page provides access to information on all up and running ICT projects in challenge 5:

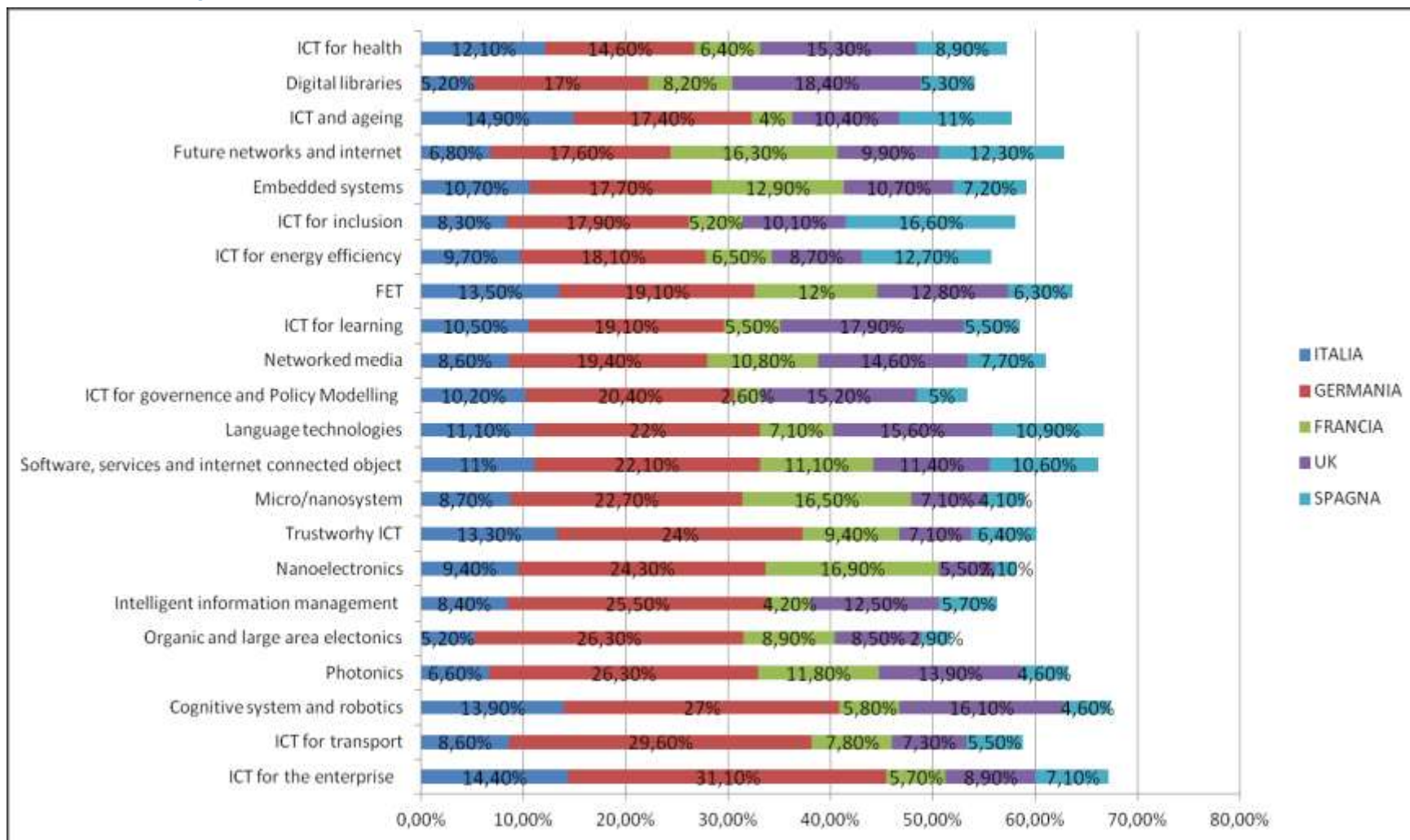- Personal Health Systems
- Virtual Physiological Human
- ICT for Ageing Well and Inclusion
  - Projects into robotics for rehabilitation and independent living
  - Projects for fall prevention
- Ambient Assisted Living
- ICT for Governance

http://cordis.europa.eu/fp7/ict/programme/projects5_en.html

Last updated: 2012-07-20

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Italian participation in FP7 –ICT

StReAM report 2011 – DG CNECT

HORIZON 2020

the EU framework programme for research and innovation

2014-2020

HORIZON 2020 - STRUCTURE

Excellence Science

- **European Research Council**
  Frontier research by the best individual teams (ERA)

- **Future and Emerging Technologies**
  Collaborative research to open new fields of innovation

- **Marie Sklodowska Curie Actions**
  Opportunities for training and carrer development

- **Research Infrastructures (Including e-infrastructure)**
  Ensuring access to world-class facilities

Competitive Industries

Leadership in enabling and industrial technologies

- **ICT**

- **Nanotechnologies materials, biotechnologies, manifacturing**

- **Space**

- **Access to risk finance**
  Leveraging private finance and venture capital for research and innovation

- **Innovation in SMEs**
  Fostering all forms of innovationin all types of SMEs

Societal Challange

- Health, demographic change and wellbeing

- Food security, sustainable agriculture, marine and maritime research, and the bio-economy

- Secure, clean and efficient energy

- Smart, green and integrated transport

- Climate action, resource efficiency and raw materials

- Europe in a changing world – inclusive, innovative, reflective societies

- Secure Societies
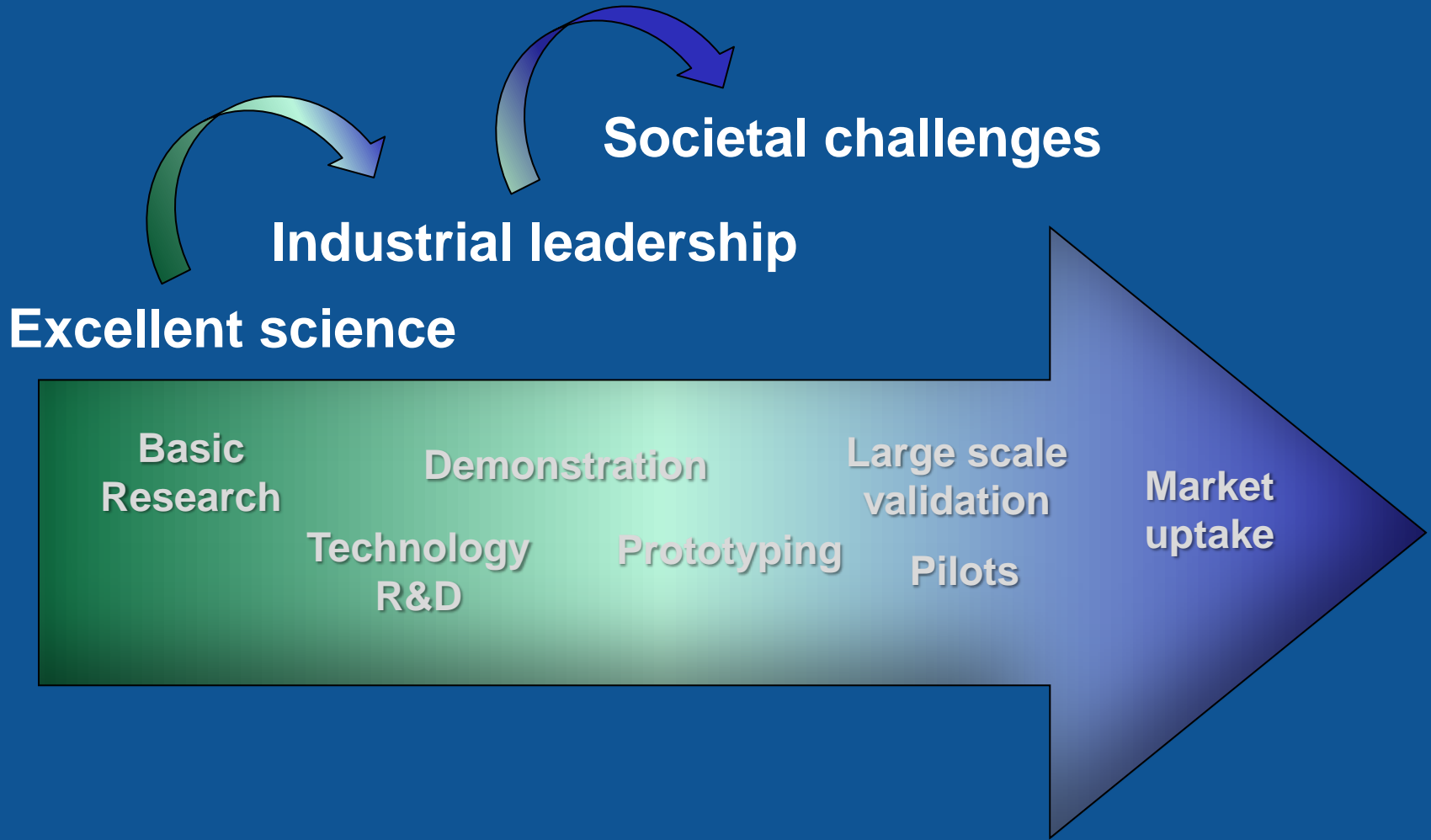
European Institute of Innovation and Technologies (EIT)

Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)

Euratom

Coverage of the full innovation chain

Societal challenges

Industrial leadership

Excellent science

Basic Research

Demonstration

Technology R&D

Prototyping

Large scale validation

Pilots

Market uptake

H2020 - Competitive Industries

Competitive Industries

Leadership in enabling and industrial technologies

- ICT

- Nanotechnologies materials, biotechnologies, manifacturing

- Space

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  Leveraging private finance and venture capital for research and innovation

- Innovation in SMEs
  Fostering all forms of innovationin all types of SMEs

Six main activity lines have been identified in the ICT-LEIT part of the Work Programme 2014 - 2015:

1. A new generation of components and systems
2. Advanced Computing
3. Future Internet
4. Content technologies and information management
5. Robotics
6. Micro- and nano-electronic technologies, Photonics

+

- ICT Cross cutting activities
- ICT Innovation Actions

Competitive Industries

Leadership in enabling and industrial technologies

- ICT

- Nanotechnologies materials, biotechnologies, manifacturing

- Space

- Access to risk finance
Leveraging private finance and venture capital for research and innovation

- Innovation in SMEs
Fostering all forms of innovationin all types of SMEs

Components and systems (142 M€)

**Closed
April 2014**

- **Covers systemic integration from smart integrated components to cyber-physical systems**

- **Complementary to the JTI Electronic Components and Systems (ECSEL)**

- **Organised in three related topics:**
  - Smart cyber-physical systems (56 M€)
    - Next generation embedded and connected systems
  - Smart system integration (48 M€)
    - Integration of heterogeneous micro- and nanotechnologies into smart systems
  - Advanced Thin, Organic and Large Area Electronics (38 M€)

Advanced Computing (57 M€)

Publication _October 2014_
Deadline: _April 2015_

- Reinforce and expand Europe's industrial and technology strengths in **low-power ICT**

- Focus is on **integration of advanced components on all levels in computing systems**

- Complementary to and coordinated with work in the Future Internet area (on Cloud Computing) and in Excellence Science pillar under Research Infrastructures and FET (on High Performance Computing)

- **Organised in one topic:**
  - **Customised and low power computing**

WP LEIT ICT 2014-15 – Advanced Computing

ICT 4- 2015: Customised and low power computing

Objectives:

a) Next generation computing systems: scalable micro-servers (Low-power, low-cost, high-density, secure, reliable, scalable)

b) Programming approaches for the computing continuum: productivity, multi-parameter optimisation

c) Platform-building for problems with real-time constraints; application experiments in cyber-physical systems

From **EUROSERVER** FP7 project results, but focused on hardware: integration across all layers (HW & SW);
From **I4MS** FP7 project results, need a similar initiative for customised and low-power computing

Key Stakeholders: System integrators (Bull, Eurotech, Ericsson, IBM, Thales) Hardware (ST-Microelectronics, ARM, Infineon, Intel) Research (Barcelona Supercomputing Center, FORTH, Fraunhofer, INRIA, POLIMI, UNI-Stuttgart, TU-Wien) Industrial users (Airbus, Comau, EDF, Philips)

Future Internet (395,5 M€)

- Focused on **network and computing infrastructures** to accelerate innovation and address the most critical technical and use aspects of the Internet

- **Organised in ten topics:**

    - Smart networks and novel Internet **architectures** (24 M€)
    - Smart **optical** and **wireless network** technologies (30 M€)
    - Advanced **5G** Network Infrastructure for the Future Internet (125 M€)
        → 5G PPP

    - Advanced **cloud** infrastructures and services (73 M€)
    - **Boosting public sector productivity and innovation through cloud computing services (22 M€)**

    - Tools and methods for **Software Development** (25 M€)

    - **FIRE+ (Future Internet Research & Experimentation)** (31,5M€)
    - **More Experimentation for the Future Internet (18 M€)**

    - **Collective Awareness Platforms for sustainability and social innovation (37 M€)**

    - **Web Entrepreneurship** (10 M€)

Topics in green:
Publication: _October 2014_
Deadline: _April 2015_

ICT 8- 2015: Boosting public sector productivity and innovation through cloud computing services

Objectives:

a) Pre-commercial procurement for public sector cloud computing services (PCP)

- common requirements and terms of reference for future procurement of cloud computing services

- large projects

b) Public procurement of innovative cloud computing solutions (PPI)

- organizing joint procurement of innovative cloud services by public authorities

- large projects

ICT 10- 2015: Collective Awareness Platforms for Sustainability and Social Innovation

Objectives:

a) Tap the innovation potential of bottom-up solutions based on collective intelligence

b) Demonstrate the innovative combination of network solutions (social networks, sensor networks, knowledge co-creation networks)

c) Leverage on these experiments to get a better understanding of the underlying techno-social issues

NO proposals technology-driven, or aiming at purely commercial solutions

YES consortia with at least two partners which are focused on non-ICT disciplines

Key Stakeholders: NGOs (e.g. NESTA engaged since long time in Social Innovation activities), civil society; multidisciplinary academia/research centers; SMEs, local communities, students

WP LEIT ICT 2014-15 – 3. Future Internet

ICT 12- 2015: Integrating experiments & facilities in FIRE+

Research & Innovation Actions (small projects)

Integration of experimental facilities from Call 1 into FIRE+

Experimentally-driven research on top of existing experimental infrastructures in any of the areas under Call 1

At least 50% of funding for selecting users, experiments, etc.

Innovation Actions (small projects)

Technically mature experiments for close-to-market products, applications or services (SME participation – EIT)

Impact: Standardisation and interoperability; Reduce the time to experiment; Reduce the time to experiment

Content technologies and information management (260 M€)

- **Addresses:**

  - **Big Data** with focus on both innovative data products and services and solving research problems

  - **Machine translation** in order to overcome barriers to multilingual online communication

  - **Tools for creative, media and learning industries** in order to mobilise the innovation potential of SMEs active in the area

  - **Multimodal and natural computer interaction**

- **Organised in eight topics:**

  - Big data and Open Data innovation and take-up (50 M€)
  - **Big data research (39 M€)**
  - Cracking the language barrier (15 M€)
  - Support to the growth of ICT innovative creative industries SMEs (15 M€)
  - **Technologies for creative industries, social media and convergence (41 M€)**
  - **Technologies for better human learning and teaching (52 M€)**
  - Advanced digital gaming/gamification technologies (17 M€)
  - Multimodal and natural computer interaction (31 M€)

Topics in green:
Publication: _October 2014_
Deadline: _April 2015_

WP LEIT ICT 2014-15 – 4. Content Technologies and information management

ICT 16- 2015: Big Data - research

Objectives:

a) Fundamental research in Big Data technologies, addressing analytics (i.e. data mining, machine learning, language understanding, visualization, scalability, responsiveness)

b) User defined and industry validated challenges

Implemented by:

Research and Innovation Actions (Large and small projects)

- Big Data technologies

- Benchmarks

Coordination and Support Actions

- Prediction and deep analysis competitions (prizes)

WP LEIT ICT 2014-15 – 4. Content Technologies and information management

ICT 19- 2015: Technologies for creative industries, social media and convergence

Objectives:

Foster new or emerging technologies for digital content creation and to unlock complex information and media and interacting with them

a) Research in new technologies and tools to support creative industries in the creative process from idea conception to production

b) New services, pilots, large scale demonstrations on Interactive / Convergence; Multimodal multidisciplinary search; Immersive environments;

c) Increase cooperation between policy and research on Converge and Social Media and Support on Convergence and Social Media activities (dissemination, research roadmap)

Driven by **NEM ETP**

@APRE 2013

NETWORKED & ELECTRONIC MEDIA

WP LEIT ICT 2014-15 – 4. Content Technologies and information management

ICT 20- 2015: Technologies for better human learning and teaching

Content:

a)   Technology is disrupting Education (MOOCs, Cloud, tablets,)

b)   Changes in education – open , flexible access to learning,

c)   Demands for 21st century skills

d)   Demand for learning and training that is responsive and adaptive to needs of learners

e)   Opening Up Education initiative

Objectives:

a)   Development & Integration of digital technologies for learning

b)   Building blocks of the digital learning ecosystem

c)   Boost European market for and innovation in educational technologies

Robotics (157 M€)

- **Roadmap-based research driven by application needs**
  ➔ Robotics PPP

- Effort to close the innovation gap to **allow large scale deployment of robots and foster market take-up**: use-cases, pre-commercial procurement, industry-academia cross-fertilisation
    - Includes two pre-commercial procurement actions (health-care sector, public safety and environmental monitoring)

- Additional activities: shared resources, performance evaluation & benchmarking, community building and robotic competitions

- **Organised in two annual calls**
  (of 74 M€ and 83M€ respectively)

WP LEIT ICT 2014-15 – 5. Robotics

ICT 24- 2015: Robotics

1. PRIORITY: healthcare, consumer, transport

RTD to advance key technologies relevant for industrial and service robotics

2. Technology transfer - Industry-academia cross-fertilisation

3. Technology transfer - Robotics use cases

4. Pre-commercial procurement in robotics: healthcare

5. Community building and Robotic competitions

Micro- and nano-electronics and photonics - Key Enabling Technologies (206 M€)

- Covers **generic technology developments on micro- and nano-electronics** focused on **advanced research** and lower Technology Readiness Levels (TRLs) (50 M€)

    - Complementary to the JTI Electronic Components and Systems

- Addresses the **full innovation and value chain** in markets sectors where the European **photonics** industry is particularly strong (optical communications, lighting, medical photonics, laser technologies, etc.) (156 M€)
  ➔**Photonics PPP**

    - Includes calls for ERANETs as well as public procurement actions (roll-out and deployment of optical networking technologies)

WP LEIT ICT 2014-15 – 6. Micro and nano electronic technologies, Photonics

ICT 25- 2015: Generic micro- and nano-electronic technologies

- To keep Europe's position at the forefront of advanced micro- and nano-electronic technologies developments

- To **ensure strategic electronic design** and manufacturing capability in Europe avoiding dependencies from other regions

- **Technology update** (e.g. 22nm –> 16nm)

- **New topic:** quantum and neuromorphic computing

- **Call 11 projects** serve as a "bridge" between FP7 and H2020. No disruption.

- **Leading Players:** Industry: ST, INTEL, Global Foundries, Infineon, IBM, NXP, ... Regional clusters Dresden – GF/Fraunhofer Grenoble – CEA/ST Leuven – IMEC ... and SMEs around them

WP LEIT ICT 2014-15 – 6. Micro and nano electronic technologies, Photonics

ICT 27: Photonics KET 2015: 44 M€	
Research & Innovation (30 M€)	*Optical communication* for data centres
	High-throughput *laser-based manufacturing*
	Device, circuit and fabrication technology for *Photonic Integrated Circuits* (PICs)
Innovation (PPI) (5 M€)	Pilot deployment of *software-defined optics in backbone networks*
ERANETs (6 M€)	Actions with the Member States
Coordination & support actions (3M€)	Open access of Researchers and SMEs to advanced facilities; Networking of clusters and national platforms for increasing SME innovation potential

ICT 28: Cross-Cutting ICT KETs 2015: 56 M€	
Innovation (14 M€)	ICT-KET integrated *platforms for the healthcare and food sectors* (13 M€)
	Coordination of stakeholders in the health sector (bio-photonics and micro-nano-bio solutions) (1M€)
Pilot Lines (3x14 M€)	Pilot line for *OLEDs on flexible substrates*
	Pilot line for *analytical mid-infrared (MIR) micro-sensors*
	Pilot line for *PIC fabrication on III-V and/or dielectric based platforms*

ICT Cross-Cutting Activities

- **Internet of Things and platforms for Connected Smart Objects (51 M€)**

  - Cutting across several LEIT-ICT areas (smart systems integration, smart networks, big data)
  - Bringing together different generic ICT technologies and their stakeholder constituencies

  - **Human-centric Digital Age (7 M€)**

    - Understanding technologies, networks and new digital and social media and how these are changing the way people behave, think, interact and socialise as persons, citizens, workers and consumers

- **Cyber-security, Trustworthy ICT (38 M€)**

  - Focuses on security-by-design for end to end security and a specific activity on cryptography
  - Complementary to Cyber-security in Societal Challenge 7

Topics in green:
Publication: *October 2014*
Deadline: *April 2015*

- **Trans-national co-operation among National Contact Points (4 M€)**

  - Mechanisms for effective cross border partnership searches, identifying, understanding and sharing good practices among ICT NCPs

ICT30. Internet of Things and Platforms for Connected Smart Objects

<u>Topic scope</u>

Proposers are expected to devote the largest effort to the development of open platforms and architectures able to integrate a broad range of devices, systems and networking technologies for multi-application operation

Proposals focused on specific technological elements or single application should be sent to relevant topics (HW, SW, network,...) in the workprogramme.

H2020 – Type of Actions

Research and innovation actions

Description: Action primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution. *Funding rate: 100%*

Innovation actions

Description: Action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication. *Funding rate: 70% (except for non-profit legal entities, where a rate of 100% applies)*

Coordination and support actions

Description: Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, etc. *Funding rate: 100%*

ICT 37 ODI = Open disruptive innovation scheme

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)
90% budget

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

30-50% success

Output: "investor-ready Business plan 3"

1-3 (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 PPC (and PPI?)

No direct funding

Call planning overview (indicative 2015)

- **LEIT**

  - **H2020-ICT-2014 (ICT Call 1)**
    - Publication date: 11 December 2013
    - Deadline: **23 April 2014** (all topics except 5G Future Internet) **CLOSED**
    - **Deadline for 5G Future Internet: 25 November 2014**

  - **H2020-ICT-2015 (ICT Call 2)**
    - **Publication date: 15 October 2014**
    - **Deadline: 14 April 2015**

H2020 Calls

Call and all necessary documentation are published on the Participant Portal

http://ec.europa.eu/research/participants/portal/page/home

User friendly Participant Portal

Easy to find funding opportunities

THANK YOU FOR YOUR ATTENTION!

APRE

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