I nuovi bandi Horizon 2020

10-11-15

Marialuisa Sanseverino

Indice

- Presentazione dei nuovi bandi ICT 2016-17
- Alcune statistiche relativamente ai bandi 2014-15
- Considerazioni conclusive

Cosa è cambiato dai due anni precedenti

- Consolidate the **innovation drive** initiated in 2014-15
  - Supporting core ICT industries through **roadmap-based PPPs**
    - **New cPPP: Big Data**
  - Facilitating **disruptive innovation**
    - Strengthening of **ODI**
    - Continuation of **'Fast Track to Innovation'** pilot
  - Introducing new **cross-cutting actions** and reinforcing **large scale piloting** in world environments
    - **IoT** and **Digital Security** focus areas
    - **IoT** and **Big Data** large scale pilots
- Ensure the supply of **future technological building blocks**
  - Room for more **exploratory research** activities within each area
- Reinforce the **international dimension** of LEIT-ICT
  - Coordinated calls with **Brazil**, **Japan** and **South Korea**
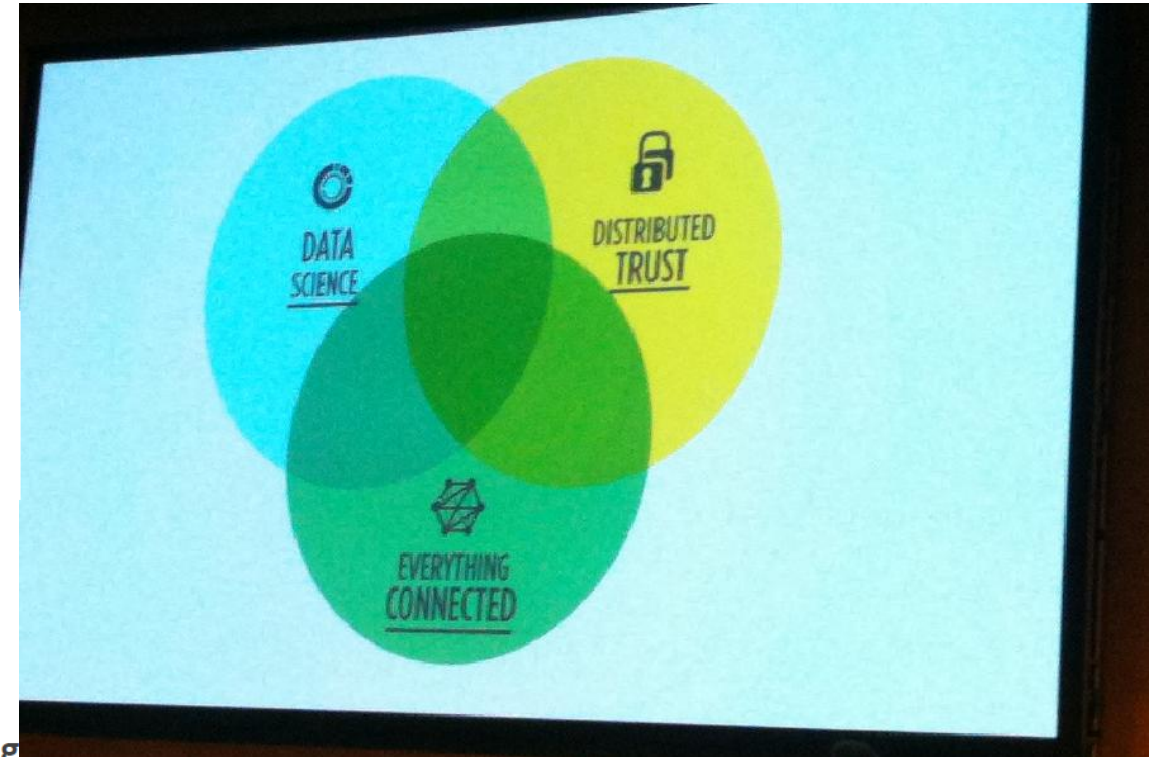
Chi definisce le nuove call?
E che strumenti usare ?

- Input from three strands

  ➤ H2020 Advisory groups:"Connect Advisory Forum for ICT Research And Innovation" (CAF)

  ➤ cPPPs (Photonics, Robotics, 5G, HPC and FoF, Big Data)

  ➤ Relevant initiatives related to EC

    ➢ STARTUP EUROPE, FIWARE, STARTS
    ➢ AIOTI,
    ➢ JTI ECSEL, AAL, EIT ICT LABS

[ICT in H2020]

Excellent Science

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

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

    ICT

- **Marie Skłodowska Curie actions**
  - Opportunities for training and career development

- **Research infrastructures** (including e-infrastructure)
  - Ensuring access to world-class facilities

    ICT

Industrial Technologies

- **Leadership in enabling and industrial technologies**
  - ICT, nanotechnologies, materials, biotechnology, manufacturing, space

    ICT

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

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

Societal Challenges

- Health, demographic change and wellbeing   **ICT**

- Food security, sustainable agriculture, marine and maritime research & the bioeconomy   **ICT**

- Secure, clean and efficient energy   **ICT**

- Smart, green and integrated transport   **ICT**

- Climate action, resource efficiency and raw materials   **ICT**

- Inclusive, innovative and reflective societies   **ICT**

- Security society   **ICT**

WP Cross Cutting

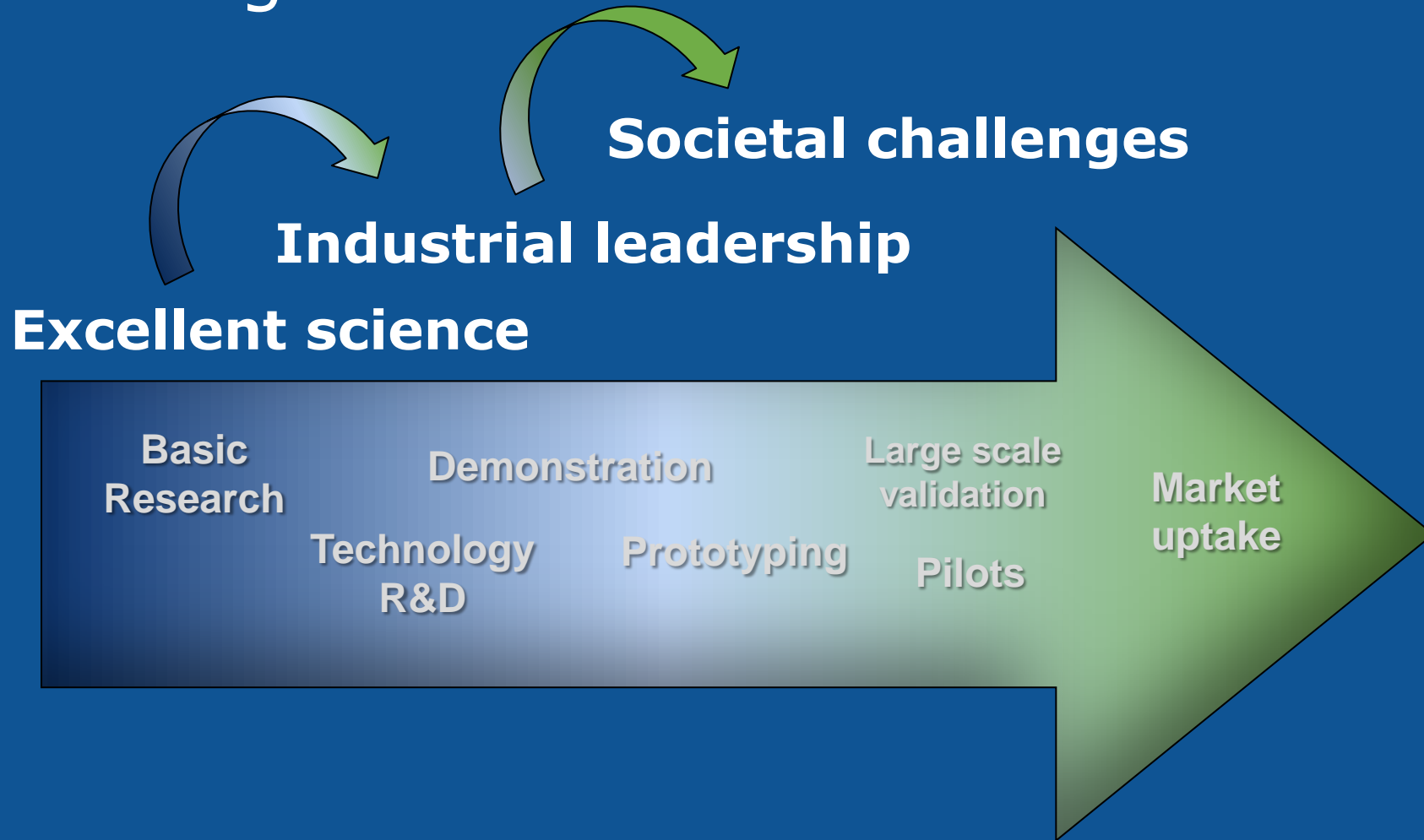**European Institute of Innovation and Technology (EIT)**   **EIT ICT Labs**

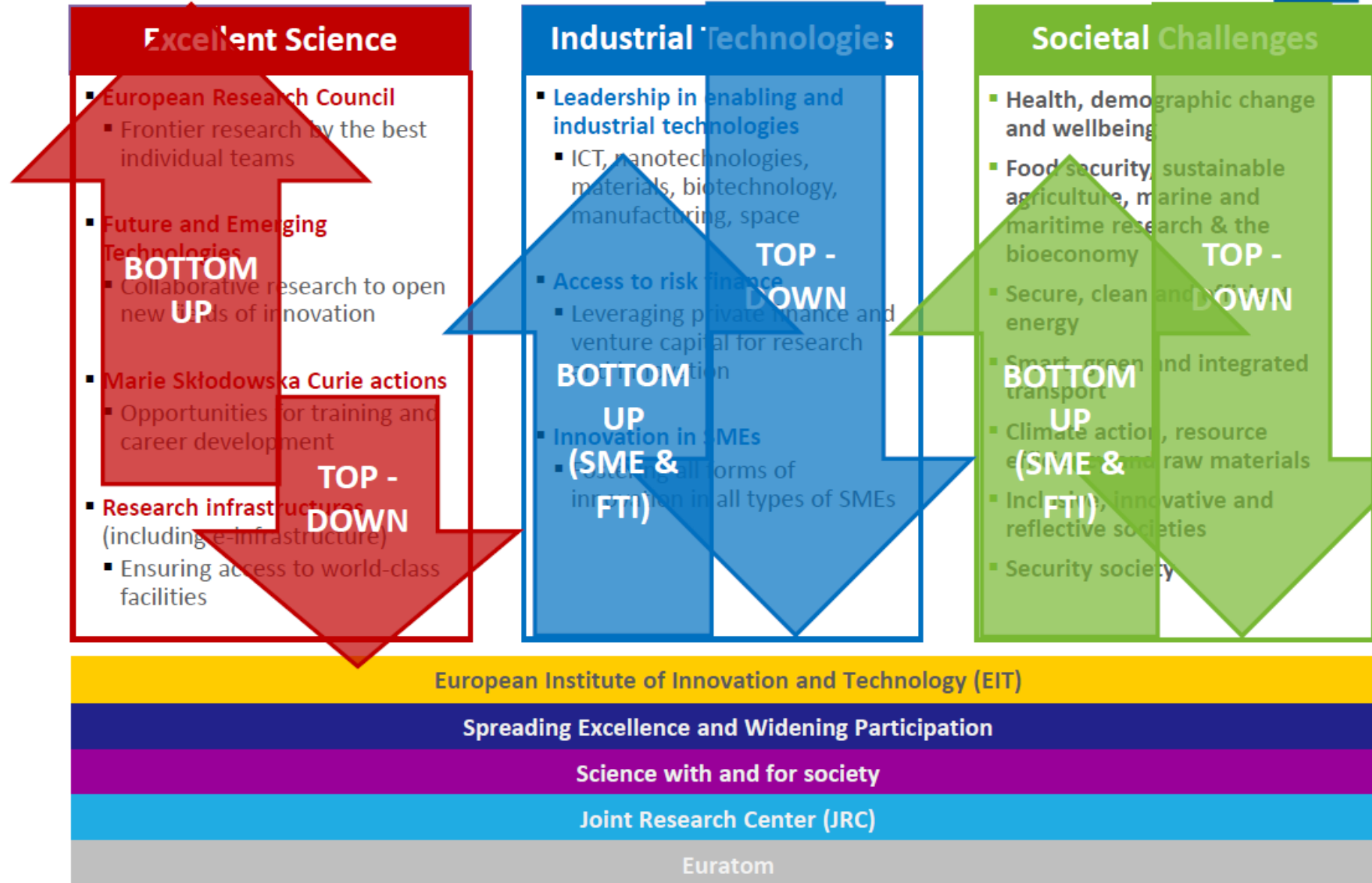**Spreading Excellence and Widening Participation**

Science with and for society

Joint Research Center (JRC)

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

Struttura del programma

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BOTTOM UP   **TOP - DOWN**

BOTTOM UP (SME & FTI)   **TOP - DOWN**

BOTTOM UP (SME & FTI)   **TOP - DOWN**

European Institute of Innovation and Technology (EIT)

Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)

Euratom

@APRE 2013

Future and Emerging Technologies

- **FET Open** (202 M€)

  - Still **open to all radically new technologies in all areas**

  - Introduction of **FET Innovation Launchpad** (3 M€)

    → stimulate innovation by initiating entrepreneurial activities around results from FET research projects

- **FET Proactive** (180 M€)

  - Boosting **emerging technologies** (95 M€)

    - Introduction of **FET ERA-Net cofund** actions (generic + specific on Quantum technologies)

  - **High Performance Computing** (85 M€)

    → Part of **HPC PPP** / complementary to eInfra and LEIT-ICT activities

FET Flagships (185 M€)

  - Continuation of **Graphene** and **Human Brain Project** flagships

  - Launch of an **ERA-Net cofund** for partnering projects in both flagships

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FET
FET Open: 11 May, 29 Sept
FET Proactive: 12 April, 27 Sept

Industrial Leadership - ICT
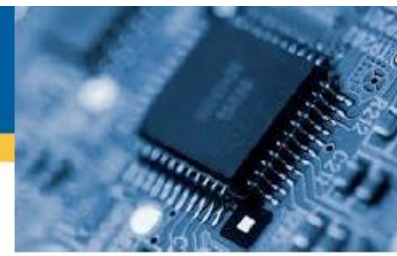
- **A new generation of <u>components and systems</u>:**
  - engineering of advanced embedded and resource efficient components and systems

- **Next generation <u>computing</u>:**
  - advanced and secure computing systems and technologies, including cloud computing

- **<u>Future Internet</u>:**
  - software, hardware, infrastructures, technologies and services

- **<u>Content technologies</u> and <u>information management</u>:**
  - ICT for digital content, cultural and creative industries

    - **Advanced <u>interfaces</u> and <u>robots</u>:**
      - robotics and smart spaces

    - **<u>Micro- and nanoelectronics</u> and <u>photonics</u>:**
      - key enabling technologies

Components and systems

84 M€
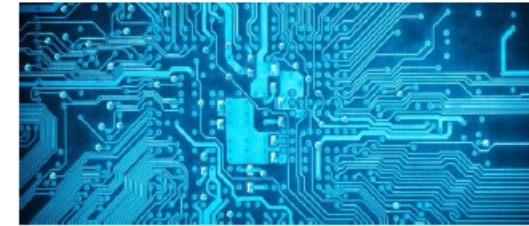
- Cover **systemic integration from smart integrated components to cyber-physical systems**

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

- Organised in four topics:

    - **Smart cyber-physical systems** (20 M€)*
        - Next generation embedded and connected systems
    - **Thin, Organic and Large Area Electronics** (20 M€)
    - **Smart system integration** (18,5 M€)
        - Integration of heterogeneous micro- and nanotechnologies into smart systems
    - **Smart Anything Everywhere** initiative (25,5 M€)

12-4-2016

08-11-2016

Advanced Computing and Cloud Computing

71 M€

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

- Foster the evolution of **Cloud technology** to increase its uptake

- Complementary to the work in the Excellent Science pillar under Research Infrastructures and FET (on High Performance Computing)

- Organised in two topics:
  - **Customised and low energy computing** (26 M€)   25-4-2017
  - **Cloud Computing** (45 M€)   12-4-2016

Future Internet

253 M€

- Integrated response to **technology** challenges and **innovation** needs of the future Internet

- Organised in seven topics:

  5G PPP (148 M€)
  - **5G PPP** Research and Validation of critical technologies and systems (103 M€)
  - **5G PPP** Convergent Technologies (45 M€)
  - **Networking research beyond 5G** (18 M€)

  08-11-2016

  - **Software Technologies** (31 M€)

  - **Future Internet Experimentation** - Building a European experimental Infrastructure (26 M€)

  12-4-2016

  - **Collective Awareness Platforms for Sustainability and Social Innovation** (10 M€)

  25-4-2017

  - **Net Innovation** Initiative (20 M€)

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Content technologies

278 M€

- Improve **access**, **creation**, **management** and **use** of **data** and **content** through advances along the **data, content and knowledge value chains.**

12-4-2016   25-4-2017

- Organised in eleven topics (+ one prize):

  - **Big data PPP (153 M€)**
    - Cross-sectorial and cross-lingual data integration and experimentation (54 M€)
    - Large scale pilots in sectors best benefitting from data-driven innovation (50 M€)
    - Research addressing main technology challenges of the data economy (31 M€)
    - Support, industrial skills, benchmarking and evaluation (7 M€)
    - Privacy-preserving big data technologies (9 M€)
    - *Big Data inducement prize (2 M€)*

  - **Media and content convergence** (39 M€)
  - Tools for **smart digital content in the creative industries** (17 M€)
  - Support **technology transfer to the creative industries** (14 M€)

  - Technologies for **Learning and Skills** (31 M€)
  - Interfaces for **accessibility** (12 M€)
  - **Gaming and gamification** (12 M€)

RESPONSIBILITY AND CREATIVITY

Cross-cutting activities aiming at supporting the nexus between technology, social sciences, humanities and arts. The proposed topics address the need to engage:

- ✓ with social scientists and humanists on the development of responsible research and innovation agendas that meet citizens' civil society's concerns and expectations,

- ✓ and with artists, in order to better include them in innovation processes to foster creativity and help enhance user acceptance.

ICT-35-2016: Enabling responsible ICT-related research and innovation (7 M€)

ICT-36-2016: Boost synergies between artists, creative people and technologists (8 M€)

15 M€

[ICT in H2020]

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- Security society `ICT`

WP Cross Cutting

European Institute of Innovation and Technology (EIT) — **EIT ICT Labs**

Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)

Key principles for ICT R&I in the Societal Challenges

- Interoperability

- Re-use and economies of scale

- Breakthroughs leveraging the transformative power of ICT

- Preparation for market deployment

Health, demographic change and wellbeing

- **Personalized Medicine** (114,5 M€)

  - **Active ageing and self-management of health** (58,5 M€)
    - eHealth innovation in empowering the hospitalised patient (18 M€)
    - PPI for deployment and scaling up of ICT solutions for active and healthy ageing (10,5 M€)
    - EU-Japan cooperation on novel ICT Robotics based solutions for active and healthy ageing at home or in care facilities (5 M€)
    - Personalised coaching for well-being of older persons (25 M€)

  - **Methods and data** (56 M€)
    - In-silico trials for developing and assessing biomedical products (19 M€)
    - Personalised computer models and in-silico systems for well-being (19 M€)
    - Big Data supporting Public Health policies (10 M€)
    - PPI for uptake of standards for the exchange of digitalised healthcare records (8 M€)

- **Coordination activities** (9,5 M€)

16-02-2016

19-01-2016

16-02-2016

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Energy

- **Continuity with WP2014-15**
  ...with a stronger emphasis on
  - security and affordability of energy from supply to demand
  - integration and optimisation of the energy system

- **Contribution of ICT**
  - Energy-efficiency
  - Smart distribution grids
  - Smart cities and communities

Energy

Energy Efficiency

- Engaging consumers towards sustainable energy
  - Engaging private consumers towards sustainable energy
  - Behavioural change towards energy efficiency through ICT
- Buildings
  - Integration of Demande Response in Energy Management Systems
- Industries Services and Products
  - Energy efficient data centers

15-9-2016

21-1-2016

Competitive Low Carbon Energy

- Towards an integrated EU energy system
  - Smart grid integration and demonstrations (3 calls

5-4-2016

Transport

- **Automation of road transport as a priority**

- **Contribution of ICT**
  - Automated road transport
  - Intelligent Transport Systems
  - Logistics
  - Green vehicle

Transport

Mobility for growth

- Urban mobility
    - Sustainable mobilities in urban areas
- Logistic
    - ICT for logistic operation
- Intelligent transport systems
    - Innovative concepts systems and services towards mobility as aservice
    - Large scale demonstrators of cooperative ITS
    - Roadmap, business models awareness rising for the roll-out of ITS
- Socio economical and behavioural research for policy making

20-1-2016

29-9-2016

26-1-2016

Automated road transport

- ICT infrustructure towards road transport automation
- Coordination activities towards road automation

26-1-2016

Green vehicles

- Pilots for electric vehicles

Inclusive, innovative and reflective societies

- **Four calls in SC6**

  - **Co-creation for growth and inclusion** (ICT: 30,5 M€)
    - Applied co-creation to deliver public services (10 M€)
    - Policy-development in the age of Big Data (11,5 M€)
    - Once-only principle (9M€)

  - **Reversing inequalities and promoting fairness** (ICT: 4 M€)
    - Multi-stakeholder platform for enhancing youth digital opportunities (1 M€)   4-2-2016
    - Boosting inclusiveness of ICT-enabled research and innovation (3 M€)

  - **Understanding Europe** (ICT: 35,5 M€)
    - Virtual museums and social platform on European digital heritage, memory, identity and cultural interaction (11 M€)   4-2-2016
    - European cultural heritage, access and analysis for a richer interpretation of the past (9 M€)
    - Understanding the transformation of European public administrations (15,5 M€)   4-2-2016

  - Engaging together globally

Security

- Digital Security focus area (118 M€)
  - **Privacy and Data Protection** (18 M€)
  - **Addressing Advanced Cyber Security Threats and Threat Actors** (18 M€)
  - **Cyber Security for SMEs, local public administration and Individuals** (22 M€)
  - **Economics of Cybersecurity** (4 M€) — 25-8-2016
  - **EU Cooperation and International Dialogues in Cybersecurity and Privacy Research and Innovation** (3 M€)
  - **Increasing digital security of health related data on a systemic level (SC1)** (11 M€) — 16-2-2016
  - **Assurance and Certification for Trustworthy and Secure ICT systems, services and components (LEIT-ICT)** (23,5 M€)
  - **Cryptography (LEIT-ICT)** (18,5 M€)

- Critical infrastructure protection (40 M€)
  - **Prevention, detection, response and mitigation of the combination of physical and cyber threats to the critical infrastructure of Europe** (40 M€) — 25-8-2016

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Cross Sectorial

12-4-2016

- Internet of Things
  - ➢ Smart living environments for ageing well
  - ➢ Smart farming and food security
  - ➢ Autonomous vehicles in a connected environment
  - ➢ Water management for cities
  - ➢ Wearable for smart ecosystems
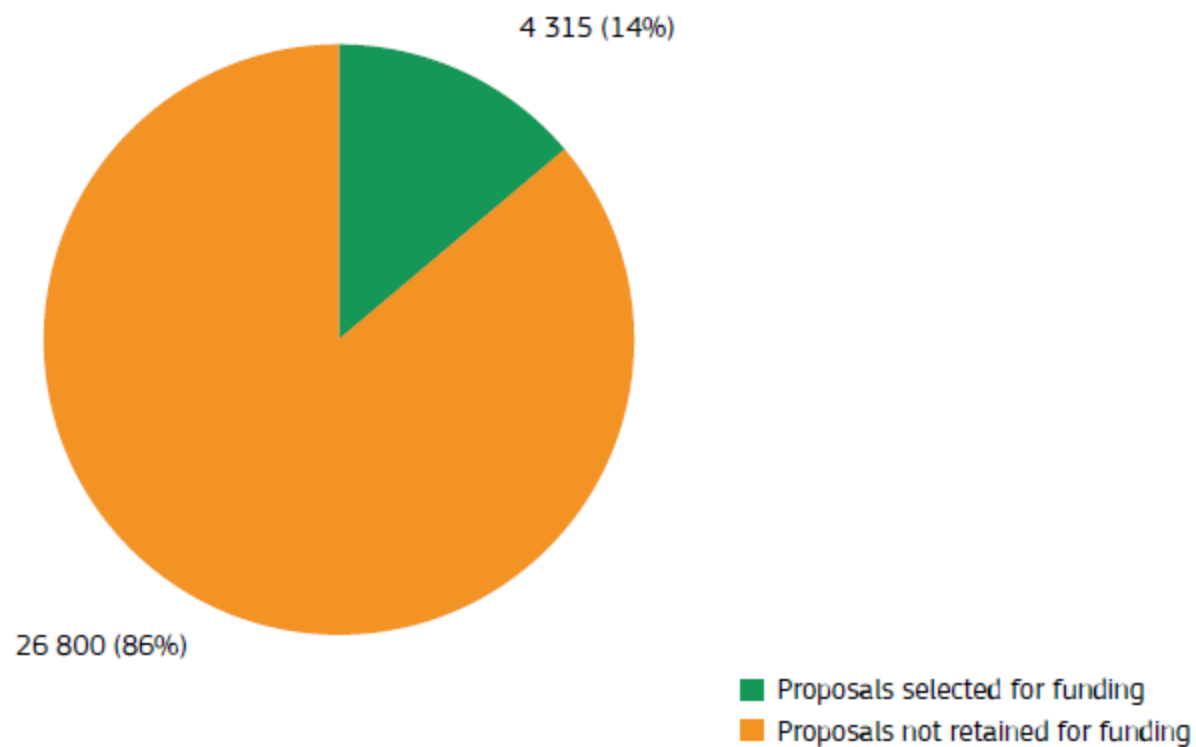
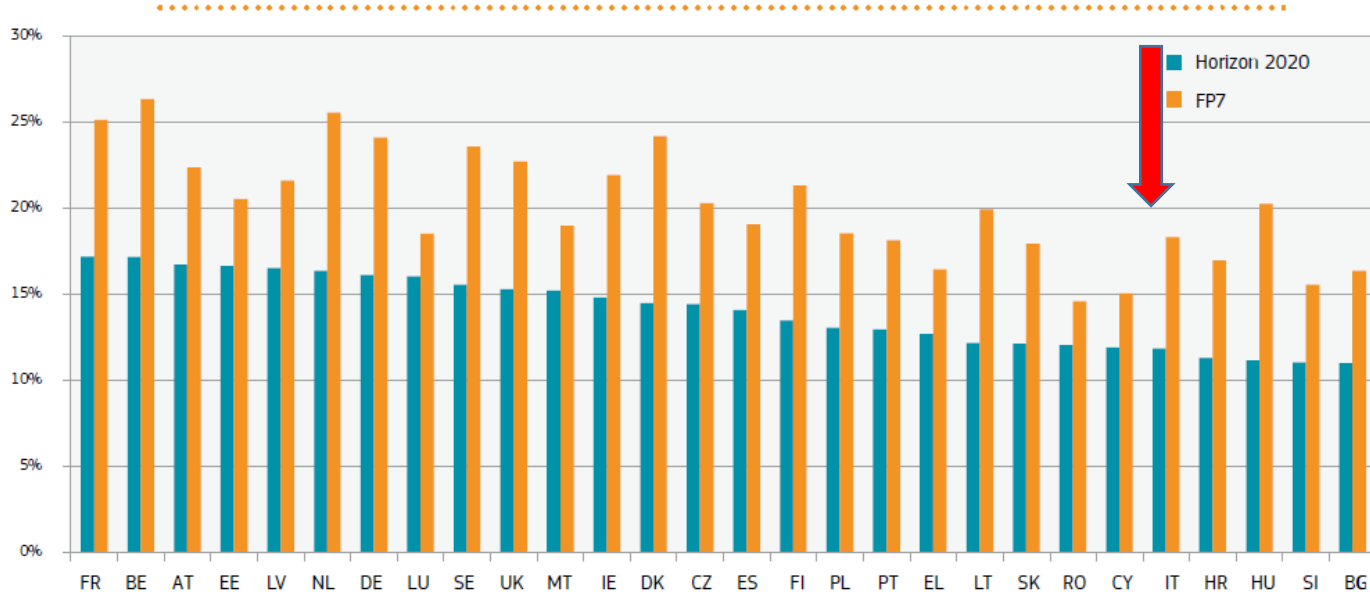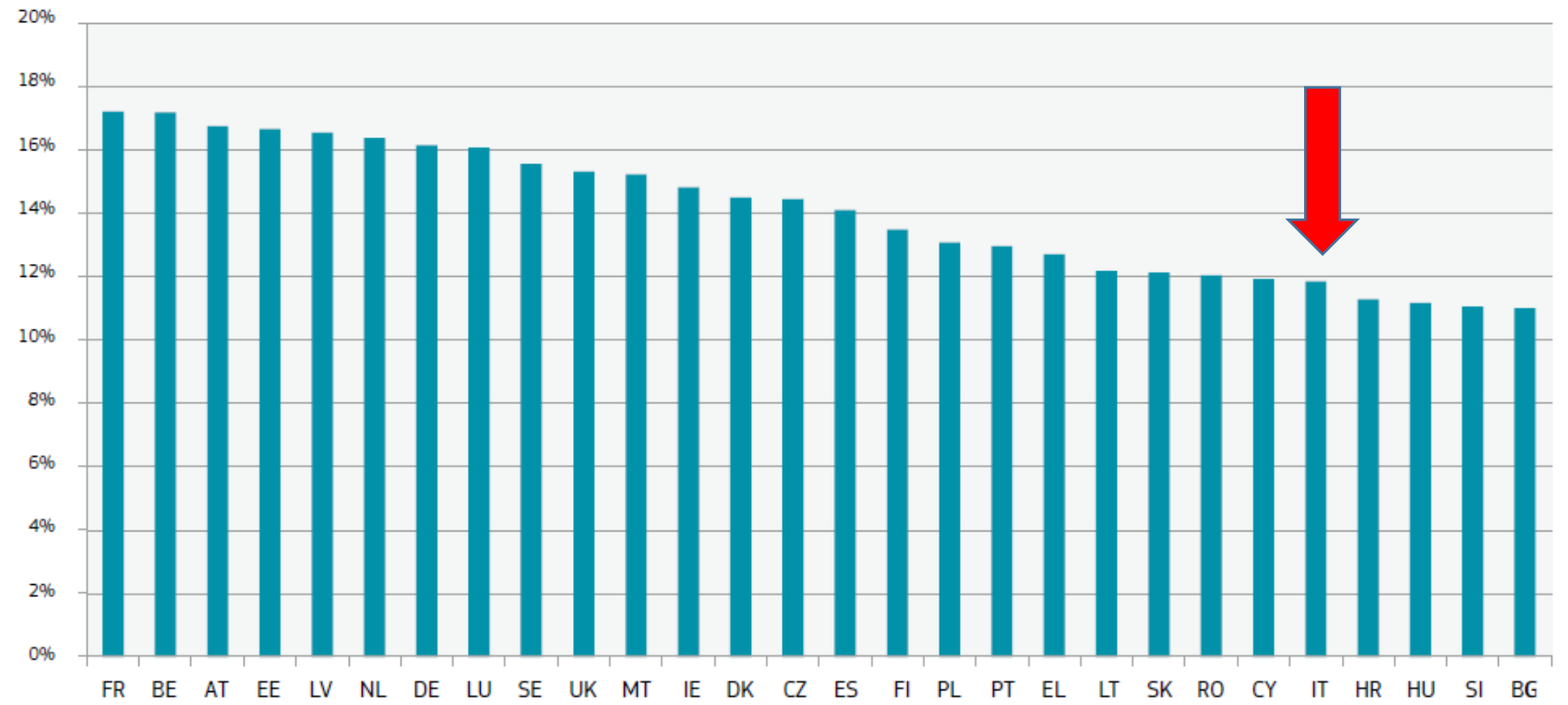# ANALYSIS OF FIRST TWO YEARS

Total applications
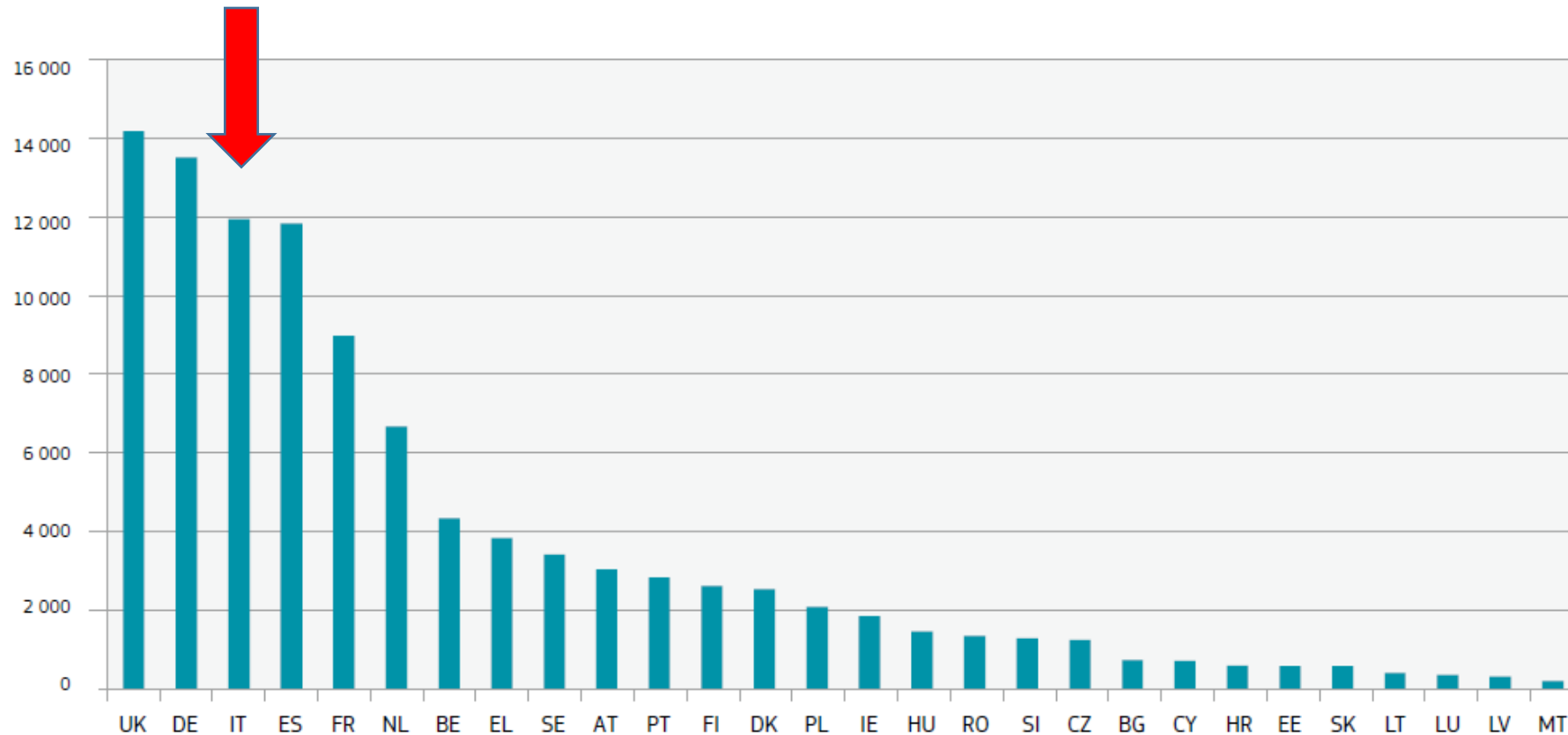
100 calls

111579 applications
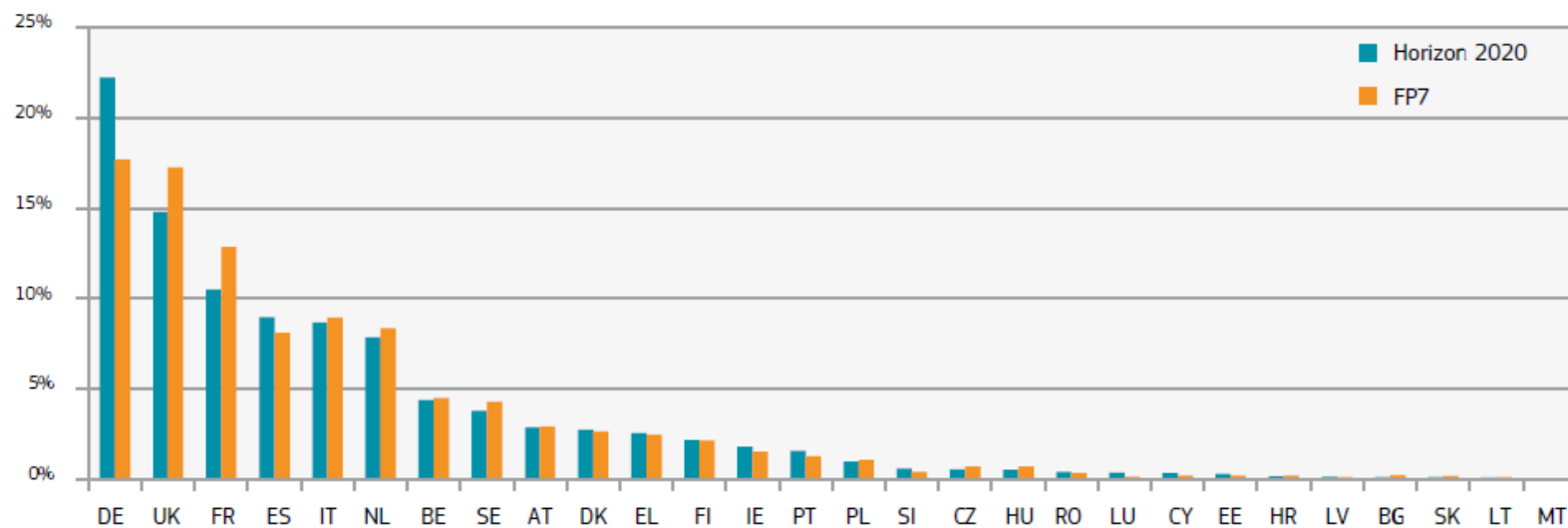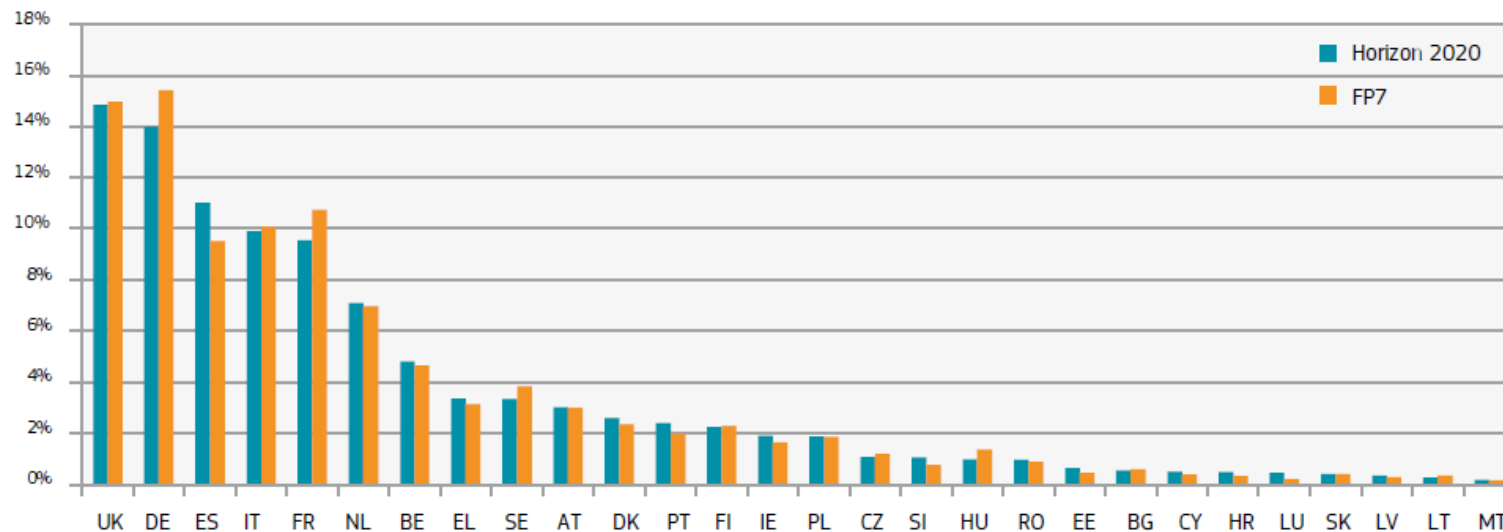
What percentage of proposals received funding?

Success rate of eligible full proposals to Horizon 2020

4 315 (14%)

26 800 (86%)

■ Proposals selected for funding
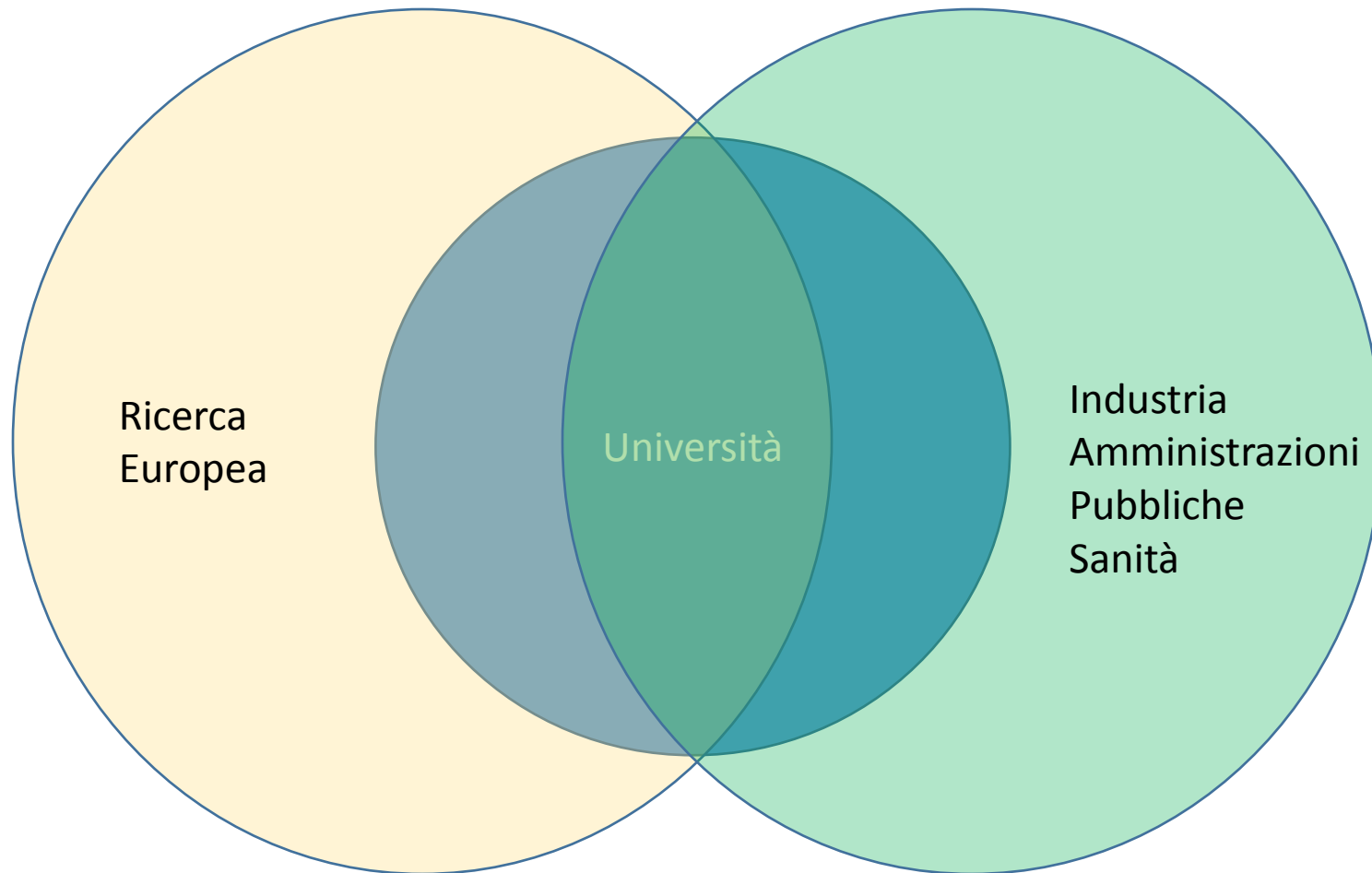■ Proposals not retained for funding

Success rate

Share of participation in
Signed grant agreement

Share of funding in
Signed grant agreement

Il Contesto in cui muoversi

Ricerca Europea

Università

Industria
Amministrazioni Pubbliche
Sanità

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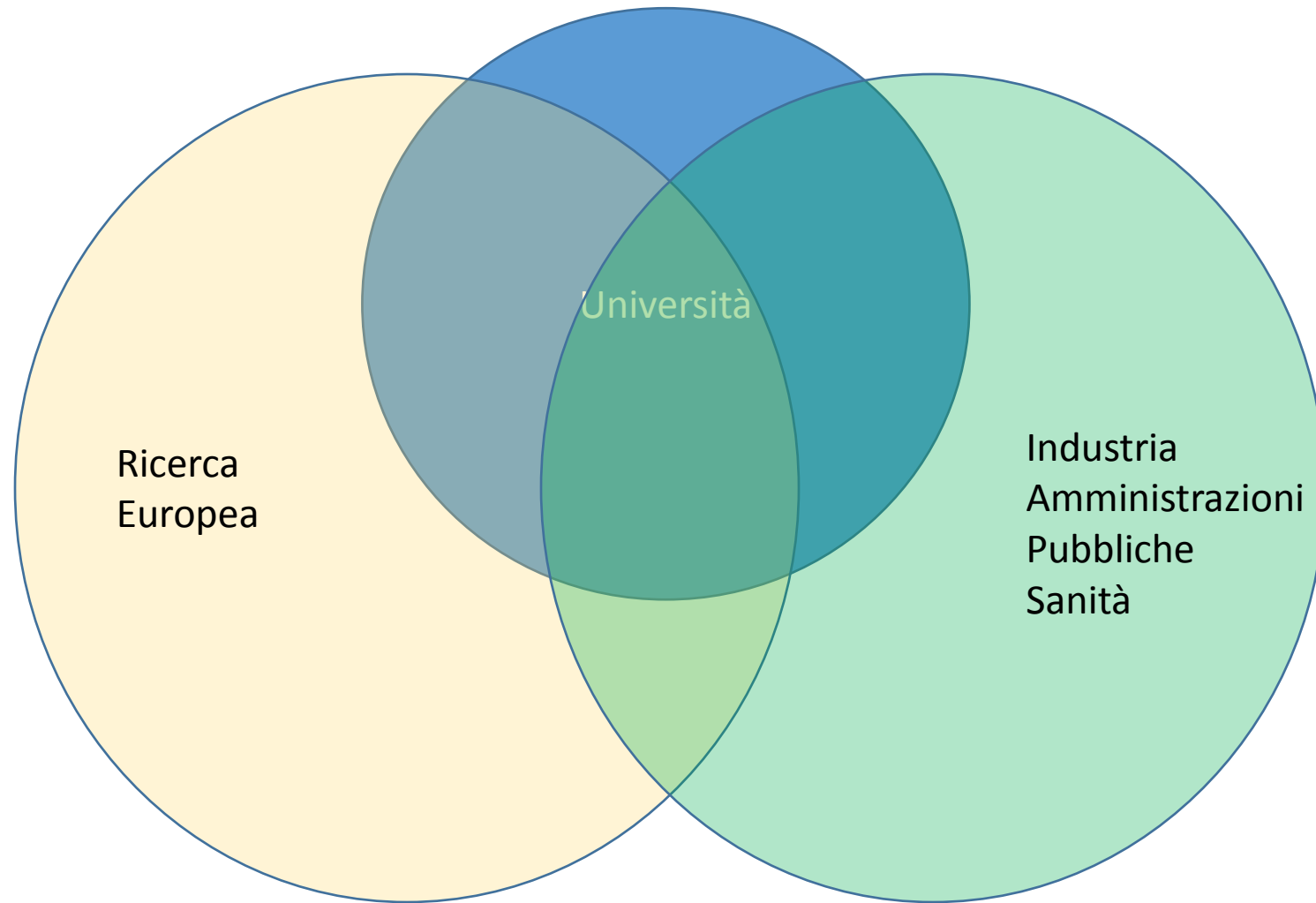
FAQ

1) Per farsi approvare progetti occorre fare 'Lobby' con la Commissione Europea?

2) Per farsi approvare linee di ricerca e quindi progetti occorre partecipare attivamente alle roadmap definitions tramite gruppi di lavoro, cPPP, piattaforme ?

3) Un partner conosciuto in Europa è importante per l'approvazione del progetto ?

4) Un partner che fa parte del ' Sistema Europa' che contribuisce attivamente alla scrittura del progetto è importante per la sua approvazione ?

5) E' importante avere una persona a Bruxelles per ciascuna organizzazione ?

No

Si

No

Si

Tecnica per linea di ricerca

Osservazioni Conclusive

- Maggiore attenzione alla tipologia di intervento:
  - IA sono progetti di Innovazione e ci si aspetta che **proseguano attività già finanziate e progetti precedenti**, devono contenere chiare analisi di mercato, chiari modelli di business e dettagliati business plan
  - RIA finanziano attività di ricerca ma con chiari riferimenti e interconnessioni con
    - Attività di ricerca in corso in altri progetti
    - Attività di ricerca in corso nei gruppi tematici cPPP, european platforms etc., EIP and KIC
    - Attività concluse sui bandi precedenti
    - Le RIA su SC devono essere comunque molto applicative con dimostratori concreti
    - La sezione excellence deve essere in ogni caso molto concreta con approccio chiaro e dettagliato dimostrando che la ricerca è già in corso
- Chiari riferimenti ai tecnology readiness levels di partenza e di arrivo
- Ricercare il più possibile approcci interdisciplinari
- La ricerca isolata non è più supportata e bisogna fare parte del 'Sistema' Europa, in modo da influenzare anche la definizione dei nuovi bandi in funzione della ricerca che si sta portando avanti.
- Farsi tirare dai 'Begin User'
- Avere a bordo Partner che facciano parte del 'Sistema Europa'

Before looking out of the box, look inside the box

Grazie !

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