HORIZON 2020

the EU framework programme for research and innovation

P. Ignatiadis
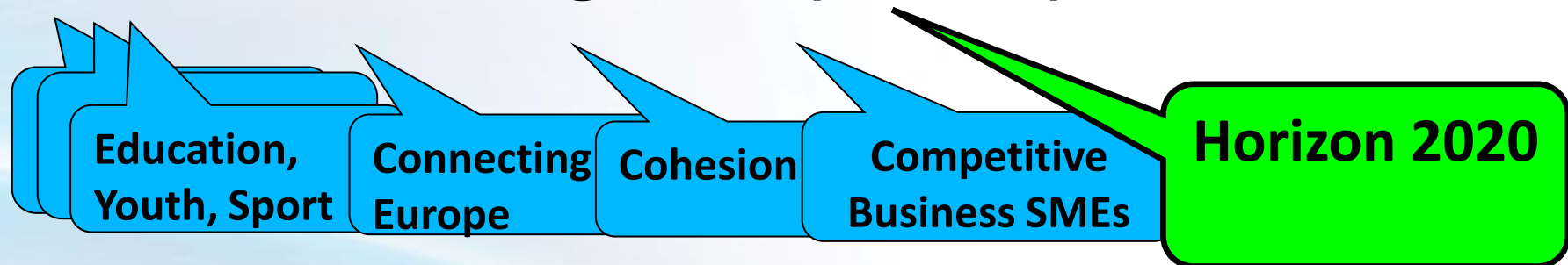
Heraklion 05/11/2012

enterprise europe network

Business Support on Your Doorstep

praxi »

help-forward network

EUROPEAN COMMISSION

HORIZON 2020

INNOVATION UNION

The Multiannual Financial Framework 2014-2020:
Commission's proposals of 29 June 2011

1. **Smart & inclusive growth (€491bn)**

   Education, Youth, Sport — Connecting Europe — Cohesion — Competitive Business SMEs — **Horizon 2020**

2. **Sustainable growth, natural resources (€383bn)**

3. **Security and citizenship (€18.5bn)**

4. **Global Europe (€70bn)**

5. **Administration (€62.6bn)**

Total: € 1,025bn

EUROPEAN COMMISSION

HORIZON 2020

INNOVATION UNION

Impact of R&D on economic recovery

Bubble chart showing Average R&D investment, 2004-2009 (y-axis, 0.0 to 4.0) versus GDP growth, 2010 (x-axis, -5.0 to 6.0) for EU countries: FI, SE, DK, DE, AT, FR, UK, BE, NL, LU, IE, ES, CZ, PT, IT, EE, EL, HU, PL, LV, BG, RO, CY, LT, SK.

EUROPEAN COMMISSION
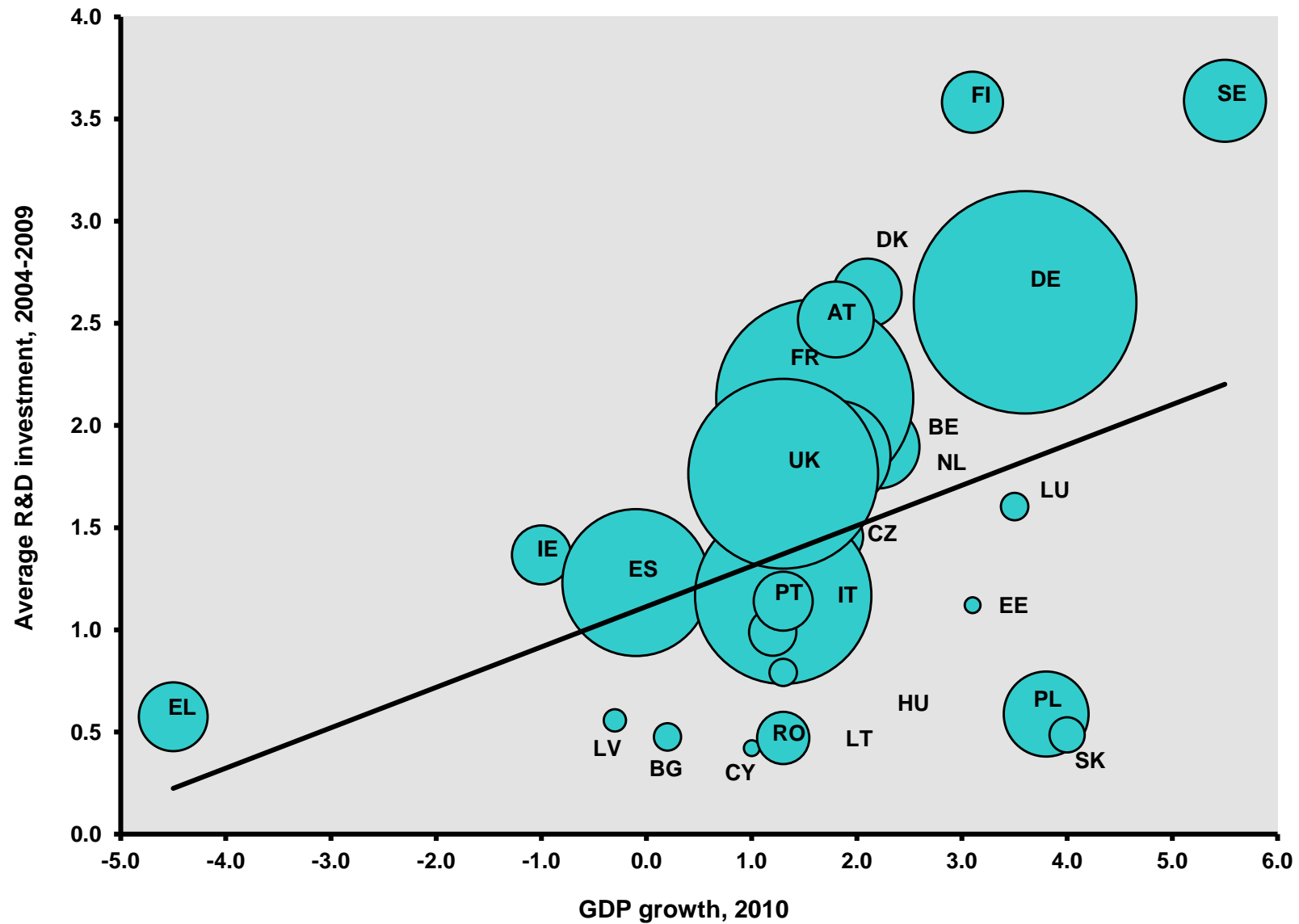
What is Horizon 2020

- Commission proposal for a 80 billion euro research and innovation funding programme (2014-20)

- Part of proposals for next EU budget, complementing Structural Funds, education, etc.

- A core part of Europe 2020, Innovation Union & European Research Area:

  - **Responding to the economic crisis** to invest in future jobs and growth

  - **Addressing peoples' concerns** about their livelihoods, safety and environment.

  - **Strengthening the EU's global position** in research, innovation and technology

What's new

- **A single programme** *bringing together three separate programmes/initiatives:*

  - *The 7th research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)*

- **More innovation,** *from research to retail, all forms of innovation*

- **Focus on societal challenges** *facing EU society, e.g. health, clean energy and transport*

- **Simplified access,** *for all companies, universities, institutes in all EU countries and beyond.*
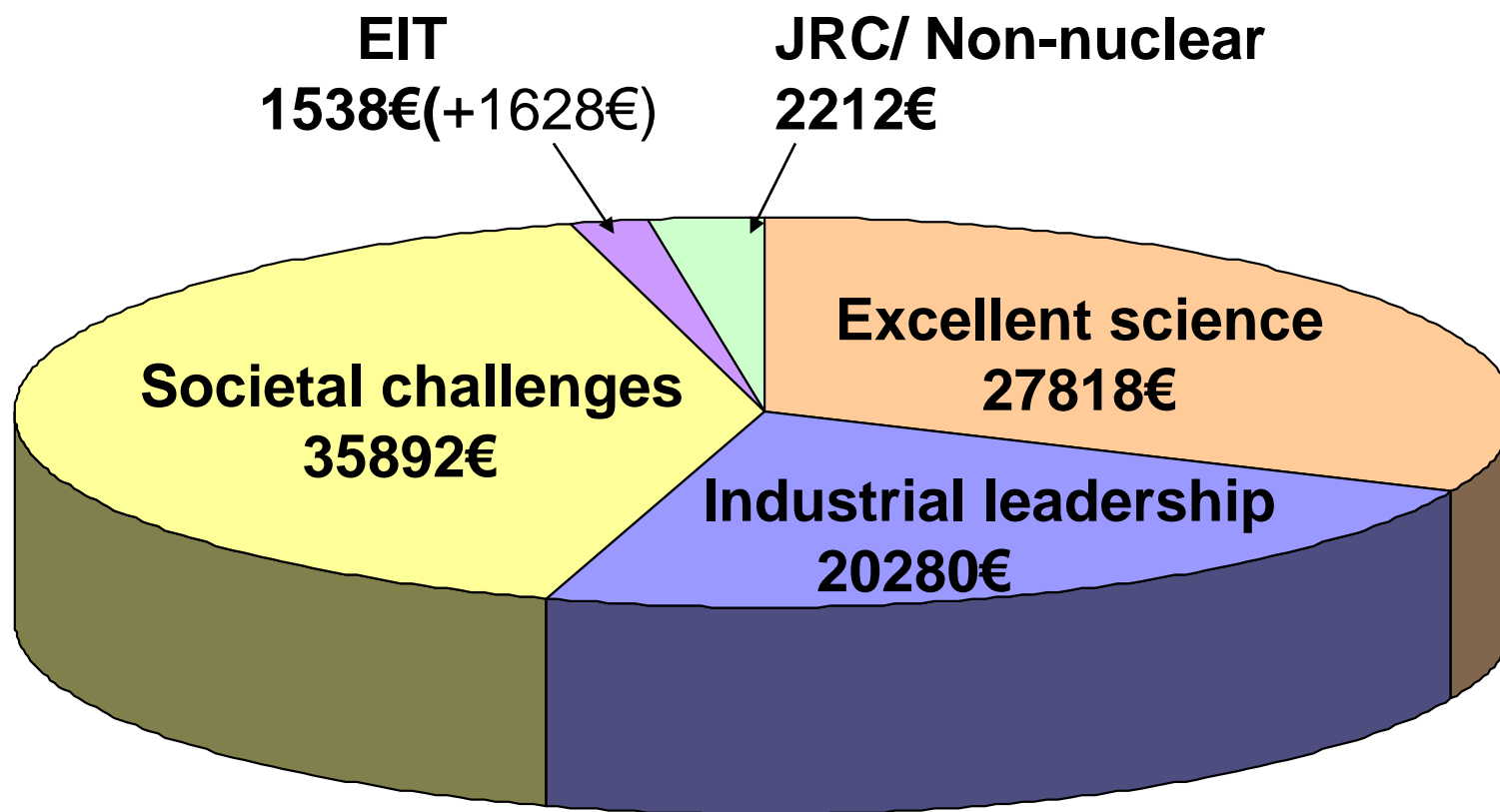
EUROPEAN COMMISSION

HORIZON 2020

INNOVATION UNION

Horizon 2020: indicative budget breakdown

EIT 1538€(+1628€)

JRC/ Non-nuclear 2212€

Societal challenges 35892€

Excellent science 27818€

Industrial leadership 20280€

TOTAL 87 740 M€
(in current prices, based on the 80 Bn € proposal)
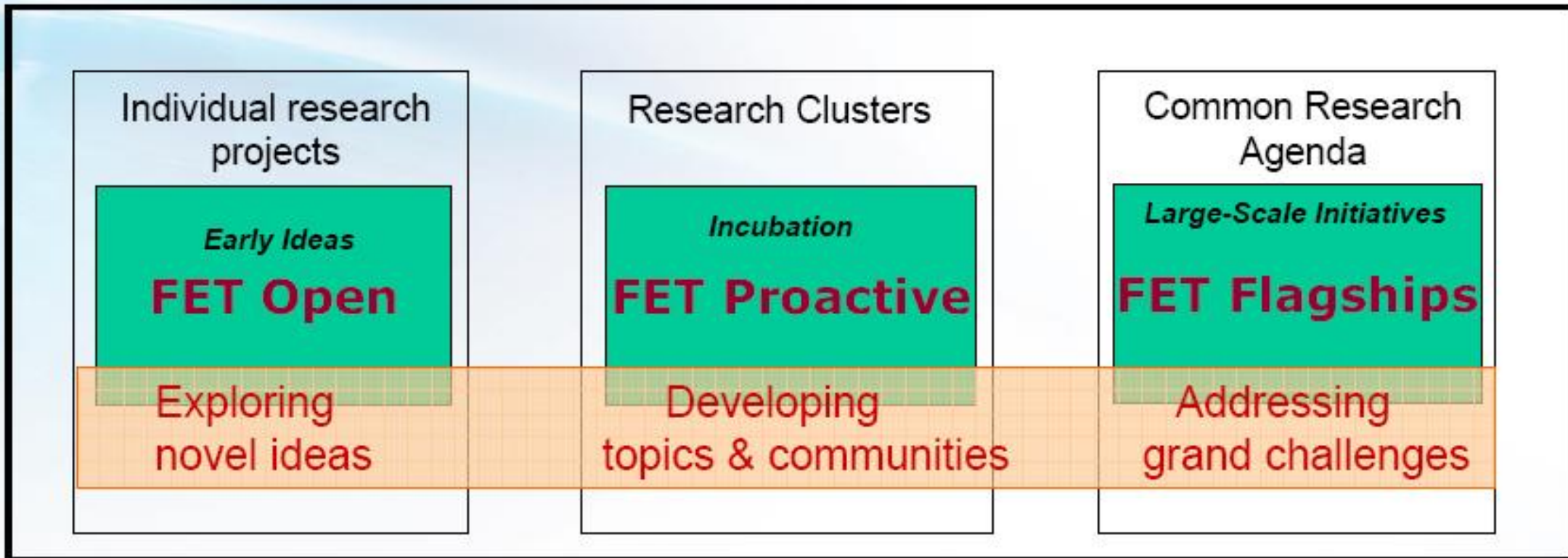
EUROPEAN COMMISSION

HORIZON 2020

Priority 1 Excellent science

Why:

- World class science is the foundation of tomorrow's technologies, jobs and wellbeing

- Europe needs to develop, attract and retain research talent

- Researchers need access to the best infrastructures

European Research Council *Frontier research by the best individual teams*	13 268
Future and Emerging Technologies *Collaborative research to open new fields of innovation*	3 100
Marie Curie actions* *Opportunities for training and career development*	5 752
Research infrastructures (including e-infrastructure) *Ensuring access to world-class facilities*	2 478

FET in H2020: 3 complementary, inter-linked approaches

Open, light and agile ⟷ Roadmap based research

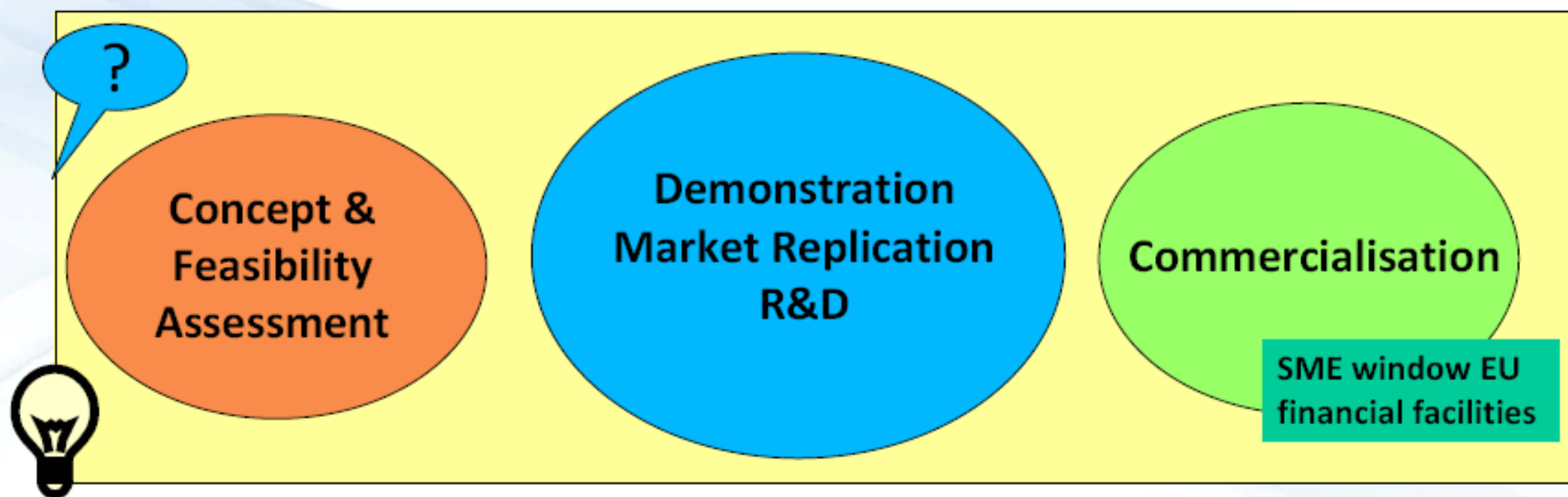| Individual research projects	Research Clusters	Common Research Agenda
Early Ideas **FET Open**	*Incubation* **FET Proactive**	*Large-Scale Initiatives* **FET Flagships**
Exploring novel ideas	Developing topics & communities	Addressing grand challenges

Priority 2 Industrial leadership

Why:

- Europe needs more innovative SMEs to create growth and jobs

- Strategic investments in key technologies (e.g. advanced manufacturing, micro-electronics) underpin innovation across existing and emerging sectors

- Europe needs to attract more private investment in research and innovation

Leadership in enabling and industrial technologies (*ICT, nanotechnologies, materials, biotechnology, manufacturing, space*)	13 781
Access to risk finance *Leveraging private finance and venture capital for research and innovation*	3 538
Innovation in SMEs *Fostering all forms of innovation in all types of SMEs*	619

SME instrument

Concept & Feasibility Assessment

Demonstration Market Replication R&D

Commercialisation

SME window EU financial facilities

Idea to concept, risk assessment, technological & commercial feasibility

Demonstration, prototyping, testing , market replication, scaling up, miniaturisation, research

Quality label for successful projects, acess to risk finance, indirect support

IDEA continued support throughout the project **MARKET**

HORIZON 2020

Priority 3 Societal challenges

Why:

- EU policy objectives (climate, environment, energy, transport etc) cannot be achieved without innovation

- Breakthrough solutions come from multi-disciplinary collaborations, including social sciences & humanities

- Promising solutions need to be tested, demonstrated and scaled up

Health, demographic change and wellbeing	8 033
Food security, sustainable agriculture, marine and maritime research & the bioeconomy	4 152
Secure, clean and efficient energy*	5 782
Smart, green and integrated transport	6 802
Climate action, resource efficiency and raw materials	3 160
Inclusive, innovative and secure societies	3 819

*Additional €1 050m for nuclear safety and security from the Euratom Treaty activities (2014-18). Does not include ITER.

EUROPEAN COMMISSION

HORIZON 2020

Horizon 2020 and partnering

Public-Private Partnerships (PPPs):

- Through *Joint Technology Initiatives* or other formal structures (*§ 187.*)
- Via *contractual arrangements*, which provide inputs for workprogrammes
- Only when criteria met, e.g. *clear commitments from private partners*

Public-Public Partnerships (P2Ps):

- Through "*ERA-Nets*" for topping up individual calls/ actions (replacing current ERA-Net, ERA-Net Plus, Inco-Net, Inno-net)
- Through *participation in joint programs between Member States* (§ 185.)
- Supporting agendas of Joint Programming Initiatives when in line with Horizon 2020
- Only when criteria met, e.g. financial commitments of participating countries

European Innovation Partnerships

- Not funding instruments, but for coordination with broader policies and programmes

Role of the EIT and JRC in Horizon 2020

Three priorities to be supported by:

European Institute of Innovation and Technology (EIT) *Combining research, innovation & training in Knowledge and Innovation Communities*	1 538 + 1 628*
Joint Research Centre (JRC) *Providing a robust, evidence base for EU policies	2 212**

* Second tranche pro rata from LEIT and Societal challenges (subject to review)

**Additional €724 m for the JRC to be funded from the Euratom Treaty activities

COM proposal on the future of EIT (30 November 2011)

Two waves of new KICs are foreseen in 2014 and 2018.

The selection of **1st wave** (3 themes, 2014) has been based on
- maturity of the field,
- the potential societal and economic impact,
- opportunities for synergies with other initiatives.

Innovation for *Healthy living and active ageing*;

Raw materials – sustainable exploration, extraction, processing, recycling and substitution;

Food4future - sustainable supply chain from resources to consumers.

2nd wave in 2018 (3 themes envisaged):

Urban mobility

Added-value manufacturing

Smart secure societies

while taking into account new and unforeseen challenges which may arise in the future.

EUROPEAN COMMISSION

HORIZON 2020

INNOVATION UNION

SIMPLIFICATION

EU Financial Regulation

SINGLE SET OF RULES
for Horizon 2020

...ETC

EUROPEAN COMMISSION

HORIZON 2020

Rules for Participation: *what's new? (1)*

1. A SINGLE SET OF RULES

➢ Adapted for the whole research and innovation cycle

➢ Covering all research programmes and funding bodies

➢ Aligned to the Financial Regulation, coherent with other new EU Programmes.

2. ONE PROJECT - ONE FUNDING RATE.

➢ Maximum of 100% of direct costs (except for actions close to market, where a 70% maximum will apply)

➢ Indirect eligible costs: a flat rate of 20% of direct eligible costs

3. SIMPLE EVALUATION CRITERIA

• *Excellence – Impact - Implementation (Excellence only, for the ERC)*

4. NEW FORMS OF FUNDING aimed at innovation: pre-commercial procurement, inducement prizes, dedicated loan and equity instruments.

5. INTERNATIONAL PARTICIPATION: facilitated but better protecting EU interests.

EUROPEAN COMMISSION

HORIZON 2020

INNOVATION UNION

Rules for Participation: *what's new? (2)*

6. SIMPLER RULES FOR GRANTS: broader acceptance of participants accounting practices for direct costs, flat rate for indirect costs, no time-sheets for personnel working full time on a project, possibility of output-based grants.

7. FEWER, BETTER TARGETED CONTROLS AND AUDITS

➢ Lowest possible level of requirements for submission of audit certificates without undermining sound financial management;

➢ Audit strategy focused on risk and fraud prevention.

8. IMPROVED RULES ON INTELLECTUAL PROPERTY

➢ Balance between legal security and flexibility;

➢ Tailor-made IPR provisions for new forms of funding;

➢ A new emphasis on open access to research publications.

Beyond the Rules: further simplified provisions in the Grant Agreement and implementing procedures to facilitate access to Horizon 2020 (eg. common IT platform).

Broader access

- For **SMEs** - *dedicated SME projects to address societal challenges and enabling technologies*

- For all **regions** – *tailored support to policy learning, twinning, networking, complementing Structural Funds*

- For **international partners** – *broad access to Horizon 2020 ("mainstreaming"), strategic initiatives where there is mutual benefit*

- For **all forms of innovation** - *social innovation, services, pilots, stimulating demand through public procurement, standard setting*

Widening participation
by unlocking R&I potential of cohesion countries

- **Principle of excellence**: continue to allocate funding on the basis of competitive calls, selecting only the best projects.

- **Clear division of labour** between cohesion policy and Horizon 2020.

  – **Cohesion policy**: support for regions in building up their research and innovation capacity.

  – **Horizon 2020**: widen participation, better coordination between the two Union funding programmes, support policy learning reforms.

- Accompanying measures in Horizon 2020 **to ensure that excellence prevails wherever it exists, including**: twinning, ERA chairs, support for access to international networks, development of smart specialisation strategies.

Significant regional disparities across Europe in research and innovation performance need to be addressed. Measures will aim at unlocking excellence and innovation and will be distinct, complementary and synergistic with policies and actions of the Cohesion policy Funds. They include:

- Linking emerging institutions, centres of excellence and innovative regions in less developed Member States to international leading counterparts elsewhere in Europe:

  - measures include teaming of excellent research institutions and less developed regions, staff exchanges, expert advice and assistance and the development of joint strategies for the establishment of centres of excellence that may be supported by the Cohesion policy funds in less developed regions.

  - Building links with innovative clusters and recognising excellence in less developed regions, including through peer reviews and awarding labels of excellence to those institutions that meet international standards, will be considered.

EUROPEAN COMMISSION

HORIZON 2020

- <u>Establishing 'ERA Chairs'</u> to attract outstanding academics to institutions with a clear potential for research excellence, in order to help these institutions fully unlock this potential and hereby create a level playing field for research and innovation in the European Research Area.

  – This will include institutional support for creating a competitive research environment and the framework conditions necessary for attracting, retaining and developing top research talent within these institutions.

Societal Challenge on Inclusive, innovative and secure societies / Part 6.1.4. Closing the research and innovation divide in Europe (III)

- <u>Supporting access to international networks</u> for excellent researchers and innovators who lack sufficient involvement in European and international networks. This will include support provided through COST and National Contact Points.

- <u>Supporting the development and monitoring of smart specialisation strategies</u>. A policy support facility will be developed and policy learning at regional level will be facilitated through international evaluation by peers and best practice sharing.

Thanks for your attention!

Find out more:

http://ec.europa.eu/research/horizon2020