

# HORIZON 2020

## Az EU Kutatási és Innovációs Keretprogramja (2014-2020)

*Az Európai Bizottság javaslata*

*Siegler András igazgató*

*Európai Bizottság*

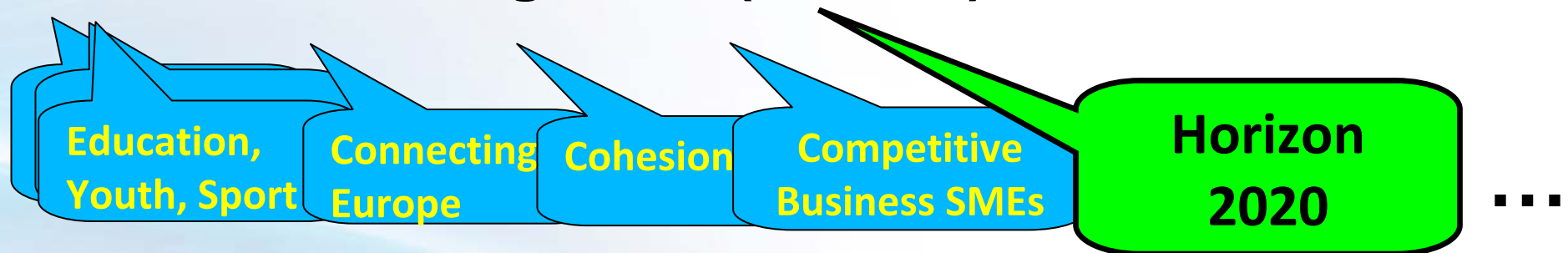
*Kutatási és Innovációs Főigazgatóság*

**Kutatás – Innováció – Kohézió 2014-2020**  
**SOTE, Budapest, 2012 február 10.**

# The Multiannual Financial Framework 2014-2020:

*Commission's proposals of 29 June 2011*

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



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

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

## 4. Global Europe (€70bn)

## 5. Administration (€62.6bn)



# 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 in Horizon 2020

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

*\* 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)*

# Three priorities of Horizon2020:

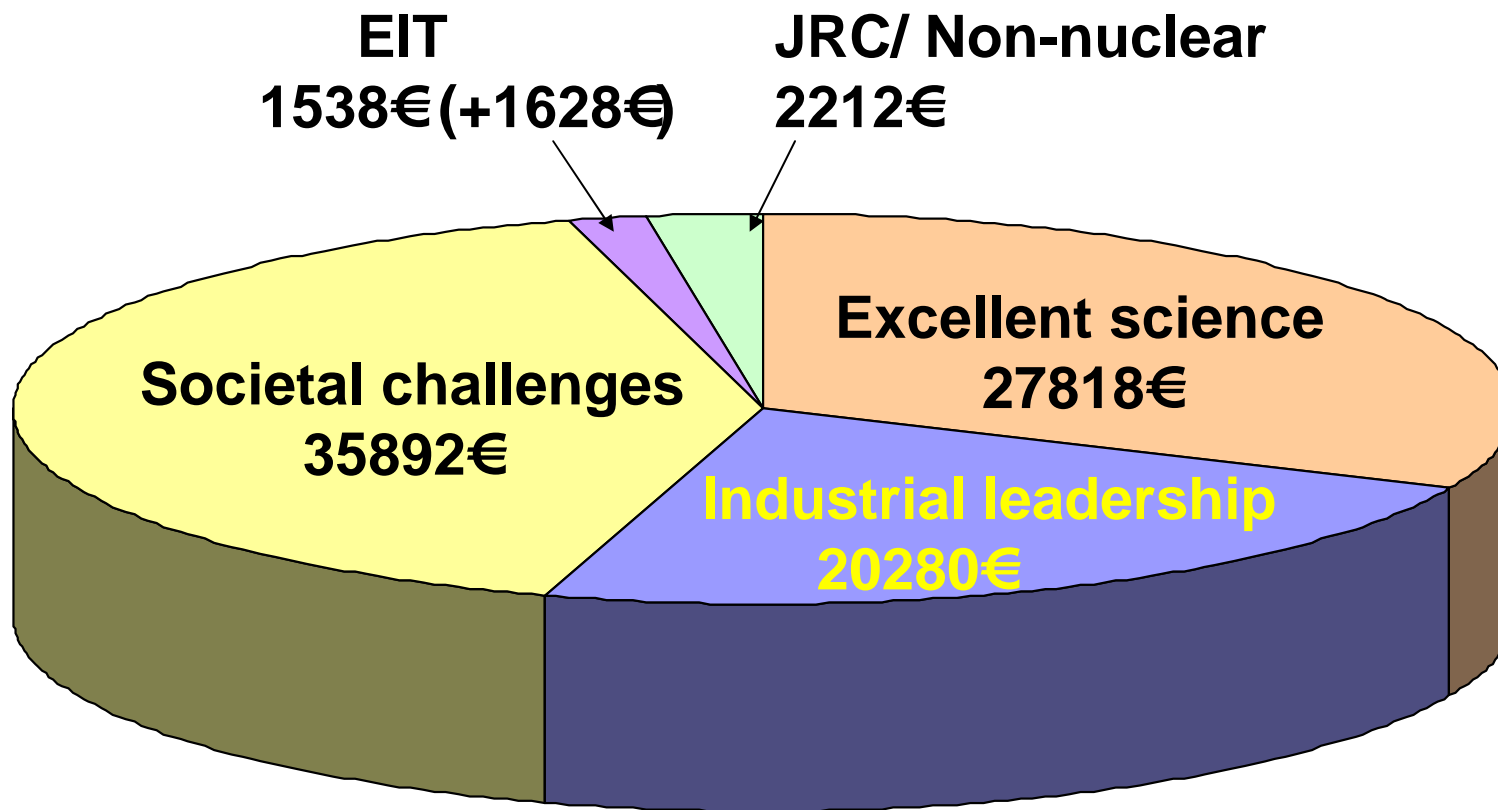
**1 Excellent science**

**2 Industrial leadership**

**3 Societal challenges**



# Horizon 2020: indicative budget breakdown



**TOTAL 87 740 M€**

**(in current prices, based on the 80 Bn € proposal)**

# Priority 1 Excellent science

Proposed funding (**27 818 M€** in current prices, 2014-20)

|  |               |
|--|---------------|
| <b>European Research Council (ERC)</b><br><i>Frontier research by the best individual teams</i>                  | <b>15 008</b> |
| <b>Future and Emerging Technologies (FET)</b><br><i>Collaborative research to open new fields of innovation</i>  | <b>3505</b>   |
| <b>Marie Skłodowska Curie actions (MSC)</b><br><i>Opportunities for training and career development</i>          | <b>6503</b>   |
| <b>Research infrastructures</b> (including e-infrastructure)<br><i>Ensuring access to world-class facilities</i> | <b>2802</b>   |

# FET in H2020: 3 complementary, inter-linked approaches

Open, light and agile

Roadmap based research

Individual research projects

*Early Ideas*

**FET Open**

Exploring novel ideas

Research Clusters

*Incubation*

**FET Proactive**

Developing topics & communities

Common Research Agenda

*Large-Scale Initiatives*

**FET Flagships**

Addressing grand challenges



# ***Priority 2 Industrial leadership in enabling and industrial technologies and in access to risk finance***

## **Why:**

- Europe needs more innovative SMEs to create growth and jobs
- Strategic investments in key technologies (e.g. ICT, micro-electronics, nanotech, materials, advanced manufacturing,) underpin innovation across existing and emerging sectors
- Europe needs to attract more private investment in research and innovation

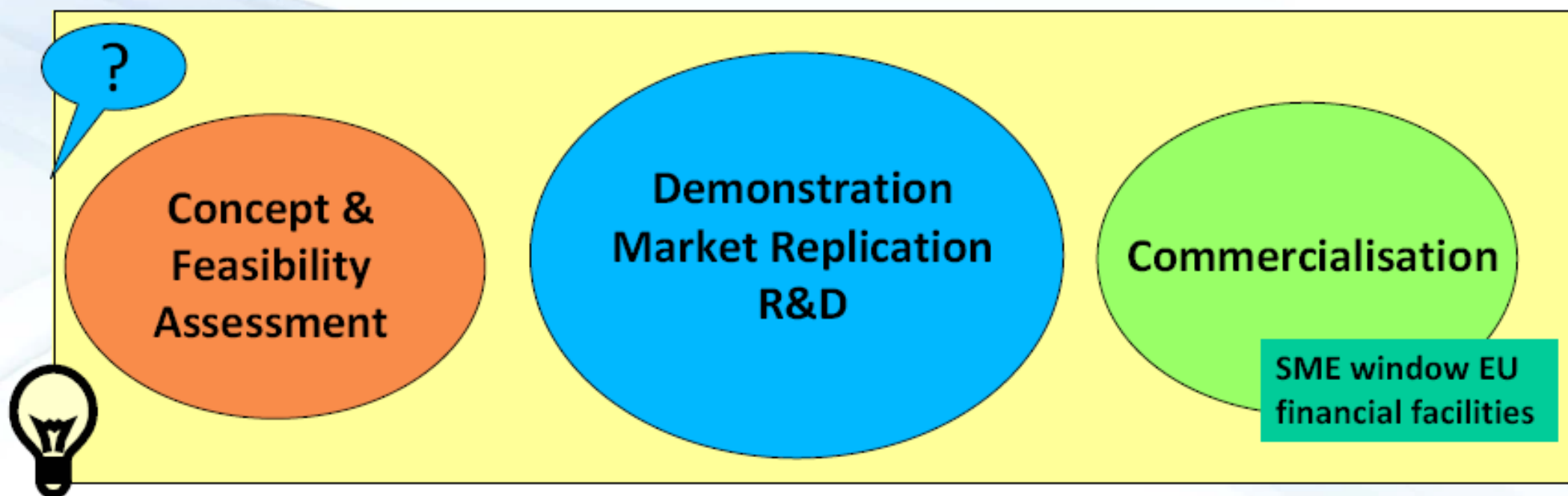
# Priority 2 Industrial leadership

Proposed funding (**20 280 M€** in current prices, 2014-20)

|  |               |
|--|---------------|
| <b>Leadership in enabling and industrial technologies</b><br><i>(ICT €8975 M*, nanotech+materials +manufacturing €4293M, biotechnology €575 M, space €1737M)</i> | <b>15 580</b> |
| <b>Access to risk finance</b><br><i>Leveraging private finance and venture capital for research and innovation</i>   | <b>4 000</b>  |
| <b>Innovation in SMEs</b><br><i>Fostering all forms of innovation in all types of SMEs</i>   | <b>700</b>    |

\* of which €1795M for photonics + micro- and nanoelectronics

# SME instrument



Idea to concept, risk assessment, technological & commercial feasibility

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

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

IDEA

continued support throughout the project

MARKET

# *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



# Priority 3 Societal challenges

Proposed funding (**€ 35 892 M** in current prices, 2014-20, **M€**)

|  |              |
|--|--------------|
| Health, demographic change and wellbeing (EIT 287 M€)  | <b>9 081</b> |
| Food security, sustainable agriculture, marine and maritime research & the bioeconomy (EIT 148 M€) | <b>4 694</b> |
| Secure, clean and efficient energy* (EIT 207 M€)   | <b>6 537</b> |
| Smart, green and integrated transport (EIT 243 M€)   | <b>7 690</b> |
| Climate act., resource eff. and raw materials (EIT 113 M€)   | <b>3 573</b> |
| Inclusive, innovative and secure societies (EIT 137 M€)  | <b>4 317</b> |

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

# 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:

|  |                   |
|--|-------------------|
| <b>European Institute of Innovation and Technology (EIT)</b><br><i>Combining research, innovation &amp; training in Knowledge and Innovation Communities</i> | 1 538 +<br>1 628* |
| <b>Joint Research Centre (JRC)**</b><br><i>Providing a robust, evidence base for EU policies</i>   | 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.

**1. *Innovation for Healthy living and active ageing;***

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

**3. *Food4future - sustainable supply chain from resources to consumers.***

**2nd wave in 2018** (3 themes envisaged):

**4. *Urban mobility***

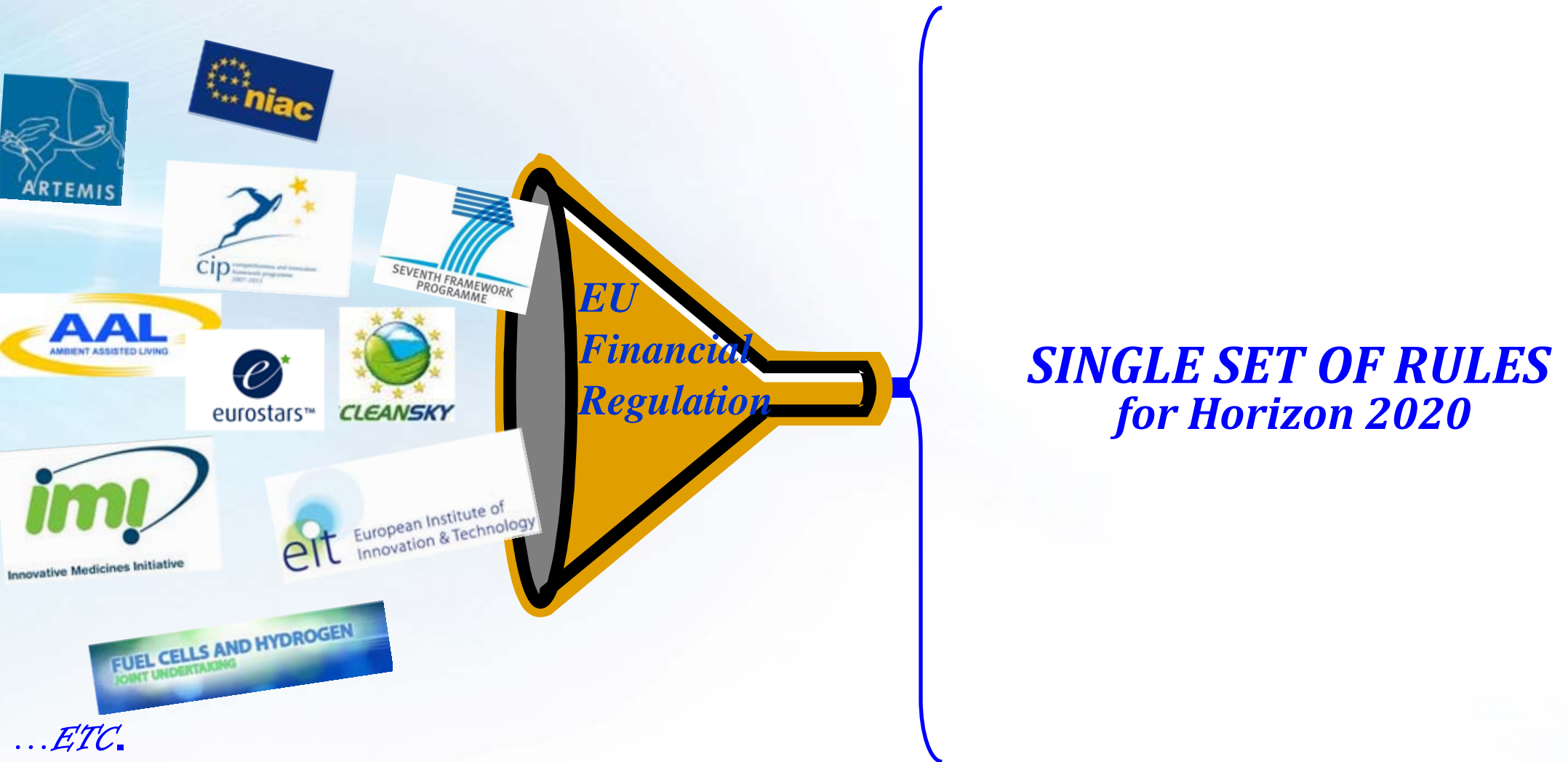
**5. *Added-value manufacturing***

**6. *Smart secure societies***

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



# SIMPLIFICATION



# Simplification: Rules for Participation (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.

# Simplification: Rules for Participation (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.

**9. Successful applicants to get working more quickly:** reduction of average time to grant by 100 days (current average of around 350 days under FP7)

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

# FORMS OF FUNDING – aimed at promoting innovation

## What would remain

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- ✓ **Grant Agreements as the main funding stream**
- ✓ **Reimbursement of costs as the main funding method.**

## What would be *NEW*

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- ✓ **Specific provisions for new forms of funding targeting innovation:** like pre-commercial procurement, procurement of innovative solutions and inducement prizes.
- ✓ **Financial instruments:** a debt financial instrument, a financial instrument providing equity finance for R&I, etc.
- ✓ **Possibility of output-based grants (lump-sums per project).**
- ✓ **Enhanced use of other lump-sums, flat rates and scales of unit**



# Ethics - Example: Research on human embryonic stem cells

- Ethics is a key element in funding public research and innovation.
- Fully in line with the approach of EP and Council upon their adoption of FP7, which included a statement by the Commission.
- Horizon 2020 principles:
  - No projects will be funded that intend to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer.
  - Research on human stem cells, both adult and embryonic, may be financed, but this depends on the contents of the scientific proposal and the legal framework of the Member States involved. No project involving the use of human embryonic stem cells should be funded that does not obtain the necessary approvals from the Member States.
  - No activity should be funded in a Member State where such activity is forbidden.

# Widening participation

## by unlocking R&I potential of cohesion countries

- **Principle of excellence:** continue 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.

# Next steps

- From 30/11:** Parliament and Council negotiations on the basis of the Commission proposals
- Ongoing:** Parliament and Council negotiations on EU budget 2014-20 (MFF including overall budget for Horizon 2020)
- Mid 2012:** Final calls under the 7th Research FP to bridge gap towards Horizon2020
- By end 2013:** Adoption of legislative acts by Parliament and Council on Horizon 2020
- 1/1/2014:** **Horizon 2020 starts; launch of first calls**

# Thank you for your attention!

Find out more:

[www.ec.europa.eu/research/horizon2020](http://www.ec.europa.eu/research/horizon2020)