



European Commission

Health Opportunities

for Korea-EU cooperation



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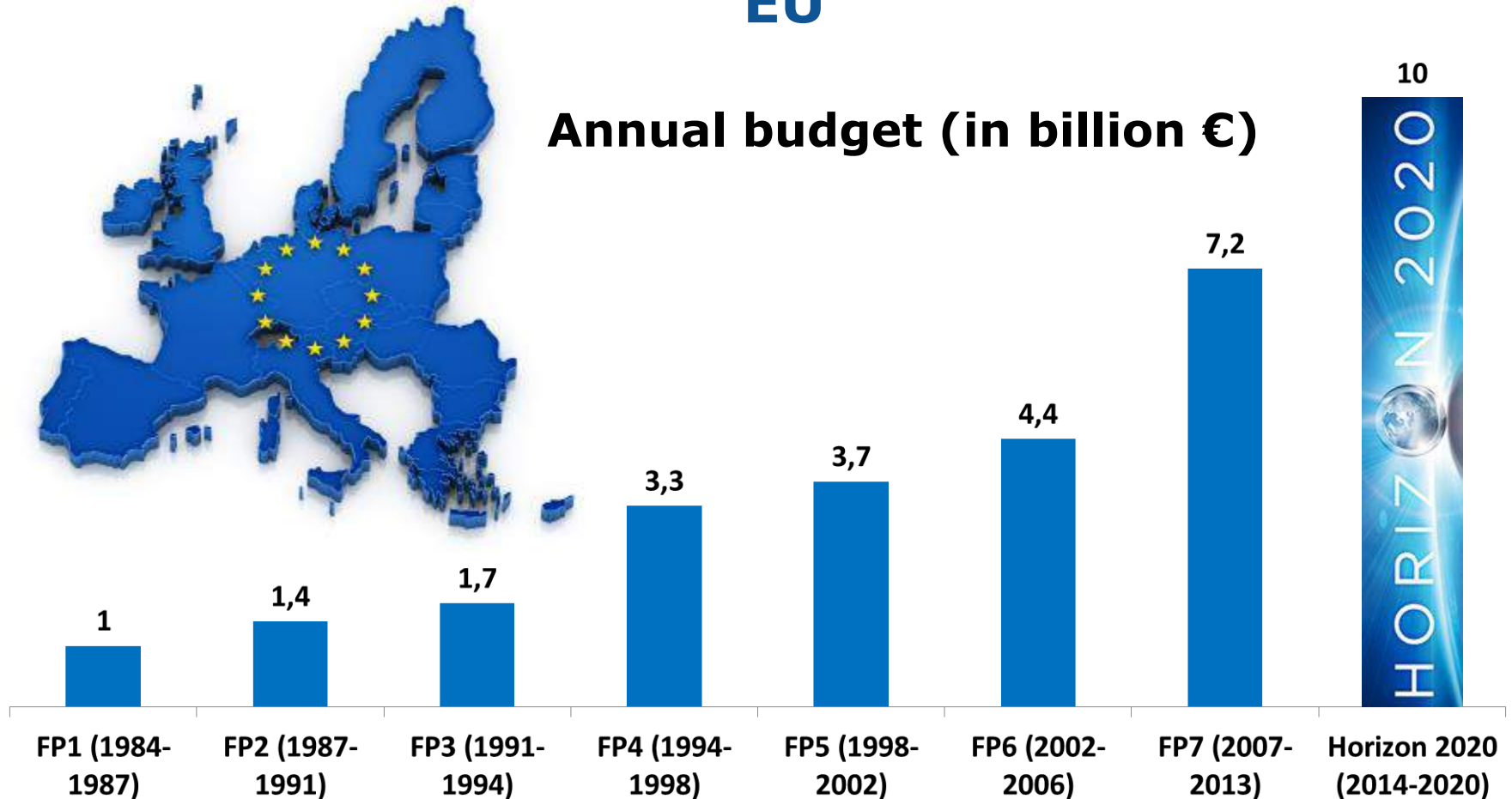


EU & Horizon2020

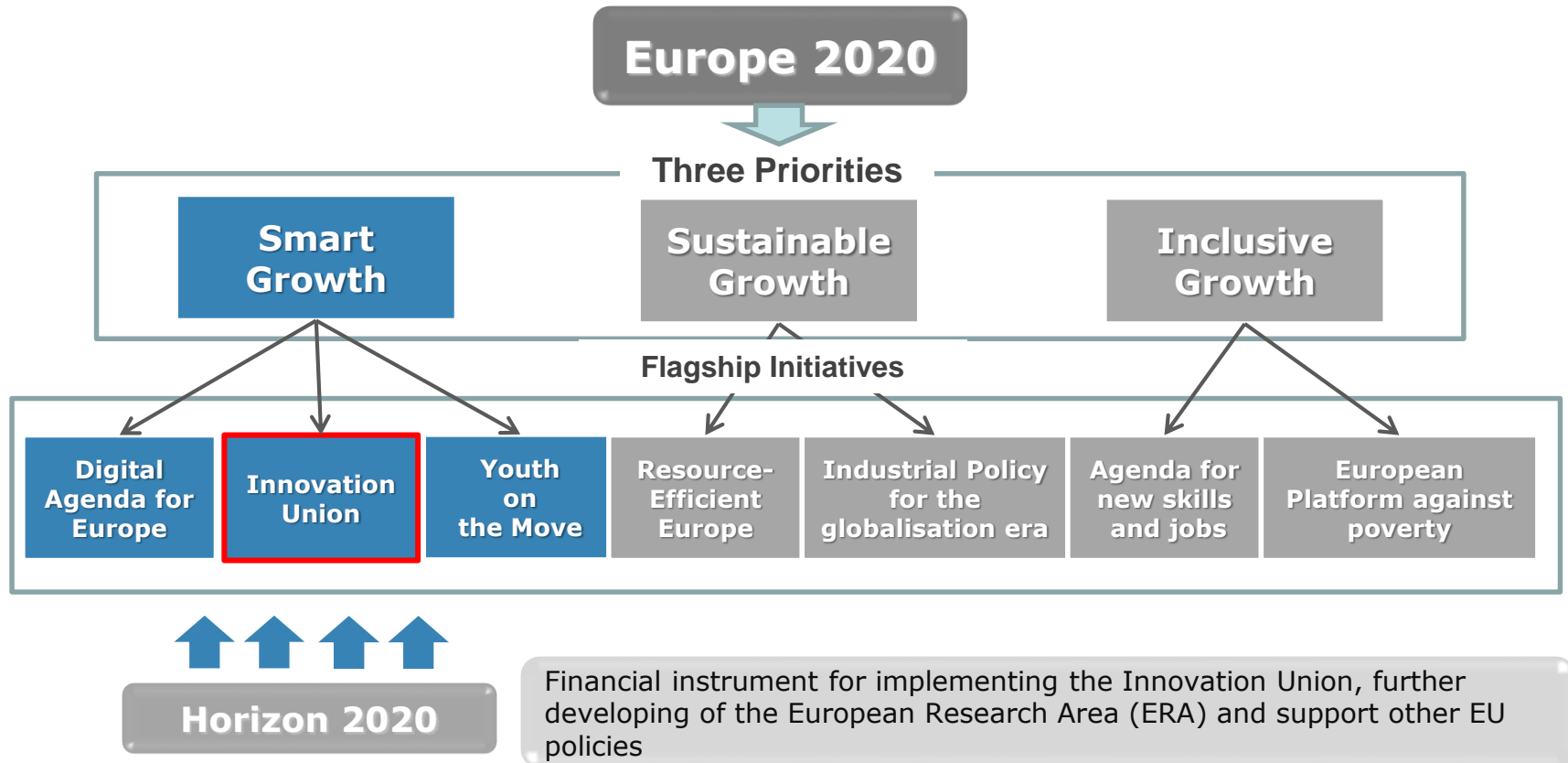
European Union

- **Member States:** 28 countries
- **Type:** Politico-economic union
- **Population:** 500 million (7.3% of the world population)
- **Common Currency:** Euro (19 countries)
- **Operation system:** supranational institutions and intergovernmental-negotiated decisions by the member states
- **Leaders:** President of the European Commission, Mr Jean-Claude Juncker
President of the European Council, Mr Donald Tusk
- **Legislature:** Council and the EU Parliament
- **GDP/Per capita**(2015, estimate): \$19.035 trillion (1st)/\$37,607 (19th)
- **Diplomatic Mission** throughout the world: United Nations, the WTO, the G8, and the G-20

Research and innovation is a growing priority for EU

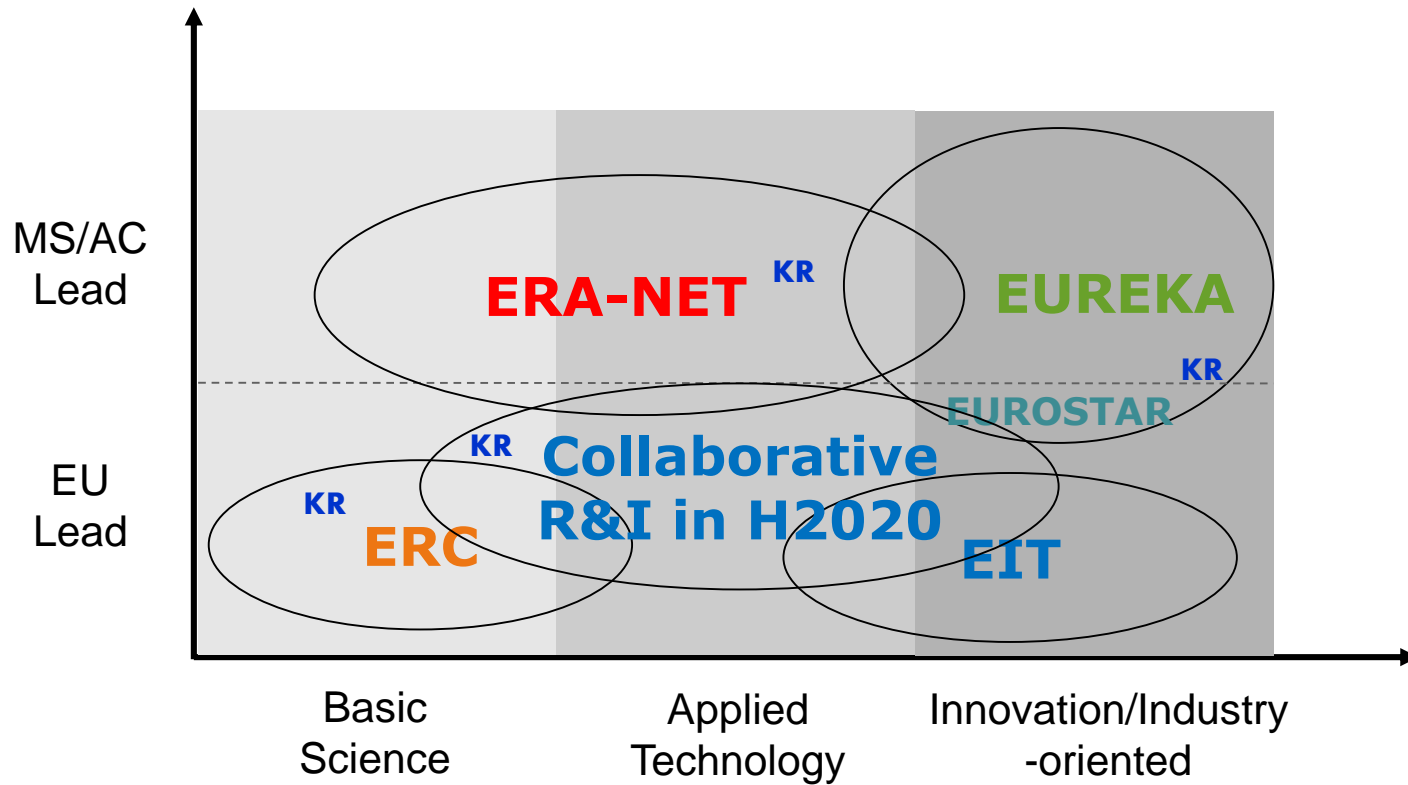


Europe 2020



See http://ec.europa.eu/europe2020/index_en.htm

Major Programmes led by EU or MS/AC



Priorities of current EU Commission



Jobs, Growth and Investment



Digital Single Market



Energy Union and Climate

Internal Market

Economic and Monetary Union

EU-US Free Trade

Justice and Fundamental
Rights

Migration

EU as a Global Actor

Democratic Change



Horizon 2020: New opportunities For Health

What is Horizon 2020?

- ✓ The biggest Research- and Innovation-funding programme ever: nearly **€ 80 billion / 7 years** (2014-20)
 - The only part of the EU budget to increase (30% more than 2007-13)
- ✓ The most **open programme** in the World!
 - International cooperation at its core
- ✓ **'From lab to market'**
 - Basic and applied research, technology development and integration, testing and validation, demonstration and piloting
 - Innovation-driven Public-Private Partnerships
 - SME measures: collaborative projects, new SME instrument, Eurostars etc.
 - Access to finance: debt and equity instruments
- ✓ **'Challenge-based'** ≠ 'discipline-based'
- ✓ **Simple**: faster, less red tape



Three Main Priorities

€24 billion

Excellent Science

- European Research Council (€13,095mil)
- Future and Emerging Technologies (€2,696mil)
- Marie Skłodowska-Curie actions (€6,162mil)
- Research infrastructures (€2,488mil)

€29 billion

Societal Challenges

- Health, demographic change and wellbeing (€7,472mil)
- Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy (€3,851mil)
- Secure, clean and efficient energy (€5,931mil)
- Smart, green and integrated transport (€6,339mil)
- Climate action, environment, resource efficiency and raw material (€3,081mil)
- Inclusive, innovative and reflective societies (€1,310mil)
- Secure societies (€1,695mil)
- Science with and for society (€462mil)
- Spreading excellence and widening participation (€816mil)

Industrial Leadership

- Leadership in enabling and industrial technologies (€13,577mil)
- Access to risk finance (€2,842mil)
- Innovation in SMEs (€616mil + complemented by 20% of budget of 'Societal challenges' and 'Access to risk finance' with strong SME focus)
- European Institute of Innovation and Technology (EIT)
- Joint Research Centre (JRC)

€17 billion



European Commission

Where is health research in Horizon 2020?



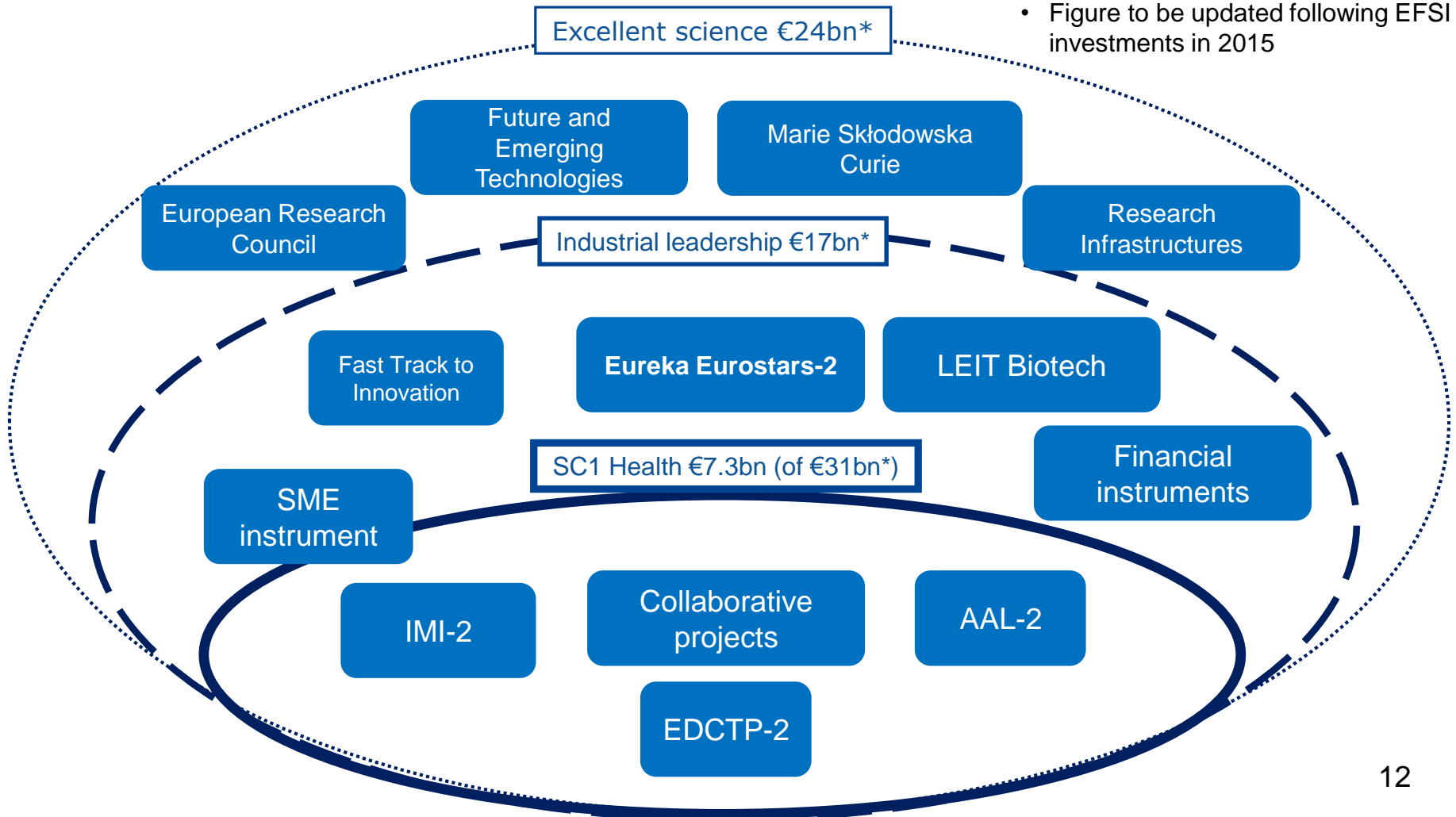
Everywhere



It depends what type of research you want to perform, who you are, and with who you want to work with

Health Research in H2020

- Figure to be updated following EFSI investments in 2015





Multi-lateral health research activities



www.irdirc.org/



<http://intbir.nih.gov/>



<http://ihec-epigenomes.org/>



www.gacd.org/



International
Cancer Genome
Consortium

<https://icgc.org/>



Global Research Collaboration for Infectious Disease Preparedness

<http://www.glopid-r.org/>



Global Genomic
Medicine Collaborative

http://www.iom.edu/Activities/Research/GenomicBasedResearch/Innovation-Collaboratives/Global_Genomic_Medicine_Collaborative.aspx

Research and
Innovation

Opening to Third countries of European initiatives such as...

➤ Joint Programming Initiative on Antimicrobial Resistance

- Canada
- Argentina (Observer)

More @ <http://www.jpiamr.eu/>



➤ Joint Programming on Neurodegenerative Diseases

- Canada

● **More @**

<http://www.neurodegenerationresearch.eu/>





THE INNOVATIVE MEDICINES INITIATIVE

The Innovative Medicines Initiative (IMI) is Europe's largest public-private initiative aiming to speed up the development of better and safer medicines for patients.

IMI supports collaborative research projects and builds networks of industrial and academic experts in order to boost pharmaceutical innovation in Europe.

IMI is a joint undertaking between the European Union and the pharmaceutical industry association EFPIA.

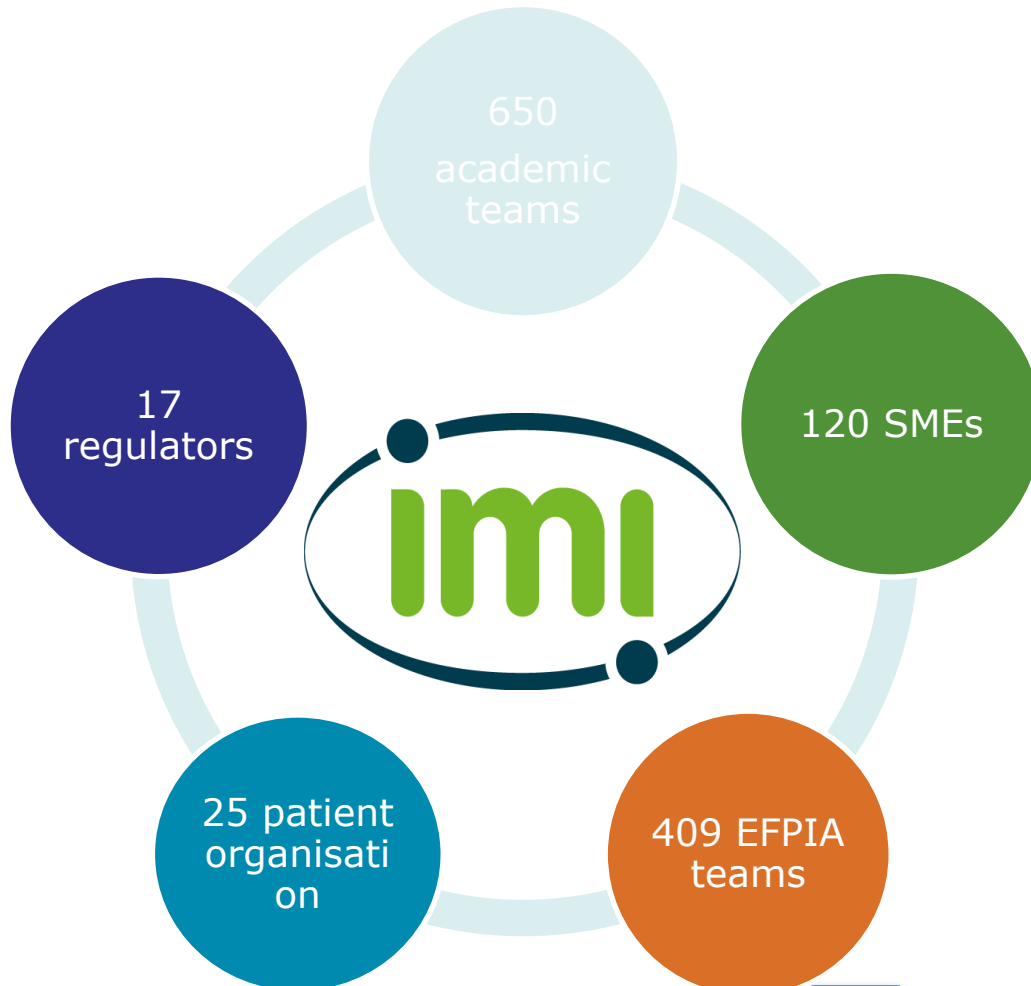


IMI 2: ~€3.2 billion
EC: €1.6b+ EFPIA €1.4b + other
(€0.2b)

IMI2:

- Covers the entire medical research and innovation value chain
- Strategic Research Agenda is based on the WHO Priority Medicine Report renewed in July 2013
- Involves pharmaceutical industries as well as others (diagnostics, imaging, animal health, ICT, ...)
- Supports World class research and innovation leading to breakthrough vaccines, medicines and treatments

An international, cross-sector community




Over 6 000 researchers working for:

- collective intelligence networks
- improved R&D productivity
- innovative approaches to unmet medical needs

IMI Strategic Research Agenda

- Antimicrobial resistance
- Osteoarthritis
- Cardiovascular diseases
- Diabetes
- Neurodegenerative diseases
- Psychiatric diseases
- Respiratory diseases
- Immune-mediated diseases
- Ageing-associated diseases
- Cancer
- Rare/Orphan Diseases
- Vaccines


More @ <http://www.imi.europa.eu/>



The right prevention and treatment
for the right patient at the right time

Strategic Research Agenda for
Innovative Medicines Initiative 2

**Aligned with
WHO priorities**



efpiA
European Federation of Pharmaceutical
Industries and Associations

Vaccines Europe
An industry for healthy lives

ebe
European
Association of
Biopharmaceutical
Entrepreneurs

imi
Innovative Medicines Initiative

But Not Only About Money!

- ✓ **Value of EU programmes much more than cash value!**
- ✓ **Deep relationships, collaboration – goes on even after the grant period!**
- ✓ **Working with the best brains – in the EU and internationally**
- ✓ **EU-based international companies (including Korean) have understood!**
- ✓ **Key role for industry – Public Private Partnerships**



Horizon 2020: Call for Proposals in Health

Main research priorities for 2016-2017



- **Personalised medicine**
 - **Promoting healthy ageing**



- **Human bio-monitoring**
 - **Health ICT**



- **Infectious Diseases**
 - **Maternal and child health**



H2020: Collaborative research



Challenge-driven

Broad, less 'prescriptive', topics

Two-year work programme

Stronger focus on end-users

The SC1 Work Programme 2016-17 in brief

Call 'Personalised Medicine'

21 topics (34 in 2014-2015): 10 in 2016, 10 in 2017, 1 open in 2016 & 2017

including 'co-ordination activities'

15 topics (17 in 2014-2015): 12 in 2016, 3 in 2017

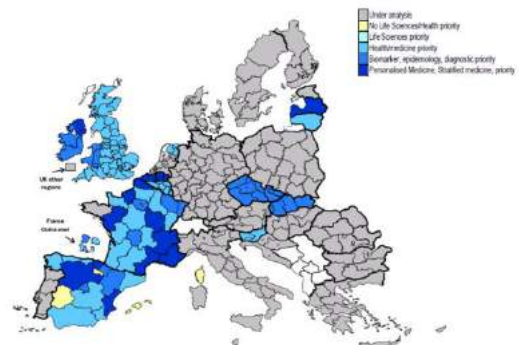
- **SME Instrument : 2 Topics**
- **Other Actions: 12 items**
(incl. InnovFin ID & "Birth Day Prize")
- **Focus Area Digital Security: 1 Topic**
- **Focus Area Internet of Things: 1 Topic**

**€ 935
million**



1. Developing personalised medicines at EU level

- **Strategic planning &**
- **coordination of national initiatives**



A large number of research and innovation topics, and coordination topics in the SC1 Work Programme 16-17

European Personalised Medicine Consortium



Innovative Medicines Initiative

2. European human bio-monitoring initiative

- **Strategic planning &**
- **coordination of national initiatives**



Preventing diseases

- SC1-PM-05–2016: The European Human Biomonitoring Initiative



- To create a European joint programme for monitoring and scientific assessment of human exposures to chemicals and potential health impacts in Europe
- Coordinating HBM initiatives in Europe at national and EU level and spreading of best practice and capacity building
- Implementation through a Joint Programme Co-Fund

3. Infectious diseases



- **Collaborative research** - HIV/AIDS, Malaria and Tuberculosis; Neglected Infectious Diseases (NID); Emerging Epidemics; Antimicrobial drug resistance (AMR)
- **New financial instruments** - InnovFin Infectious Diseases– joint initiative between EC-EIB
- **Inducement prizes** - Horizon 2020 prize for better use of antibiotics
- **Global initiatives** - Global Research Collaboration for Infectious Disease Preparedness (GLOPID- R) ; Global Tuberculosis Vaccine Initiative (GTBVP)
- **Public-private partnerships** - IMI2
- **Public-public partnerships** - EDCTP2
- **Joint Programme on AMR** – JPI AMR - ERA-INFECT

4. Maternal and child health



- Approximately 300,000 women still died from preventable causes related to pregnancy and childbirth in 2013
- Maternal and perinatal conditions are the seventh contributors to the global burden of disease

Other Actions – 8: Horizon Prize on reducing maternal and new-born morbidity and mortality - the Birth Day Prize

- The prize calls for a novel solution to improve the outcome of facility-based deliveries (of a clinical, technological or managerial nature, or a combination of these). It must take relevant social factors into account and have the potential of scaling up rapidly
- Prize developed by European Commission and Bill & Melinda Gates Foundation
- More details, and prize launch at international-conference on 8 December

5. Promoting healthy ageing



6. Health ICT



A large number of research and innovation topics, and coordination topics in the SC1 Work Programme 2016 - 2017

Calendar for Horizon 2020 Work Programme 2016-2017

- **18 September 2015:** SC1 Info Day – Brussels
videos and presentations available @
http://ec.europa.eu/research/health/index_en.html
- **13 October 2015:** adoption of WP 2016-2017 by the Commission
- **14 October 2015:** publication of WP 2016-2017
- **Call 2016 deadlines** (depending on topics)
: 19 January 2016 – 16 February 2016 and 13 April 2016

* Work Programme 2016-2017: Biotechnology

● Priority Area

1. Biotechnology-based industrial processes driving competitiveness and sustainability
2. Cutting-edge biotechnologies as future innovation driver
3. Innovative and competitive platform technologies

Aims of Fostering Biotechnology

- **Biotechnology-based industrial processes driving competitiveness and sustainability**
 - To bridge the gap from lab to market: new approaches to valorising new feedstock resources, e.g. renewables, waste, by-products, and increasing overall bioprocess efficiencies by pushing existing technology concepts beyond current boundaries
 - To speed up innovation, the development of new bioprocess concepts, improved data integration and valorisation and new production techniques
- **Cutting-edge biotechnologies as future innovation driver + Innovative and competitive platform technologies**
 - To contribute further to sectors such as health, chemicals and agriculture by developing new technological platforms related to biocatalysis and bio-design
 - To facilitate cross-sectoral transfer of know-how and exploiting relevant synergies, e.g. regarding process technologies or advanced materials

Positioning of Activities in Biotechnology

Focus on technology development (incl. synergies) and demonstration

- Most parts focus on a TRL level ranging between 3 and 5
- Also demonstration activities, feasibility studies, life-cycle assessments and other elements are considered essential for proving the viability of the proposed solutions and beneficial to strengthen closer collaboration between academia and industry to speed-up innovation
- Complement and contribute to applications under the Societal Challenges and the Bio-Based Industry JTI



Horizon 2020: Simple to participate

Keeping it Simple!

✓ **Simplified Structure and Funding Rules**

- Architecture: Integration of FP7, CIP, EIT in one single programme
- Fewer legal acts: before 12 legal acts, now one!
- Coherent set of rules applicable to all actions
- Common toolkit of funding schemes

✓ **Simplified Control and Risk Strategies**

- Extension of the guarantee fund to all actions under H2020
- Reduction of ex-ante checks
- Ex-post audit strategy: reduced audit burden; focus on risk-based audits and fraud detection; expectation: max. 7% audited

✓ **Simplified implementation**

- Single IT platform for all EU research and innovation funding
- All electronic /No paper! **All in Participant Portal!**
- Overhaul of practical processes and requirements for proposal submission, negotiation, reporting etc. Simplified guidance documents, support services

General Opening

Fully open to participation from across the world!!

✓ **Automatically eligible for funding**

- Member States, Associated Countries, int'l European interest org.
- Exhaustive list of 'developing countries' identified in annex to the work programme

✓ **Not automatically eligible for funding**

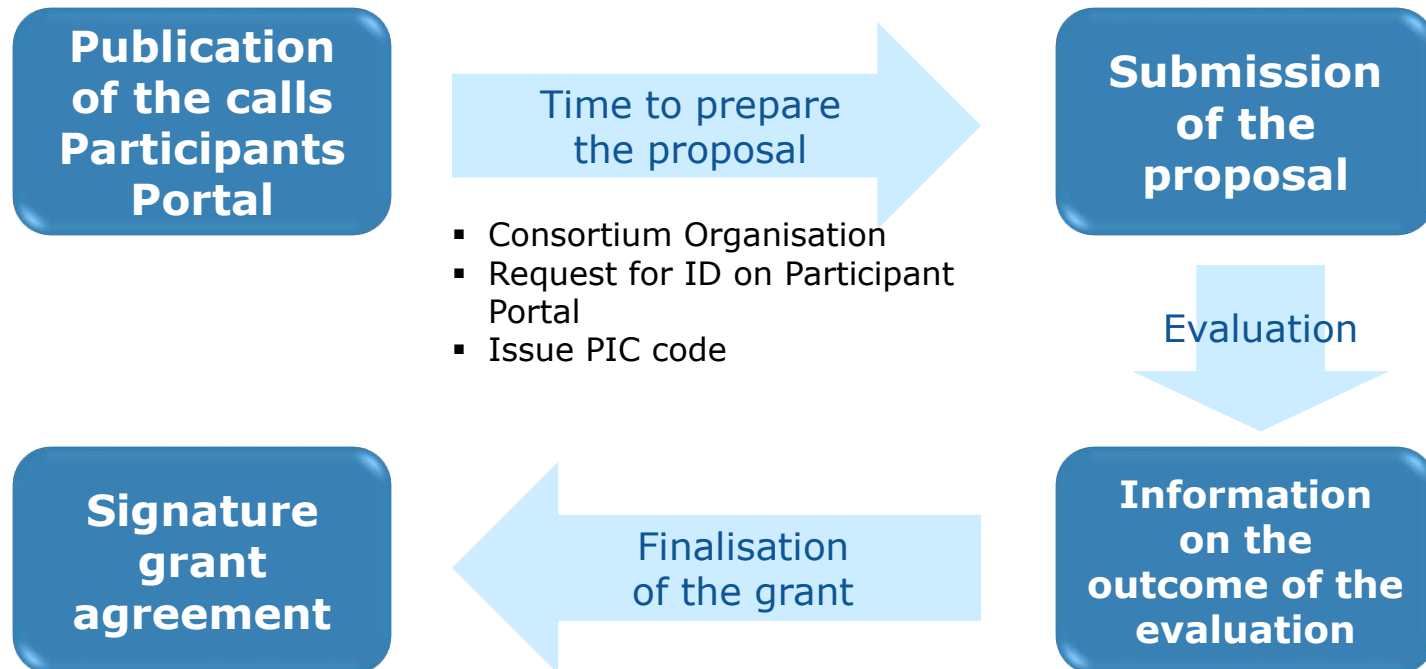
- 'Industrialised countries and emerging economies' – including Korea, BRIC-M, US etc.

** Matching funds provided by Korean government to Korean participants*

✓ **but may be granted funding when:**

- Provision is made in the work programme; or
- Provision in bilateral S&T agreement; or
- The Commission deems participation essential for carrying out the action (project case-by-case assessment)

The Process: from Call to Grant Agreement



<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/index.html>

Evaluation of Proposals

STANDARD AWARD CRITERIA

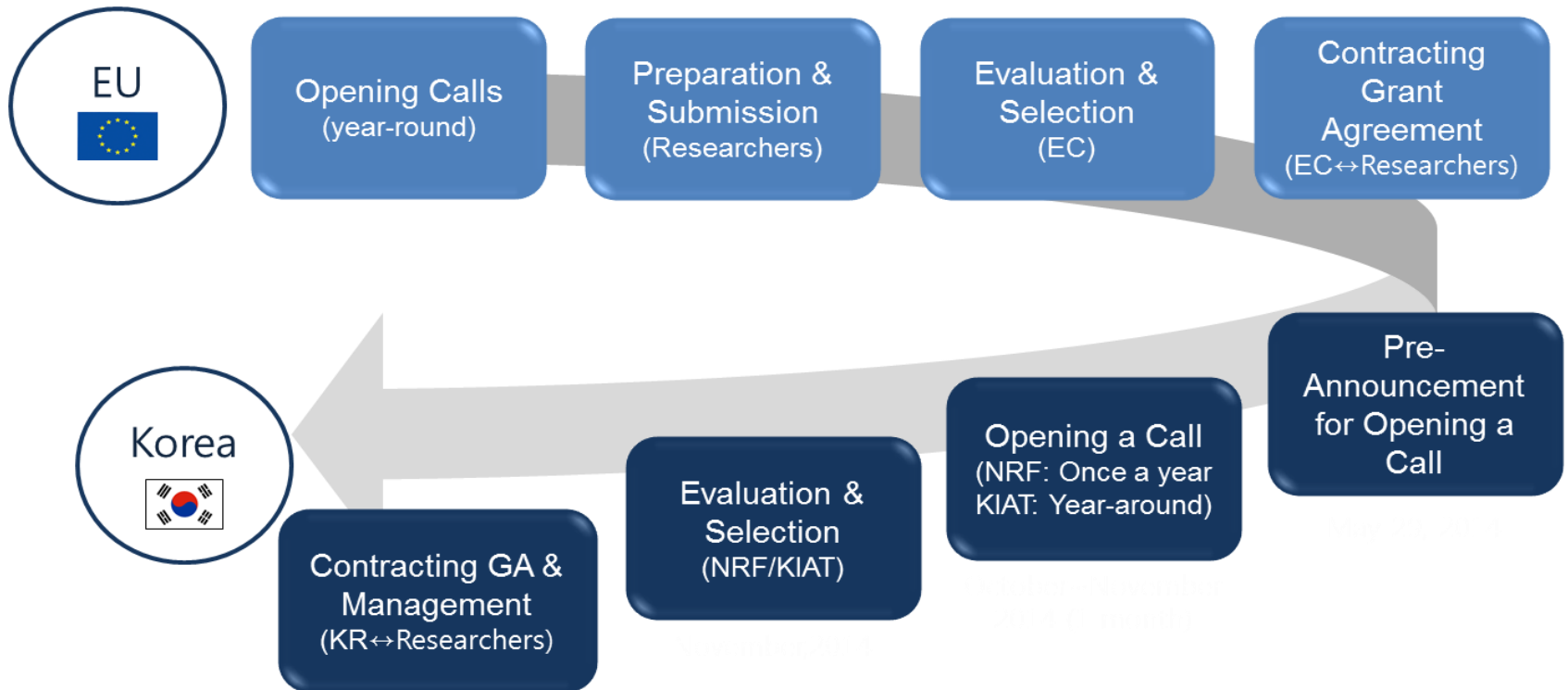
EXCELLENCE

IMPACT

QUALITY &
EFFICIENCY
OF THE ACTION

- Relative evaluation : Top projects within budget
- Score of each criteria : 0–5
- Threshold per criteria : 3
- Total Score: 15
- Threshold for total score : 10

The Process for matching fund by KR

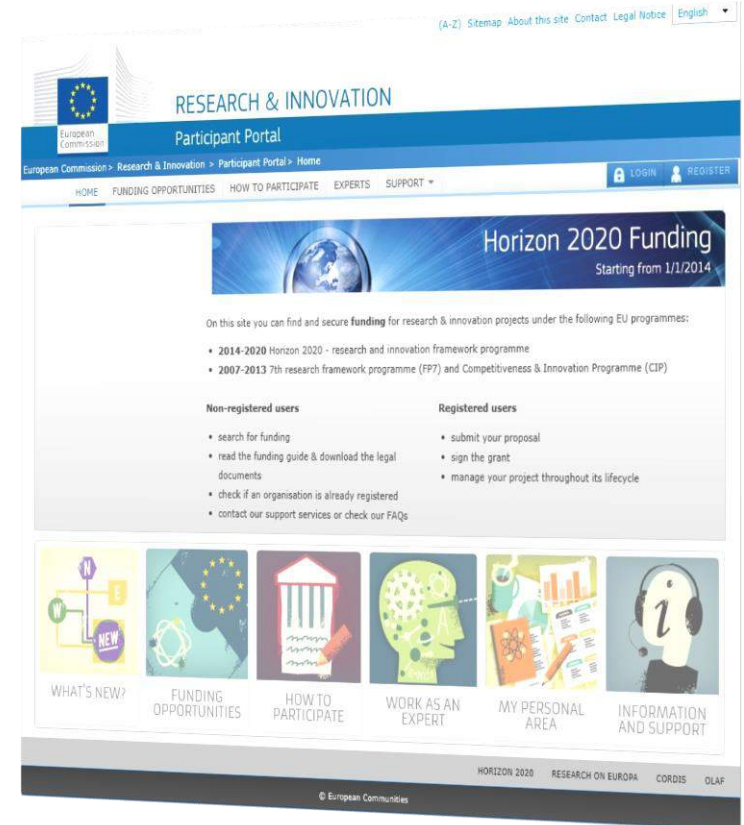


Where to find more information?

- ✓ **Horizon 2020 Participant Portal**
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

<http://ec.europa.eu/research/participants/portal/desktop/en/funding/index.html>

- ✓ **Partner Search**
<https://cordis.europa.eu/partners/web/guest/home>



The screenshot shows the 'RESEARCH & INNOVATION Participant Portal' website. The header includes the European Commission logo and navigation links like 'HOME', 'FUNDING OPPORTUNITIES', 'HOW TO PARTICIPATE', 'EXPERTS', and 'SUPPORT'. A main banner for 'Horizon 2020 Funding' is visible, along with a list of EU programmes and user guides for both non-registered and registered users. At the bottom, there are icons for 'WHAT'S NEW?', 'FUNDING OPPORTUNITIES', 'HOW TO PARTICIPATE', 'WORK AS AN EXPERT', 'MY PERSONAL AREA', and 'INFORMATION AND SUPPORT'. The footer contains the text '© European Communities'.



HORIZON 2020

**Thank you
for your attention!**

Find out more:
www.ec.europa.eu/horizon2020