



Horizon 2020 'Health, demographic change and wellbeing'



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Open Info Day -Horizon 2020
'Health, demographic change and wellbeing'
Brussels, 22 Nov 2013

Disclaimer

Pending formal adoption by the EU of the Horizon 2020 legal texts, the content of these slides is not definitive and so should not be taken as such, nor used or referred to as such in any way or for any purpose

Horizon 2020 - what's new?

- **A single programme** bringing together three separate programmes/initiatives*
- **Coupling research to innovation** – from research to retail, all forms of innovation
- **Focus on societal challenges** facing European society e.g. health and ageing, 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)

Building on experience

FP7 'Health' – the largest multi-national fund...

- ...for collaborative research, global consortia, and public-private co-operation
- ...to fund excellent applied health and ageing research and innovation
- ...to bring together leading players from Europe and across the globe
- ...to tackle key European and global health challenges



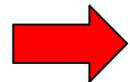
The challenges



- **Ageing population**
- **Increased disease burden**
- **Unsustainable and unequal health & care systems**
- **Health & care sector under pressure to reform**

Recap: the 'Health, demographic change and wellbeing' challenge

Proposed funding 2014-2020 (million EUR)



Health, demographic change and wellbeing	7 472
Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy	3 851
Secure, clean and efficient energy *	5 931
Smart, green and integrated transport	6 339
Climate action, environment, resource efficiency and	3 081

Strategic Initiatives



Innovative Medicines Initiative 2
www.imi.europa.eu



**European Innovation Partnership
on Active and Healthy Ageing**
<https://webgate.ec.europa.eu/eipaha>



Active and Assisted Living 2
www.aal-europe.eu



**European & Developing Countries
Clinical Trials Partnership (EDCTP2)**
www.edctp.org

The Work Programme 2014/15 in brief

Call 'personalising health and care'

34 topics (15 in 2014, 17 in 2015, 2 open in both years)

Call for 'co-ordination activities'

16 topics (11 in 2014, 5 in 2015)

€ 1,21
billion

A new approach



Challenge-driven

Broad topics

Less prescriptive topic texts

Two-year work programme

Stronger focus on end users

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Personalising Health and Care

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7 Areas

Understanding health, ageing & disease

Effective health promotion, disease prevention, preparedness and screening

Improving diagnosis

Innovative treatments and technologies

Advancing active and healthy ageing

Integrated, sustainable, citizen-centred care

Improving health information, data exploitation and providing an evidence base for health policies and regulation

Understanding the call topics: example

PHC 2 – 2015: Understanding diseases: systems medicine

Specific challenge: The development of new improved understanding of the often very complex (bio) medicine approaches have the potential to transform a variety of biological and medical research data. A collaborative approach is required to assemble the biology, medicine, mathematics, computational and systems medicine approaches.

Scope: Proposals should focus on new avenues for identifying phenotypes in multifactorial diseases and/or development/optimisation and/or application of systems of biomedical and clinical data to produce or refine computational and mathematical approaches. They should be validated in well-phenotyped patient cohorts, taking their potential thoroughly investigated.

The Commission considers that proposals requesting between EUR 4 and 6 million would allow this specific challenge. Nonetheless, this does not preclude submission of proposals for smaller amounts.

Expected impact: This will provide:

- Leverage of existing investments in Europe
- New directions for better disease detection and diagnosis
- Systems medicine tools and approaches that will be used in clinical practice which represent an improvement over existing approaches

Type of action: Research and Innovation action

'PHC 2 – 2015'

'Specific challenge'

'Scope'

'Expected impact'

'Type of action'

Unravelling health and disease

- **Determinants, risk factors and pathways of diseases (2014)**

Determinants and pathways of healthy and active ageing (2014)

- **Systems medicine approaches (2015)**
- **Common mechanisms of diseases and potential co-morbidities (2015)**

From "omics" ... to prevention

- **Inter-sector cooperation for environment- and health-based interventions (2015)**
- **Translating -omics into prevention and health promotion (2014)**
- **Evaluating existing screening and prevention programmes (2014)**
- **Control of infectious epidemics through rapid pathogen identification (2014)**
- **Vaccine platforms for TB (2014) and HIV (2015)**

In biomarkers we trust ... and in novel diagnostic tools

- **In vitro devices, assays and platforms (2014)**
- **In vivo medical imaging technologies (2015)**
- **Clinical validation of biomarkers (2014, 2015)**
- **SME focus**

Finding the cure ... and evaluating existing treatments

- **Therapies for non-communicable diseases (2014)
and rare diseases (2015)**
- **Tools and technologies for advanced therapies
(2015)**
- **Clinical research on regenerative medicine (2014)**
- **Comparing and establishing effectiveness of
health interventions in the elderly (2014) and
children (2015)**

Adding more life to our years

- **Service robotics within assisted living environments (2014)**
- **Pilot projects on independent living with cognitive impairments (2014)**
- **Early risk detection and intervention (2015)**
- **Promoting mental wellbeing in the ageing population (2015)**

**Integrated, sustainable,
citizen-centred care**

The citizen in the centre

- **New models for prevention oriented health and care systems (2014)**
- **Piloting personalised medicine in health and care systems (2015)**
- **Self-management of health and disease:**
 - citizen engagement and mHealth for disease management (2014),
 - patient empowerment supported by ICT (2015)
 - based on predictive computer modelling (2015)

**Integrated, sustainable,
citizen-centred care**

The citizen in the centre (2)

- **Public procurement of innovative eHealth services (2015)**
- **ICT systems for integrated care (2015)**
- **eHealth sectorial inducement prize (2015)**

**Improving health information,
data exploitation and providing an
evidence base for health policies
and regulation**

Big Data for research

- **Digital representation of health data to improve diagnosis and treatment (2015)**
- **Foresight for health policy development and regulation (2014)**
- **Advancing bioinformatics for clinical needs (2014)**
- **Improve predictive human safety testing (2015)**
- **eHealth interoperability (2014)**



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Support for European and International Initiatives

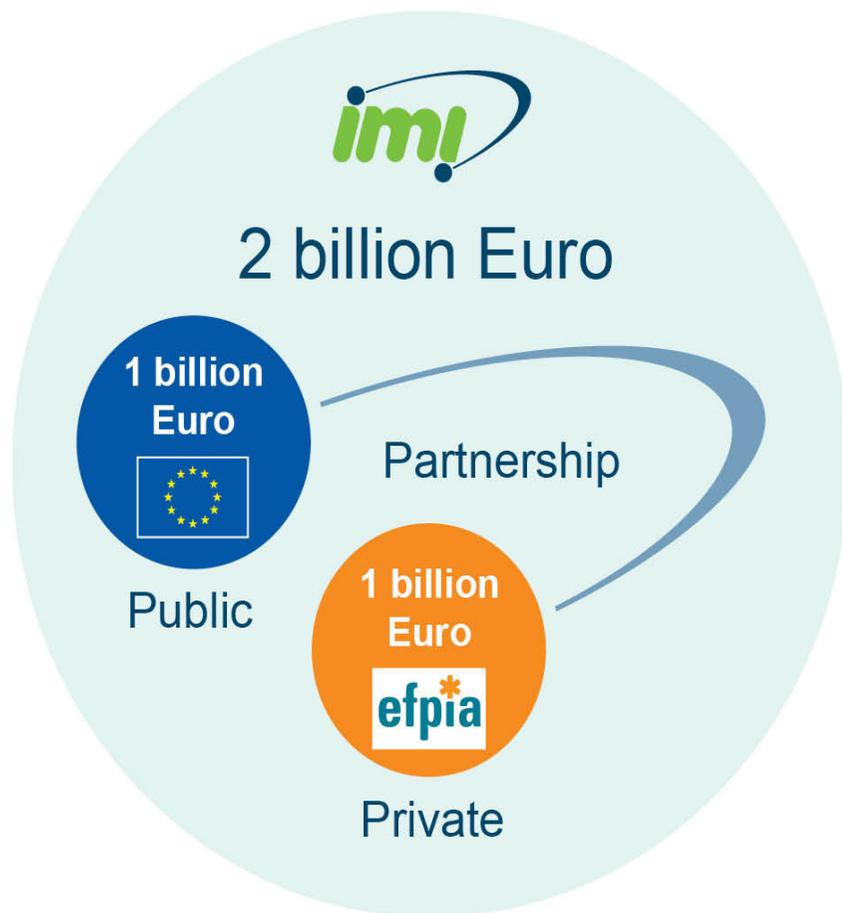
- **European Innovation Partnership on Active and Healthy Ageing**
- **Global Alliance for Chronic Diseases (GACD) – Diabetes (2014)**
- **Joint Programming Initiative 'More Years, Better Life's (2014)**
- **Joint Programming Initiative on neurodegenerative diseases (JPND, 2014)**
- **Global Research Collaboration for Infectious Disease Preparedness (2014)**
- **European Reference Networks (2015)**

Completing the European Research Area

- **Joint Programming Initiative on neurodegenerative diseases (JPND, 2014)**
- **Translational cancer research (2014)**
- **Systems medicine for clinical needs (2014)**
- **Rare diseases (2014)**
- **2015: Brain-related disorders, antimicrobial resistance, cardiovascular diseases**

Next steps

Adoption of work programme and publication of first calls for proposals	11 December 2013
Submission deadlines for your proposals	Two-stage: 11 March & 19 August All others: 15 April SME instrument: check Work Programme
Horizon 2020 national launch events	Until January 2014 <i>Full list: http://ec.europa.eu/research/horizon2020</i>
National info days	Please check with your national contact points <i>http://ec.europa.eu/research/participants/portal/page/nationalcontactpoint</i>



The biggest public/private partnership in Life Science aiming to:

- Make drug R&D processes in Europe more **innovative** and **efficient**
- Enhance Europe's **competitiveness**
- Address key **societal challenges**

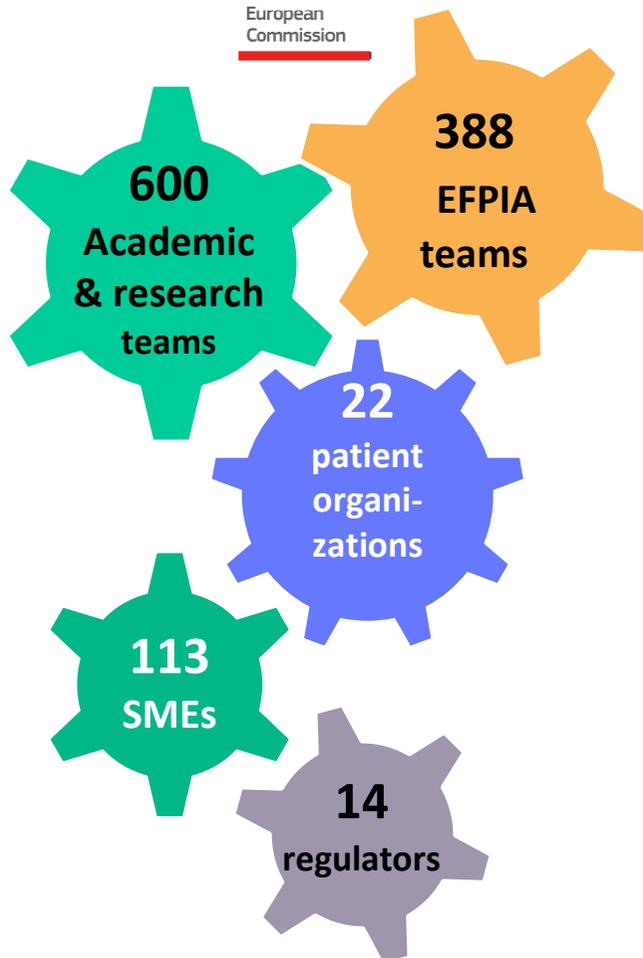
Features:

- 1:1 funding, joint decision making
- All EU funds go to SMEs, academia, patient organisations and regulatory agencies
- Large pharmaceutical industry, represented by EFPIA, contributes in-kind



European
Commission

42
PROJECTS
+
up to 15 more
from calls 8-11



€1.6 bn
COMMITTED

€2 bn
by end of 2013

Call 10 application deadline 28 January 2014, 17:00:00 Brussels time
Call 11 to be launched in December, indicative text on IMI website

Innovation

- ✓ **Faster development of diabetes drugs** through the first ever human pancreatic beta-cell line
- ✓ New models to **better predict drug toxicity**
- ✓ **New definition of severe asthma** which promises to unlock new therapies
- ✓ The world's largest database of schizophrenia studies to develop **targeted treatments**
- ✓ Unprecedented collaboration for **tackling antimicrobial resistance**

Research

- ✓ **483 scientific publications** - Average citation impact is twice the world average
- ✓ **19% rank in the top quartile** of journals in their specific research fields



In the Pipeline: IMI2

Commission proposal from 10 July, legislative process ongoing
Mission: create an even more powerful research and innovation machine
– with broader objectives and a wider range of activities and partners
Proposed budget from public and private partners: 3.45 Billion Euro
equally shared

Key objectives:

**Pave the way for the breakthrough
vaccines, medicines and treatments
which we will need in the near future**

**Enable top quality research and
innovations with great public health
benefits and commercial possibilities**



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**Thank you
for your attention!**

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

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Three priorities



Excellent science

Proposed funding
(million EUR, 2014-2020)*

<i>European Research Council (ERC)</i> Frontier research by the best individual teams	13 095
<i>Future and Emerging Technologies</i> Collaborative research to open new fields of innovation	2 696
<i>Marie Skłodowska-Curie actions (MSCA)</i> Opportunities for training and career development	6 162
<i>Research infrastructures (including e-infrastructure)</i> Ensuring access to world-class facilities	2 488

□ All funding figures in this presentation are subject to the pending Multiannual Financial Framework Regulation by the EP and the Council

Industrial leadership

Proposed funding
(million EUR, 2014-2020)*

<i>Leadership in enabling and industrial technologies (LEITs)</i> (ICT, nanotechnologies, materials, biotechnology, manufacturing, space)	13 557
<i>Access to risk finance</i> Leveraging private finance and venture capital for research and innovation	2 842
<i>Innovation in SMEs</i> Fostering all forms of innovation in all types of SMEs	616 + complemented by expected 20% of budget of societal challenges + LEITs and 'Access to risk finance' with strong SME focus

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Societal challenges

Proposed funding
(million EUR, 2014-2020)*

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Climate action, environment, resource efficiency and raw materials	3 081
Inclusive, innovative and reflective societies	1 310
Secure societies	1 695
<i>Science with and for society</i>	<i>462</i>
<i>Spreading excellence and widening participation</i>	<i>816</i>

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More opportunities for SMEs

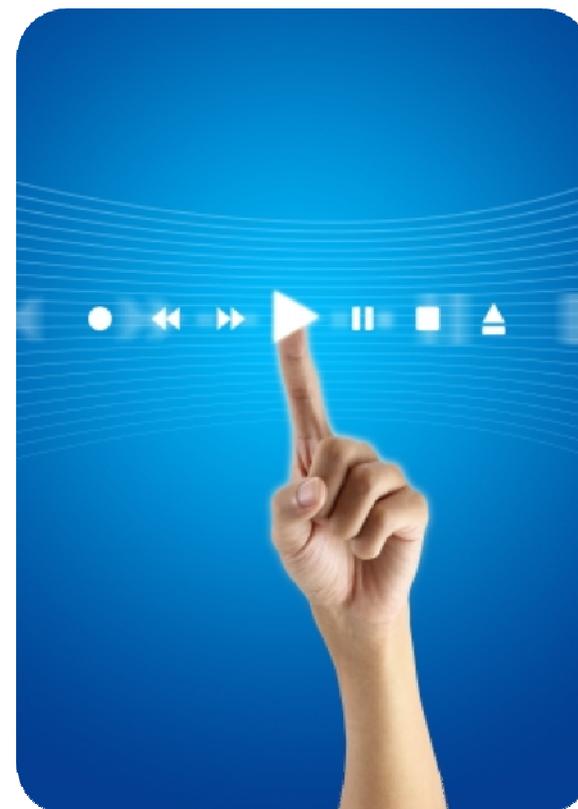


- **Integrated approach** - around 20% of the total budget for societal challenges and LEITs to go to SMEs
- **Simplification** of particular benefit to SMEs (e.g. single entry point)
- A **new SME instrument** will be used across all societal challenges as well as for the LEITs
- A dedicated activity for research-intensive SMEs in '**Innovation in SMEs**'
- '**Access to risk finance**' will have a strong SME focus (debt and equity facility)



Getting you started faster

- **Single set of** simpler and more coherent participation **rules**
- New **balance between trust & control**
- Just **two funding rates** for different beneficiaries and activities
- **Single flat rate** to calculate overhead or «indirect costs»
- **Forthcoming financial regulation** will make things simpler
- **time-to-grant of 8 months**
(exceptions for the ERC and in duly justified cases)





EU International Strategy for Research & Innovation

- Global Challenges
- International Science
- Innovation Opportunities

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International cooperation

- A priority
- Key goal: enhancing and focusing international cooperation in terms of areas and partners
- Horizon 2020 is open to participation from across the world
- Wanted: more involvement of international partners!
- Targeted actions across the entire programme
- Horizon 2020 Regulation and Rules for Participation apply



General opening

- Horizon 2020 is **open to participation from across the world**
- **Automatic funding:**
 - Member States (including overseas departments and overseas territories)
 - Associated Countries
 - exhaustive list of countries in annex to work programme (but: no longer BRIC + Mexico in this list!)
- Participants from other countries only funded in **exceptional cases:**
 - when provision is made in the call text
 - bilateral agreement (e.g. Health challenge – NIH)
 - when the Commission deems it essential (case by case assessment)



Proposal evaluation

Provisional

- Criteria & scoring – in the WP General Annex
- Proposal evaluation process involving at least 3 external experts per proposal – in Commission Guidelines

Award criteria: Research and Innovation Actions; Innovation Actions; SME instrument

Provisional

1. Excellence

- Ground-breaking nature (e.g. level of ambition, beyond the state-of-the-art, novel approach, addresses challenge, ...)
- Conceptually robust; trans-disciplinarity considered...

Award criteria: Research and Innovation Actions; Innovation Actions; SME instrument

Provisional

2. Impact [...] extent to which project outputs contribute to:

- The expected impacts listed in the work programme under the relevant topic;
- Enhancing innovation capacity and integration of new knowledge;
- Strengthening the competitiveness and growth of companies by developing innovations meeting the needs of European and global markets;
- Effectiveness of the proposed measures to communicate the project, disseminate and/or exploit the project results, and appropriate management of IPR.

Award criteria: Research and Innovation Actions; Innovation Actions; SME instrument

Provisional

3. Quality and efficiency of implementation

- Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources;
- Competences, experience and complementarity of the individual participants, as well as of the consortium as a whole;
- Appropriateness of the management structures and procedures, including risk management.

Scoring/weights/thresholds

Provisional

As in FP7 each criterion scored out of 5; thresholds will be applied for each criterion and the total score, different depending on the call and action

Unlike FP7, for Innovation Actions and SME instrument...

- impact criterion weighted by factor of 1.5
- Impact considered first when scores equal

Priority of proposals with equal total score

Provisional

For each group of tied proposals

First consider those that "fill gaps" in the WP

Of those, look at score for 'excellence', then at score for 'impact'

(reverse for Innovation actions & SME instrument)

If still equal, look at SME budget

If still equal look at gender balance in key personnel

If still equal, consider other factors (overall portfolio, wider H2020, EU objectives etc.)

Then repeat for those that don't "fill gaps"