Horizon 2020
New ways of funding research & innovation

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European Economic and Social Committee (CESE)
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FP7 Health Cooperation programme

Key figures

- €6.1 billion invested
- 1,050 projects
- 11,000 teams
- 3,500 organisations
- 130 countries

First outcomes (on 370 closed projects)

- 230 patent applications
- 34 spin-offs
- 12,500 publications
- 8 average publication IF
At the forefront

2003
EDCTP – 1st “Article 169 initiative”

2008
IMI1 – 1st “Article 171 initiative” in DG Research

2009
1st Joint Programming initiative - Alzheimer’s/NDD

2010
1st Innovation Partnerships on Active & Healthy Ageing (EIP AHA)

2010/11
Large-scale international research initiatives on epigenome, rare diseases, global alliance on chronic diseases...

2012
1st SME targeted initiative - “SMEs for Innovation” & 1st Innovation inducement prize

2014
1st use of emergency measures for research purposes - Ebola emergency call / GLoPID-R

2015
1st financial instrument for infectious diseases (IFID)
1st comprehensive strategy for personalised medicine
Biomedical Engineering

- Key sector for European competitiveness

- ~ 100 billion € market size (world market estimated to amount to $ 514 billion by 2020)

- 25,000 companies, thereof 90% SMEs

- 575,000 jobs

- Favourable European legislative framework
  - #1 sector in patent applications: 10,412 in 2012
  - Short Product lifecycle (≈ 18 months)
Biomedical Engineering projects in FP7 Health programme

- 137 projects
- 805 participants
- 652 million € in EC contribution
Biomedical Engineering: Technology examples

- Medical devices
- Surgical robotics
- Diagnostics
- Imaging
- Telemedicine/ICT-based systems
- Biomaterials/Tissue engng.
- Implants
- Drug delivery systems
What is Horizon 2020?

The EU’s 2014-20 programme for research & innovation

80 billion euros over 7 years

~ 8 billion euros for health research

- Responding to the economic crisis to invest in future jobs and growth
- Addressing people’s concerns about their livelihoods, safety and environment
- Strengthening the EU’s global position in research, innovation and technology
EU-level collaboration for innovative solutions

Collaborative research
Real-life solutions based on joint problem-solving

Public-private partnerships
Investing together for next generation medicines and treatments

Public partnerships
Harnessing global expertise to fight poverty-related diseases

Global co-operation
One world, one team working to solve common health challenges
Funding for Health/Biotech in H2020

Excellent science
- Future and Emerging Technologies
- Marie Skłodowska Curie

Industrial leadership
- Eureka Eurostars 2
- SME instrument
- LEIT Biotech
- Financial instruments

SC1 Health
- SC2 Bio-economy

Financial instruments
- IMI-2
- Collaborative projects
- AAL-2

Research Infrastructures
- Fast Track to Innovation
- European Research Council
- BBI
- EDCTP-2

LEIT Biotech
- Marie Skłodowska Curie

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European Commission
Health main challenges

- Ageing population
- Increased disease burden: chronic diseases
- Health & care sector unsustainable: under pressure to reform
- Health industry under pressure for innovative solution
State of art of the Health Societal Challenge

- Calls of 11 March and 15 April 2014:
  - 1681 proposal received
  - 0.58 billion euro
  - Projects started Nov/Dec. 2014
  - 18 Projects Biomedical Engineering projects funded so far

- Calls 2015 published end 2014

- Next workprogramme: 2016-2017 (under preparation)

### Biomedical Engineering Topics

<table>
<thead>
<tr>
<th>Topic</th>
<th>Funded projects</th>
<th>Allocated budget (€ million)</th>
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<td>PHC 10 – 2014: Development of new diagnostic tools and technologies: <em>in vitro</em> devices, assays and platforms</td>
<td>9</td>
<td>48.0</td>
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<tr>
<td>PHC 11 – 2015: Development of new diagnostic tools and technologies: <em>in vivo</em> medical imaging technologies</td>
<td>tbc</td>
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<td>PHC-16-2015: Tools and technologies for advanced therapies</td>
<td>tbc</td>
<td>36.0</td>
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<td>PHC-25-2015: Advanced ICT systems and services for integrated care</td>
<td>tbc</td>
<td>20.0</td>
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Development of new diagnostic tools and technologies: *in vitro* devices, assays and platforms: Project examples

- **DIACHEMO**
  Development of point-of-care device for quantification of drugs in small body fluids by highly selective nanoparticle extraction and liquid crystal detection incorporated in microfluidic lab-on-chip device allowing real-time drug monitoring

- **PoC-ID**
  Development of new micro- and nanoelectronic-based sensing and integration concepts for advanced miniaturised in vitro diagnostics. The platform technology can easily be adapted to a variety of diagnostic or biosensing purposes, such as in health/environmental monitoring or food quality testing
Horizon 2020: New SME instrument

Inspired by the US Small Business Innovation Research (SBIR)

Single company support possible

Target group: Innovative SMEs

Only EU SMEs allowed to apply for funding

Competitive, market-oriented, EU dimension

Health topic for 2014/15: PHC-12: Clinical validation of biomarkers and/or diagnostic medical devices

• Next cut-off date: 18/03/2015
SME instrument

**Phase 1: Concept & Feasibility Assessment**
- Feasibility of concept
- Risk assessment
- IP regime
- Partner search
- Design study

**Phase 2: Innovation & R&D activities**
- Clinical trials
- Development prototyping
- Miniaturisation
- Design
- Etc.

**Phase 3: Commercialisation**
- Facilitate access to private finance
- Support via networking, training, coaching, knowledge sharing, dissemination

**Financial Information**
- **€50,000**
  - 6 months
- **€1 to 5 million**
  - 12 to 36 months
  - 100% funding rate in SC1
- No direct funding

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**European Commission**
PHC 12 (2014-2015)– SME instrument
Phase 2 projects - domains covered

- Dental care
- Respiratory
- Heart disease - Myocardial Infarction
- Cancer (2 projects: cervical, colorectal)
- Diabetes
- Arthritis
- Infections - septic shock
- Infectious diseases (2 projects: TB, ID self-testing platform)
PHC-12 project examples

Phase 2:

- Validation of clinical performance and pre-commercial development of a novel diagnostic for dental caries assessment
- Development of a digital diagnostics rapid Lung Maturity Test (LMT) for premature infants, to assist neonatologists in the diagnosis of Respiratory Distress Syndrome at birth
- Validation of a point-of-care H-FABP test for a rapid exclusion of Acute Myocardial Infarction in patients with cardiac complaints.
- Moving to Efficient Diabetes care: Multimode Integrated CO-morbidity diagnostics platform
IMI – Europe’s partnership for health

> €5 bn

€2.5 bn

Partnership 2008 - 2024

€2.5 bn
IMI – key concepts

- Focus on unmet needs
- Non-competitive collaborative research
- Competitive calls for proposals
- Open collaboration in public-private consortia
  - Data sharing, dissemination of results…
- Industry contribution is mainly in kind
**IMI 2 priorities**

**Priority Themes**
1. Neuro-degeneration
2. Immuno-inflammation
3. Metabolic disorders
4. Infection control
5. Translational Safety

**Support Technologies**
1. Imaging
2. ICT
3. Medical devices....

**Enablers**

**Patient access to innovative solutions (MAPPs):**
- Target validation
- Stratified medicine, precision medicine
- Innovative trials
- Data generation and interpretation
- Prevention, disease interception
- Patient adherence
- Health disease management
- Regulatory framework
- Reimbursement/patient access

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Financial instruments

• **InnovFin Large Projects**
  Loans from €7.5 m to €300 m; delivered directly by EIB

• **InnovFin MidCap Growth Finance**
  Loans from €7.5 m to €25 m; delivered directly by EIB

• **InnovFin MidCap Guarantee**
  Guarantees to financial intermediaries (banks, etc.)
  Loans from €7.5 m to €25 m; implemented by EIB

• **InnovFin SME Guarantee**
  Guarantees / counter-guarantees to financial intermediaries
  Loans from €25,000 to €7.5 m; implemented by EIF

• **InnovFin Advisory**
  Improve 'bankability' of large projects
Fast Track to Innovation (FTI)

• **Pilot call:** €100 million in 2015; €100 million in 2016
  • *Expected impact:* Fast development, commercial take-up and/or wide deployment of sustainable innovative solutions
  • Time to initial market take-up no later than 3 years after the start of the project.
  • Fully bottom-up, close-to-market activities, 70% funding rate
  • Restricted to MS and AC, minimum 3, maximum 5 partners, maximum €3 m EU contribution per project
  • Eligibility: 60% of the overall project budget allocated to industry participants in the consortium or majority of industry participants
• **Next deadline:** 29 April 2015
Participant Portal – a one-stop shop

- Call topics
- Keyword search
- NCPs!
- Expert registration
- Documents
- FAQs
- Rules for participation
- Upload project reports
- Etc.

http://ec.europa.eu/research/participants/portal
Thank you!

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