



**The societal challenge
'Health, demographic
change and well-
being'**

**Work programme
2016-2017**

**Giorgio CLAROTTI
DG Research & Innovation
(RTD)**

Basic information on SC1



2. Health, demographic change and well-being in Horizon 2020

2016/ 2017 priorities

Research and innovation – a growing priority for the EU

"Horizon 2020 must deliver"



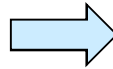
- You should perform EXCELLENT research and innovation
- Your project must have an IMPACT
- Show ADDED VALUE, be multidisciplinary and well-implemented

Reflected in the
evaluation
criteria

Horizon 2020 to support Commission priorities



- Jobs and growth
- Societal challenges
- European industrial leadership and competitiveness
- EU international excellence



- Couple research to innovation
- Provide evidence-base for addressing societal challenges, supporting EU policies and better regulation
- Strengthen research capacities and innovation strategies across all Member States
- Multidisciplinarity and synergies
- Address people's concerns

There are many ways to measure impact

Evidence based
policy making



Medicines for
children



Health
Technology
Assessment



ATMP

and many others...

Taking the lead
in new areas of
growth



Personalised
medicine

Responding to
emergencies



INFECTIOUS DISEASES

Ebola drug trials lurch ahead

Changing epidemiology and hints of success alter studies of experimental treatments

By Kai Kupferschmidt and Jon Cohen

Even the researchers whose trial of a po-

of the epidemic in September when more than 700 cases were reported in a single week in West Africa.

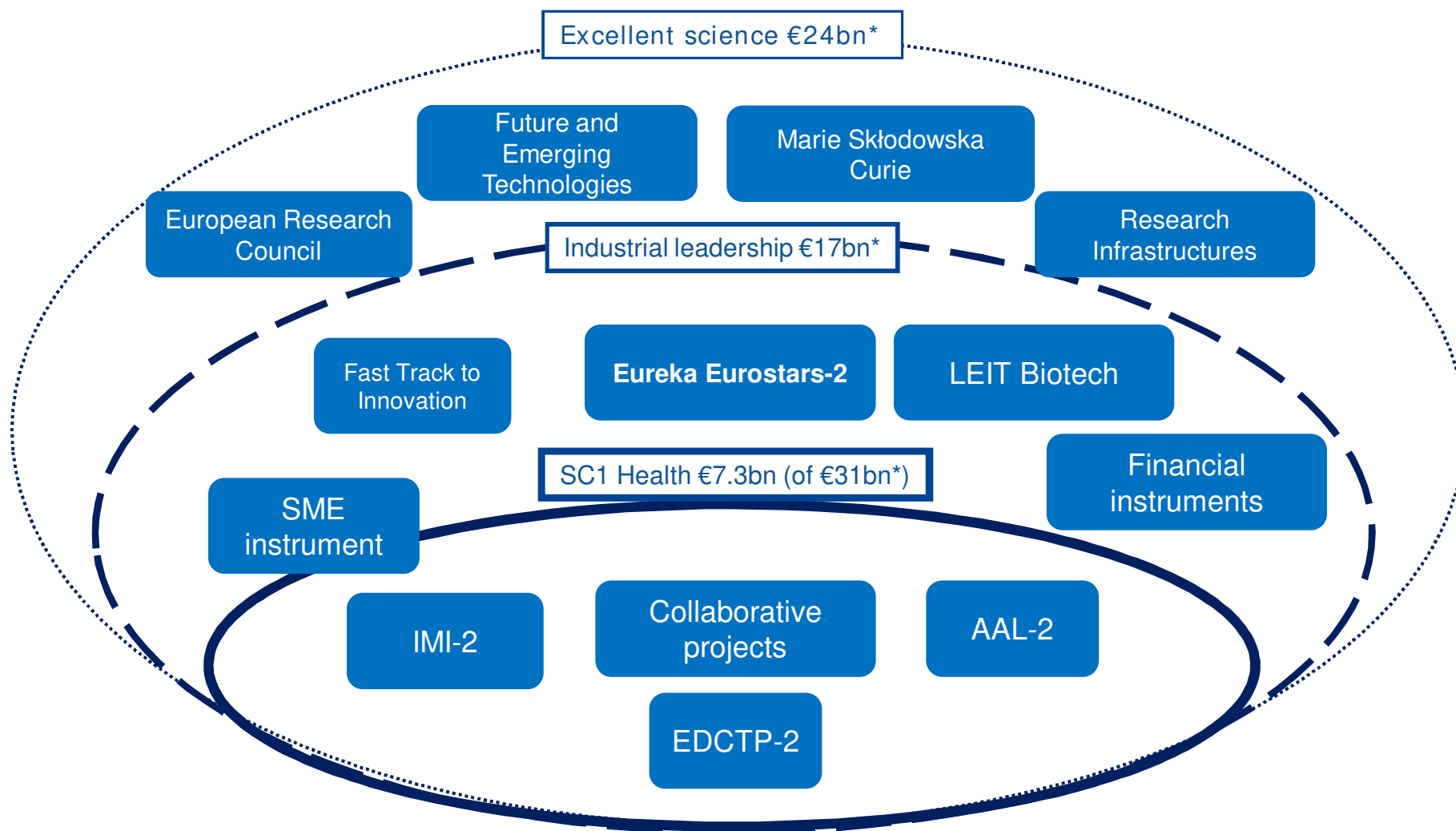
Knowledge creation and
exploitation



SME

SMALL & MEDIUM ENTERPRISES

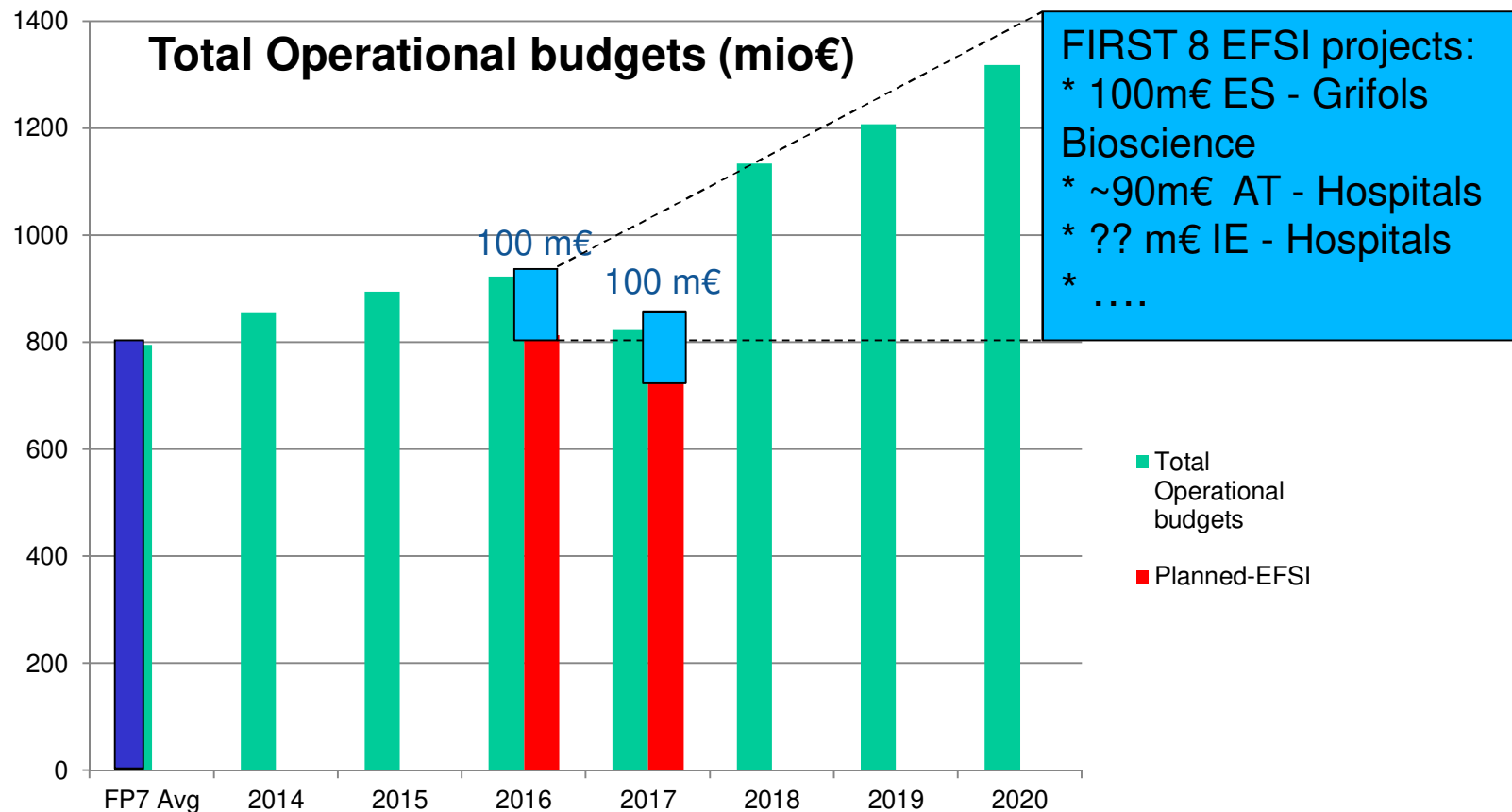
Health Research in H2020



* Figure to be updated following EFSI investments in 2015

SC1 Investment Plan: impact of the EFSI* plan

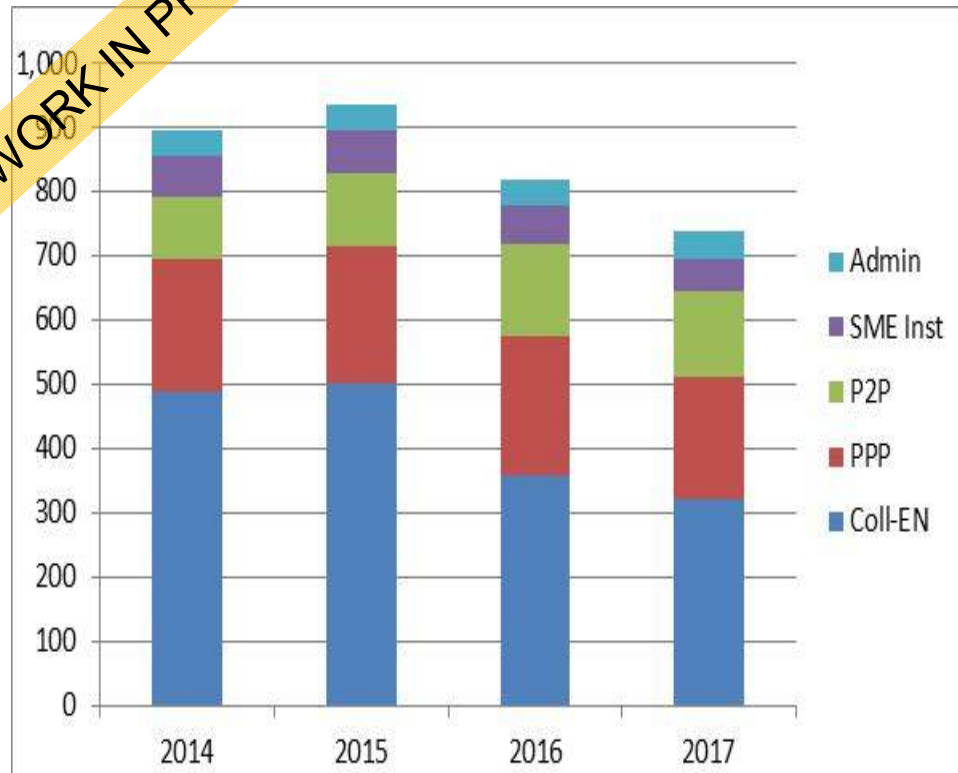
Impact on 2016-2017 Work Programme (15% for RTD, 20% for CNECT) (Mio€)



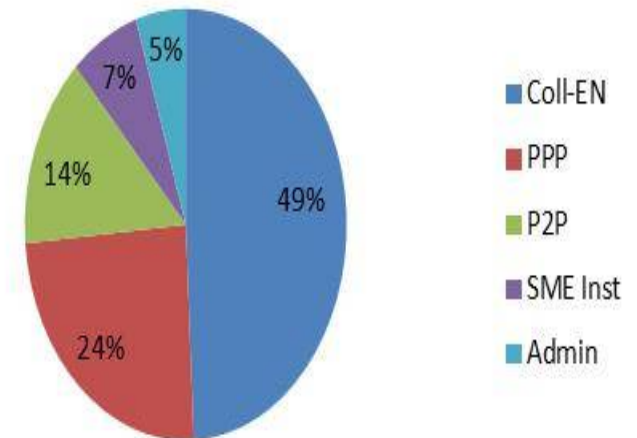
*European Fund for Strategic Investment
(President Juncker Investment Plan)

SC1 Investment: a balanced portfolio, innovative solutions

Leveraging investment in various type of instruments (Mio€, 2014 to 2017)



Share of Investment per type
(2014-2017)



- **Coll-EN** = WP calls less P2Ps (Public Public Partnerships) & SMEs = ~49% to date
- **PPP** = Public-Private Partnership (IMI-2) = ~ 24% to date, +100% from industry
- **P2Ps** = JPIs, Art.185, ERA-NETs, EJP, PCP/PPI) = ~15% to date, + 50% by partners?
- **SME Instr** = SME Instrument + Financial Instruments (FTI, IFID) = ~7% to date, leverage?



European
Commission

SC1 Investment: a public-private partnership with industry



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)

IMI 2:

- 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 etc.)
- Supports World class research and innovation leading to breakthrough vaccines, medicines and treatments

SC1 Investment: public-public partnerships with countries



European & Developing Countries Clinical Trials Partnership

EDCTP supports clinical trials and related research activities on PRDs, as well as capacity development for clinical trials and related research in sub-Saharan Africa.



EDCTP 2:
~€1.37 Billion
EC: €683 mio + MS
€683 mio

EDCTP2:

- launched in December 2014
- almost €700 million EU co-funding, matching the same Member States contribution
- broader scope: including HIV, TB, malaria, neglected infectious diseases, all clinical phases, diagnostics and delivery optimisation
- longer duration: 10 years



3. Health, demographic change and well-being in Horizon 2020

2016/ 2017 Work Programme

The SC1 Work Programme 2016-17 in brief

Published on 14/10/15 on the Participant Portal

http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_documents.html#h2020-work-programmes-2016-17

Call 'Personalised Medicine'

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

including 'coordination activities'

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

€ 935
million

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



European
Commission

Main research priorities for 2016-2017



Personalised medicine

Promoting healthy ageing



Human biomonitoring

Health ICT



**Infectious Diseases
(InnovFin)**

**Maternal and child health
(Prize)**



European
Commission

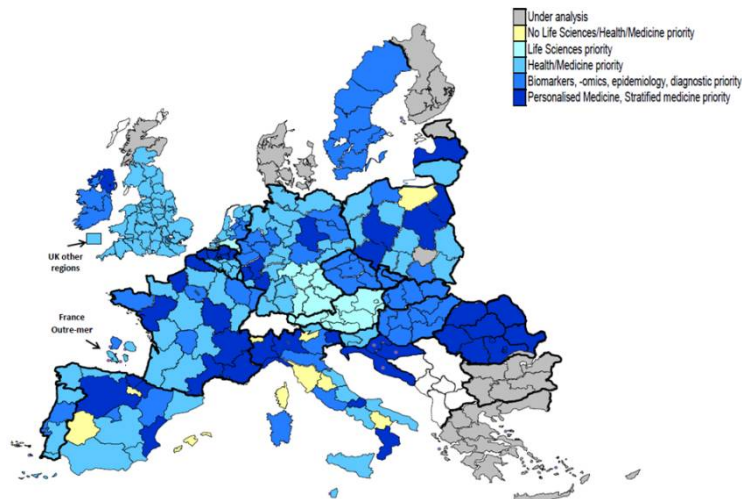
Developing personalised medicines at EU level



Strategic planning &
coordination of national
initiatives



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



Innovative Medicines Initiative



European
Commission

Personalised medicine in SC1 Work Programme 2016-2017 (I)

Understanding health, well-being and diseases

- SC1-PM-01-2016: Multi omics for personalised therapies addressing diseases of the immune system
- SC1-PM-02-2017: New concepts in patient stratification
- SC1-PM-03-2017: Diagnostic characterisation of rare diseases
- SC1-PM-04-2016: Networking and optimising the use of population and patient cohorts at EU level

Treating and managing diseases

- SC1-PM-08-2017: New therapies for rare diseases
- SC1-PM-09-2016: New therapies for chronic diseases
- SC1-PM-10-2017: Comparing the effectiveness of existing healthcare interventions in the adult population
- SC1-PM-11-2016-2017: Clinical research on regenerative medicine

Personalised medicine in SC1 Work Programme 2016-2017 (II)

Preventing diseases

- SC1-PM-07–2017: Promoting mental health and well-being in the young

Methods and data

- SC1-PM-20-2017: Development of new methods and measures for improved economic evaluation and efficiency measures in the health sector

Health care provision and integrated care

- SC1-PM-21-2016: Implementation research for scaling-up of evidence based innovations and good practice in Europe and low- and middle-income countries

Personalised medicine in SC1 Work Programme 2016-2017 (III)

Coordination activities

- SC1-HCO-02-2016: Standardisation of pre-analytical and analytical procedures for *in vitro* diagnostics in personalised medicine
- SC1-HCO-03–2017: Implementing the Strategic Research Agenda on Personalised Medicine
- SC1-HCO-05–2016: Coordinating personalised medicine research
- SC1-HCO-06–2016: Towards an ERA-NET for building sustainable and resilient health system models

European human biomonitoring initiative

Strategic planning & coordination of national initiatives

- Creating a European joint programme for monitoring and scientific assessment of human exposures to chemicals and potential health impacts
- Coordinating HBM initiatives in Europe at national and EU level with special focus on a two way dialogue between policy and science in support of evidence based policy making
- Implementation through a Joint Programme Co-Fund



Preventing diseases

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





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 Partnership (GTBVP)
- **Public-private partnerships** – IMI2
- **Public-public partnerships** – EDCTP2
- **Joint Programming Initiative on AMR** – JPIAMR – ERA-INFECT

Infectious diseases in SC1 WP 16-17 (I)

Understanding health, well-being and diseases

- SC1-PM-02-2017: New concepts in patient stratification
- SC1-PM-04–2016: Networking and optimising the use of population and patient cohorts at EU level

Preventing diseases

- SC1-PM-06–2016: Vaccine development for malaria and/or neglected infectious diseases

Treating and managing diseases

- SC1-PM-09–2016: New therapies for chronic diseases
- SC1-PM-10–2017: Comparing the effectiveness of existing healthcare interventions in the adult population

Coordination activities

- SC1-HCO-04–2016: Towards globalisation of the Joint Programming Initiative on Antimicrobial Resistance

Infectious diseases in SC1 WP 16-17 (II)

Other Actions: InnovFin Infectious Diseases (InnovFin ID) Pilot

A New Financial Instrument for Infectious Diseases R&D:

- Jointly developed by the European Commission and European Investment Bank
- Launched on 15 June 2015 in Riga during 'The First Innovative Enterprise Week'
- Established under InnovFin - EU Finance for Innovators
- Provides loans between EUR 7.5m and EUR 75m to innovative players active in developing vaccines, drugs, medical and diagnostic devices, and research infrastructures for combatting infectious diseases

<http://www.eib.org/innovfin>





Maternal and child health



- Approximately 300,000 women 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: 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)
- Developed by European Commission and Bill & Melinda Gates Foundation
- More details and prize launch at the high-level conference "Together for the next generation" on 8 December in Brussels

Other coordination activities



- SC1-HCO-01-2016: Valorisation of FP7 Health and H2020 SC1 research results



- SC1-HCO-07–2017: Global Alliance for Chronic Diseases (GACD)



- SC1-HCO-08–2017: Actions to bridge the divide in European health research and innovation



Promoting healthy ageing



Health ICT



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

ICT solutions for Active and Healthy Ageing

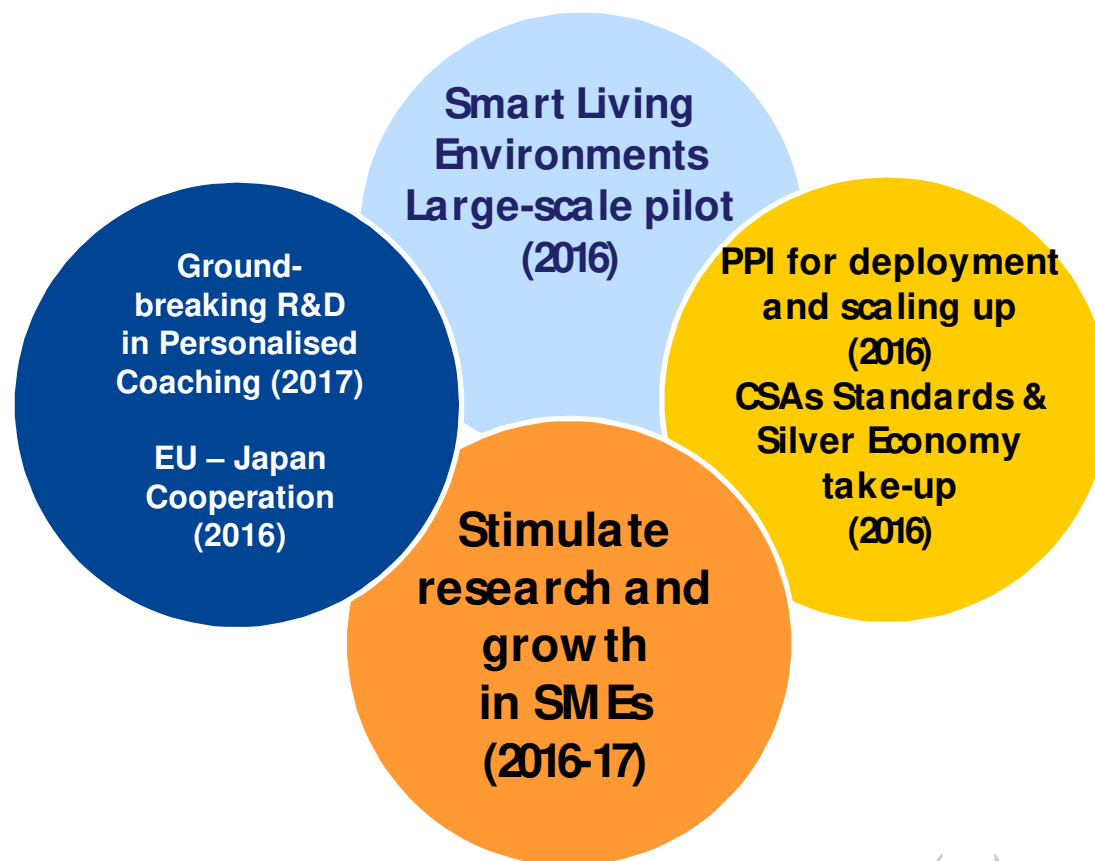
Exploring new opportunities

Catalyse Silver Economy

IoT for Smart Living Environments (with ICT-LEIT)

Scale up Innovative Care Services

Complementing previous calls



ICT for Health – Principles, areas and strategy

- **More strategic patient-centred approach and health promotion**
- **Creating a body of evidence for IT technologies, support for SME's growth, IT skills for healthcare workforce**
- **New approaches in managing health, from well-being to personalisation**
- **Data and sharing data challenges**
- **Decrease of time to market, better adaptation to innovation and support to policy**
- **Contribution to WHO activities and US cooperation**

The entire chain of innovation is needed, from research to support actions and specific instruments.

Self-management of health and mobile health

Digital Health literacy

Evidence on IT technologies, Opportunities for SME's, Optimal use of healthcare workforce

Well-being

Prevention, Personalisation, SSH

Data security and privacy

Interoperability and standards

In-silico clinical trials

Big data

ICT for Health – Overview

CSAs: EU mHealth Hub; Support for Health ICT SMEs; Digital Health literacy; Healthcare Workforce IT skills; EU/US Interoperability roadmap; EU eHealth Interoperability conformity;

PCP: Empowering the patient

SME Instrument: Accelerating market introduction of ICT solutions for SC1

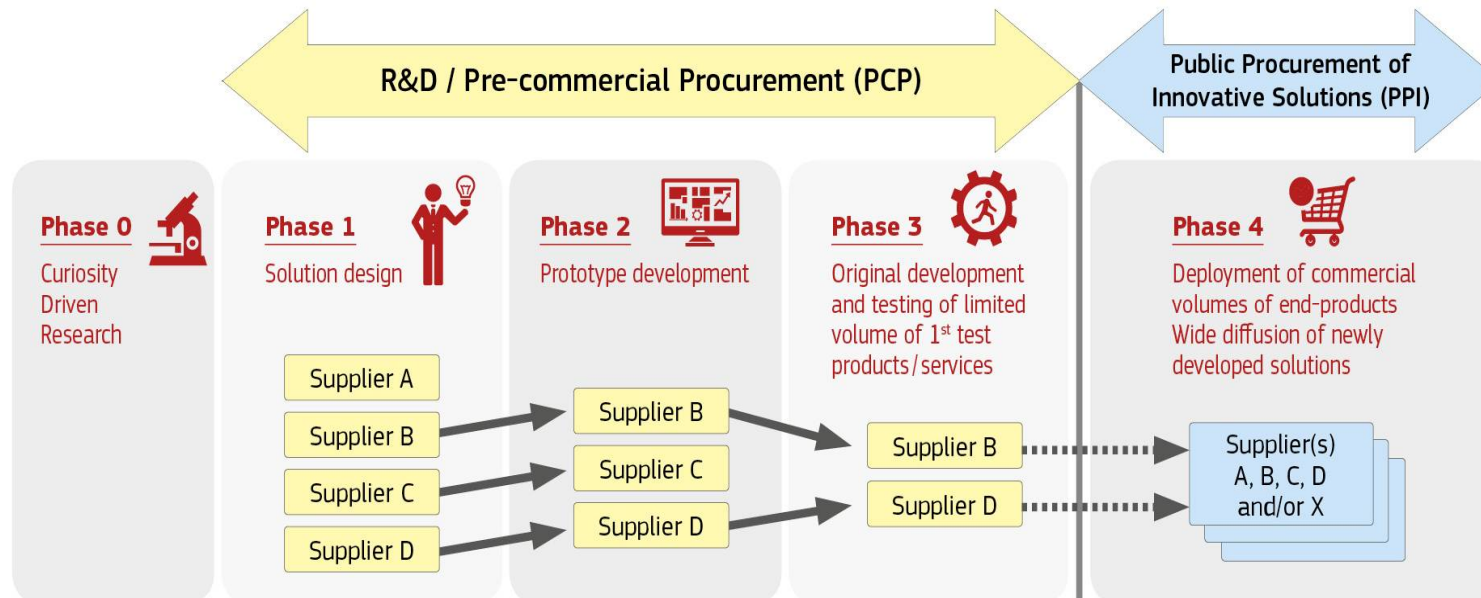
RIA: Big Data; Digital Security; Simulation /modelling on wellbeing; In silico trials

Horizon Prize: Food scanner *)

*) Horizon Prize instrument (not under SC1)

Public Public partnerships for Innovation

- PCP to steer the development of solutions towards concrete public sector needs, whilst comparing/validating alternative solution approaches from various vendors
- PPI to act as launching customer / early adopter / first buyer of innovative commercial end-solutions newly arriving on the market



Objectives:

- Price/quality products that better fit public sector needs
- Earlier customer feedback for companies developing solutions
- Better take-up/Wider commercialisation of R&D results

RELATED SPECIFIC TOPICS (1)

Active ageing and self-management of health;

- SC1-PM-12–2016: PCP - eHealth innovation in empowering the patient
- SC1-PM-13–2016: PPI for deployment and scaling up of ICT solutions for active and healthy ageing
- SC1-PM-14–2016: EU-Japan cooperation on Novel ICT Robotics based solutions for active and healthy ageing at home or in care facilities

Methods and data;

- SC1-PM-18–2016: Big Data supporting Public Health policies
-
- DS-03-2016: Increasing digital security of health related data on a systemic level
 - IoT-01-2016: Large Scale Pilots

RELATED SPECIFIC TOPICS (2)

Coordination activities;

- SC1-HCO-10–2016: Support for Europe's leading Health ICT SMEs
- SC1-HCO-11–2016: Coordinated action to support the recognition of Silver Economy opportunities arising from demographic change
- SC1-HCO-12–2016: Digital health literacy
- SC1-HCO-13–2016: Healthcare Workforce IT skills
- SC1-HCO-14–2016: EU-US interoperability roadmap
- SC1-HCO-15–2016: EU eHealth Interoperability conformity assessment
- SC1-HCO-16–2016: Standardisation needs in the field of ICT for Active and Healthy Ageing

SME instrument

- SMEInst-06-2016-2017: Accelerating market introduction of ICT solutions for Health, Well-Being and Ageing Well

Other actions EU m-Health hub including evidence for the integration of mHealth in the healthcare systems



4. Global cooperation

SC1 Investment: public-public partnerships with countries



European & Developing Countries Clinical Trials Partnership

EDCTP supports clinical trials and related research activities on PRDs, as well as capacity development for clinical trials and related research in sub-Saharan Africa.



EDCTP 2:
~€1.37 Billion
EC: €683 mio + MS
€683 mio

EDCTP2:

- launched in December 2014
- almost €700 million EU co-funding, matching the same Member States contribution
- broader scope: including HIV, TB, malaria, neglected infectious diseases, all clinical phases, diagnostics and delivery optimisation
- longer duration: 10 years

Multi-lateral health research activities



www.irdirc.org/



[http:// intbir.nih.gov/](http://intbir.nih.gov/)



[http:// ihec-epigenomes.org/](http://ihec-epigenomes.org/)



www.gacd.org/



International
Cancer Genome
Consortium

[https:// icgc.org/](https://icgc.org/)



Global Genomic
Medicine Collaborative

[http:// www.iom.edu/ Activities/ Research/ GenomicBasedResearch/ Innovation-
Collaboratives/ Global_Genomic_Medicine_Collaborative.aspx](http://www.iom.edu/Activities/Research/GenomicBasedResearch/Innovation-Collaboratives/Global_Genomic_Medicine_Collaborative.aspx)

GloPID-R

Global Research
Collaboration for Infectious
Disease Preparedness

[http:// www.glopid-r.org/](http://www.glopid-r.org/)



European
Commission



5. Public investment leverages – private investment

SC1 Investment: a public-private partnership with industry



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)

IMI 2:

- 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 etc.)
- Supports World class research and innovation leading to breakthrough vaccines, medicines and treatments

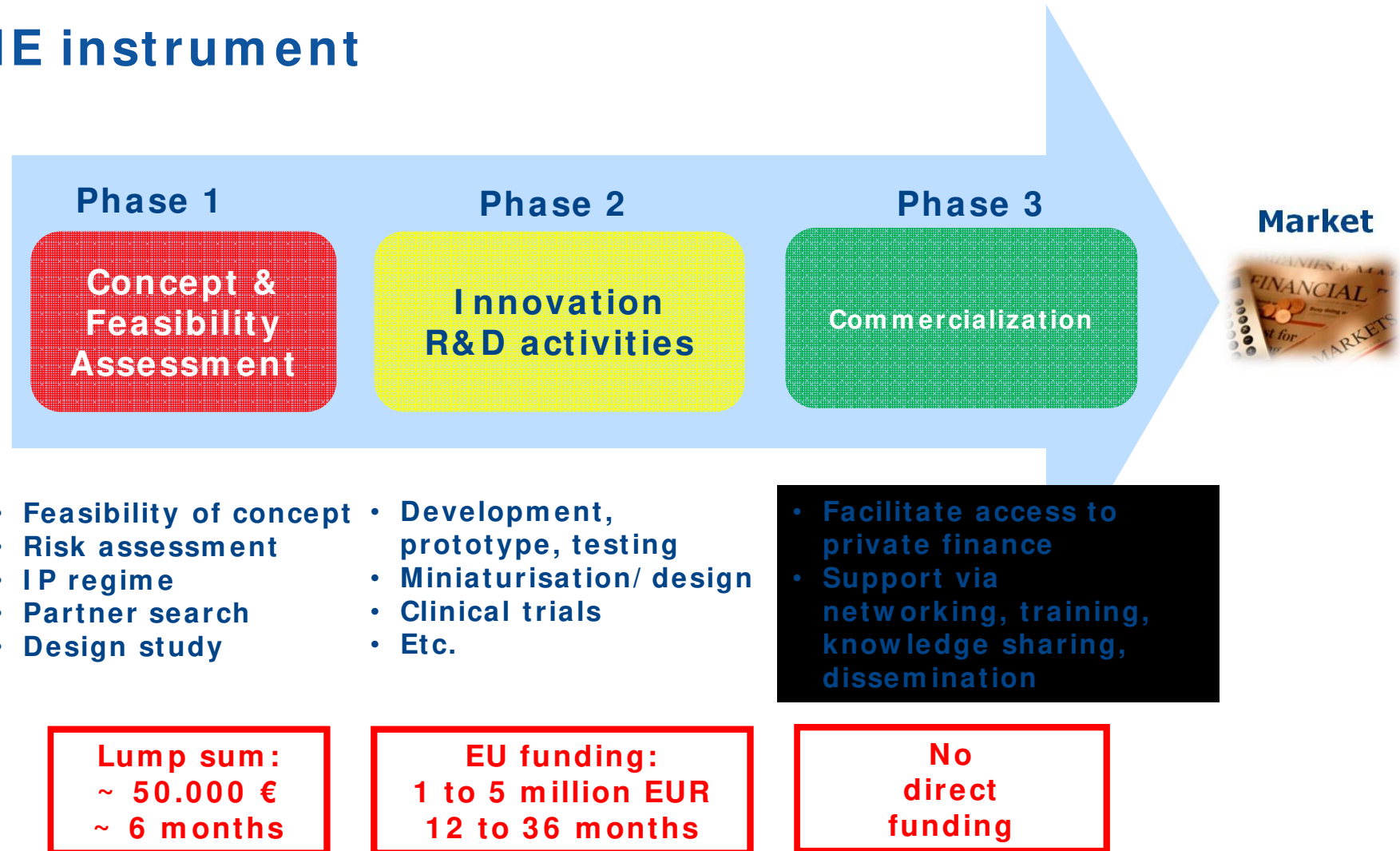
Horizon 2020: more opportunities for SMEs

- **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**' with a dedicated SME scheme (debt and equity facility)



SC1 Investment: a special fund and instrument for SMEs

SME instrument



SME instrument in SC1 work programme 2016-2017



- SMEInst-05-2016-2017 – Supporting innovative SMEs in the healthcare biotechnology sector
- SMEInst-06-2016-2017 – Accelerating market introduction of ICT solutions for Health, Well-Being and Ageing Well

Getting research to the patient



- SC1-HCO-01-2016: Valorisation of FP7 Health and H2020 SC1 research results



- SC1-HCO-08–2017: Actions to bridge the divide in European health research and innovation



- Fast track to Innovation Pilot : for close-to-market innovation activities (60% by industry, market in 3 years) – 2016 only 15 m€

Financial Instruments

InnovFin Large Projects

Loans from €7.5 m to €300 m; delivered 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

+ New since 2015 InnovFin Infectious Diseases Pilot

InnovFin

EU Finance for Innovators

Horizon 2020:
~€2.8 billion



Calendar for Horizon 2020 Work Programme 2016-2017

- 18 September 2015: SC1 Info Day – Brussels
- 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):
 - ✓ 16 February 2016 (DG CNECT)
 - ✓ 12/13 April 2016 (DG RTD)

Proposal submission and evaluation

- 2016: single-stage only
- 2017: mostly single-stage and 4 topics for two-stage
- Criteria & scoring: in the General Annex to the Work Programme
- Proposal evaluation process involving at least 3 external experts per proposal – in Commission Guidelines



Contact and More Info

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



Network of Health National Contact Points (NCPs):
http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html

Directorate for Health Research (RTD-E): RTD-HEALTH@ec.europa.eu

Health and Well-being (H1): CNECT-EHEALTH@ec.europa.eu

Digital Social Platforms (H2): CNECT-ICT4ageing@ec.europa.eu



HORIZON 2020

**Thank you
for your attention**

Find out more:

www.ec.europa.eu/research/horizon2020

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

HORIZON 2020