New perspectives in international RTD Co-operation

Michele Genovese
APRE Europe Office
genovese@apre.it
Drivers of international cooperation

- Need to access **knowledge** produced outside Europe and gain access to new **markets**
- Need to **promote** Europe as an **attractive location** and **partner** for research and innovation
- Need to **join forces** globally to tackle **global challenges**
International cooperation in FP7

- Multiple international cooperation activities
- Examples of progress:
  - EDCTP: with African countries on HIV/AIDS, malaria, tuberculosis
  - ITER: nuclear fusion energy reactor (with Japan, Russia, USA, Korea,...)
  - HFSP: support for basic research, with 13 other countries
- Room for improvement
The European and Developing Countries Clinical Trials Partnership (EDCTP) is a partnership between 14 Member States, Switzerland, Norway and sub-Saharan African countries aimed at tackling HIV/AIDS, tuberculosis and malaria

By end 2011: approximately EUR 356 million (including co-funding) for 196 projects, over 300 fellowships and 57 clinical trials

Total EU contribution to EDCTP is 200 mill EUR
ITER: a major international large-scale research project

ITER project (Euratom as host/main contributor, China, India, Japan, Korea, Russia and USA) aims at demonstrating S&T feasibility of nuclear fusion. The Broader Approach Agreement (between Euratom and Japan) is in support of ITER and an early realization of the fusion energy.

http://www.iter.org/
GEANT

GÉANT is the hub for research and education networks globally thanks to the funds from the Union (partially through its development cooperation instruments)

http://www.geant.net
Program based on a top down approach (exceptions): Work Programs, calls for proposals, peer reviews


- Need to constantly update information
- Need to build international consortia
- Administrative procedures, personnel formation
- Difficulties in the setting up of suitable partnerships; need to set up cooperation networks and strategic support.
How?

- Access to information
- Original proposals
- Partners search:
  - Participation in events,
  - International scientific literature
  - Exchanges
  - Opening up of ongoing projects

Cordis: Partners search, Projects

http://cordis.europa.eu
Perspectives

- Smart Specialisation Strategy (Structural Funds)
- Parallel and/or Joint calls with Third Countries (SICAs)
- Bottom-up Actions (ERC)
- For E.U. researchers, consolidated links with extra-E.U. partners rises the potential and quality of RTD projects, also concerning development perspectives and the links with industrial applications
Conclusions

- New European coordinated programmes to support RTD international initiatives
- Scientists and researchers should prepare within their fields of specialisation focusing on priority areas and strengthening links for consortia: permanent information and communication tools.
SOCIETAL CHALLENGES
The challenges

• Ageing population
• Increased disease burden
• Unsustainable and unequal health & care systems
• Health & care sector under pressure to reform
Horizon 2020 - Societal Challenge 1

- Translating science to benefit citizens
- Improve health outcomes
- Support a competitive health & care sector
- Test and demonstrate new health & care models, approaches and tools
- Promote healthy and active ageing

Do also look elsewhere! EU support of health related research & innovation is not limited to Societal Challenge 1
A new approach

Challenge-driven
Broad topics
Less prescriptive topic texts
Two-year work programme
Stronger focus on end users
1. HEALTH, DEMOGRAPHIC CHANGE AND WELLBEING
Recap: the 'Health, demographic change and wellbeing' challenge

Proposed funding 2014-2020 (million EUR)

<table>
<thead>
<tr>
<th>Health, demographic change and wellbeing</th>
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<tbody>
<tr>
<td>Food security, sustainable agriculture and forestry, marine and maritime and</td>
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<td>inland water research and the Bioeconomy</td>
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<td>Secure, clean and efficient energy *</td>
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<td>Smart, green and integrated transport</td>
<td>6 339</td>
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<td>Climate action, environment, resource efficiency, and</td>
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</table>
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'
15 topics (10 in 2014, 5 in 2015)

€1,21 billion
Personalising Health and Care
Understanding the call topics: example

- 'PHC 2 – 2015'
- 'Specific challenge'
- 'Scope'
- 'Expected impact'
- 'Type of action'

**PHC 2 – 2015: Understanding diseases: systematic approach**

**Specific challenge:** The development of new, improved understanding of the often very complex (bio)medicine approaches has the potential to open new pathways for a variety of biological and medical research data. A collaborative approach is required to assemble the knowledge from biology, medicine, mathematics, computational biology, and medicine approaches.

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

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

**Expected impact:** This will provide:
- Leverage of existing investments in European research
- New directions for better disease detection
- Systems medicine tools and approaches that open new pathways for a variety of biological and medical research data

**Type of action:** Research and Innovation action
7 Focus 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
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)
- 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)
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)
The citizen in the centre

- New models for prevention oriented health and care systems (2014)
- Personalised medicine in health and care systems (2015)
- Self-management of health and disease:
  - citizen engagement for disease management (2014),
  - patient empowerment supported by ICT (2015)
  - based on predictive computer modelling (2015)
- Public procurement of innovative eHealth services (2015)
- ICT systems for integrated care (2015)
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)
Co-ordination activities
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
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
IMPLEMENTAZIONE
Work Programmes H2020

■ **Strategic Programme:** A multi-annual approach (3 years) to help applicants plan ahead.

■ **Work Programmes:** 3 Work Programmes (biannual) during the course of H2020 and 1 final Work Programme for the last year to bridge to the next programme after 2020
### H2020 Work Programmes: Multi-annual Programming

<table>
<thead>
<tr>
<th>Year</th>
<th>Strategic Programme</th>
<th>Work Programme 1</th>
<th>Work Programme 2</th>
<th>Work Programme 3</th>
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**Strategic Programmes:**
- Short documents outlining priorities over 3 years, updated every two years.

**Work Programmes**
- Work Programmes mirror the strategic programme and are updated over the same 2-year cycle.

**Smaller and continuous updates to respond to unexpected developments**

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<tr>
<th>Calls published on basis of WP</th>
<th>Ad hoc financing decision</th>
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NETWORKING SUPPORT AND PARTNERS SEARCH
Welcome to HealthCompetence

This website includes all projects related to life science and health supported by the European Commission since 2004. It gives visibility to organisations and scientists involved in these projects and, together with interactive search devices, facilitates the identification of potential collaboration partners and the set up of partnerships between academia and industry in health research.

HealthCompetence will also progressively give access to the research results in terms of technology offers, patents and publications.
From Health Research

TO BUSINESS: change of mindset

Advanced Services and Training Actions for the IPR Management and Business Exploitation of the EU-funded Research results in Health/life sciences
CONTACT US, IF:

You are health / life science specialist willing to exploit research results

You took, take or plan to take part in the EU-funded R&D projects in health and life science

You feel difficulties in the R&D results’ exploitation process

You have concrete cases to be supported and promoted...

Contact: mourenza@apre.it ; buonocore@apre.it APRE
Thank you for your attention

www.apre.it