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From FP7 to Horizon 2020

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A graphic illustration for 'Horizon 2020'. It features a blue background with a glowing horizon line. A small globe of the Earth is positioned in the center, appearing to sit on a reflective surface. The text 'HORIZON 2020' is written in large, white, sans-serif capital letters across the middle of the image, with the globe acting as the letter 'O' in 'HORIZON'.

HORIZON 2020



What is Horizon 2020

- Initial Commission proposal for a 80 billion euro research and innovation funding programme (2014- 2020); now just over 70 billion euro.
- A core part of Europe 2020, Innovation Union & European Research Area:
 - 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



What's New

- A single programme bringing together three separate programmes/initiatives (FP7, CIP, EIT)
- Coupling research to innovation – from research to retail, all forms of innovation
- Focus on societal challenges facing EU society, e.g. health, clean energy and transport
- Simplified access, for all companies, universities, institutes in all EU countries and beyond.



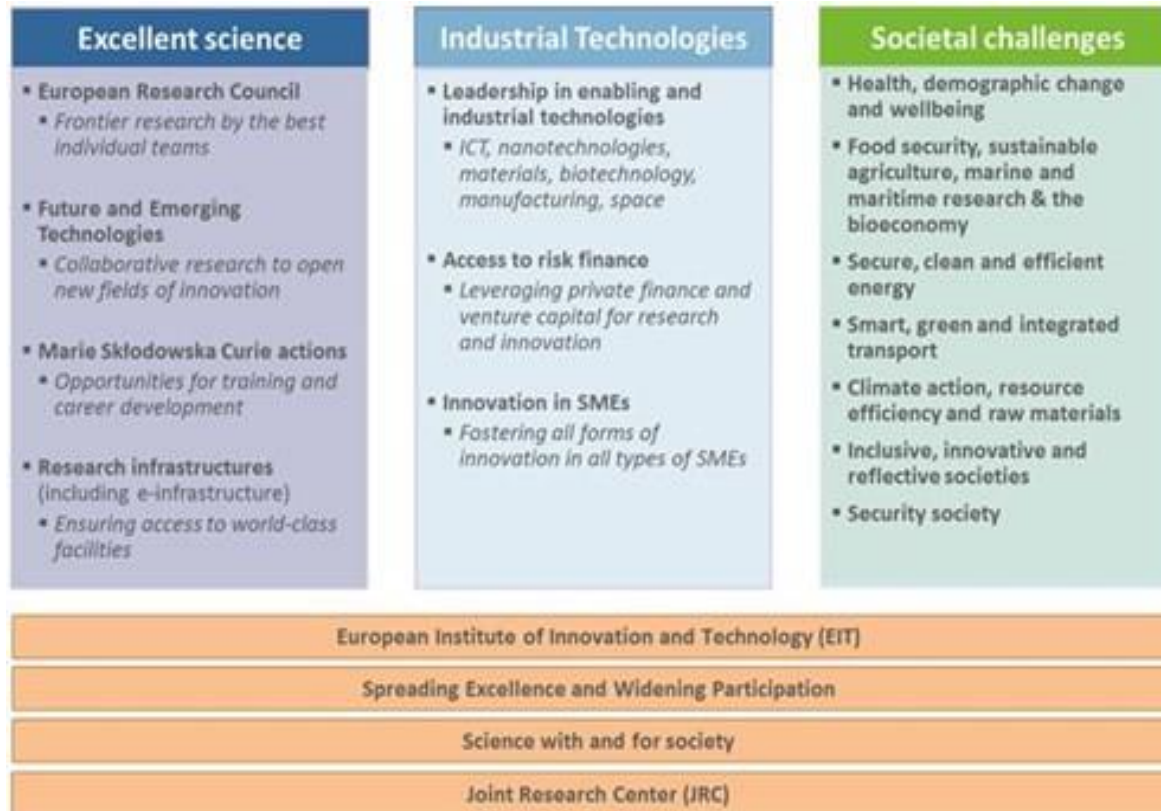
FP7 Structure

Co-operation	Capacities	European Research Council
Health	Research Infrastructures	Independent Researcher Grants
KBBE	Research for Benefit of Society	Advanced Grants
ICT	Regions of Knowledge	Starting Grants
NMP	Research and Innovation Concept	Marie Curie Actions
Energy	Scientific and Technological Activities	Fellowships and Integration
Environment	International Co-operation	Erasmus Networks
Transport	Coherent Development of Research Policies	Academia Partnerships and
SSH		International Research Staff Exchange Scheme
Space		
Security		
Euratom		





Horizon 2020 Structure



Priority 1: Excellent Science

- **World class science is the foundation of tomorrow's technologies, jobs and wellbeing**
- **Europe needs to develop, attract and retain research talent**
- **Researchers need access to the best infrastructures**

Priority 1: Excellent Science

European Research Council: 'Frontier research by the best individual teams' New: Full time president, resubmission rules	17%
Future and Emerging Technologies: 'Collaborative research to open new fields of innovation'	3.5%
Marie Curie actions: 'Opportunities for training and career development' New: 'streamlining' of schemes	8%
Research infrastructures (inc. e-infrastructures): 'Ensuring access to world-class facilities'	3.23%

Priority 2: Industrial Leadership

- **Strategic investments in key enabling technologies:**
- **Europe needs to attract more private investment in research and innovation**
- **Europe needs more innovative SMEs to create growth and jobs**

Priority 2: Industrial Leadership

Leadership in enabling and industrial technologies (LEIT)

(Information & Communication Technologies (ICT); Nanotechnologies; Advanced Materials; Biotechnology; Advanced Manufacturing and Processing; Space

17.6%

Access to Risk Finance:

'Leveraging private finance and venture capital for research and innovation'

3.69%

New Dedicated SME Instrument

Innovation in SMEs:

'Fostering all forms of innovation in all types of SMEs'

0.80%

Priority 3: Societal Challenges

- **Concerns of citizens and society/EU policy objectives**
- **Breakthrough solutions come from multi-disciplinary collaborations, including social-sciences and humanities**
- **Addressing challenges requires full research innovation cycle, from research to market:**
 - **focus on innovation-related activities (e.g. piloting, demonstration, demand side policies – public procurement, standards...)**
- **Focus on policy priorities without predetermining technologies or types of solutions to be developed**
 - **emphasis could be on projects that solve specified challenges, NOT prescribing the specific topics, research fields, disciplines, technologies or sectors to be addressed**

Priority 3: Societal Challenges

Health, demographic change and wellbeing	9,7%
Food security, sustainable agriculture, marine and maritime research & the bioeconomy	5%
Secure, clean and efficient energy	7.7%
Smart, green and integrated transport	8.23%
Climate action, environment, resource efficiency and raw materials	4%
Inclusive, Innovative and Reflective Societies	1.7%
Secure Societies	2.2%

Cross Cutting Themes

Spreading and Widening Participation	1.06%
Science with and for Society	0.6%
European Institute of Innovation and Technology	3.52%
Joint Research Centre	2.47%

Cross Cutting Theme

Widening Participation

- **Aims to combat sharp differences among Member States regarding research and innovation, through**
 - **Teaming**
 - **Twinning**
 - **Establishing 'ERA Chairs'**
 - **A Policy Support Facility (PSF)**
 - **Supporting access to international networks including COST**
 - **NCP Networks**



The Work Programme (WP): Key principles

- The (bi-annual) work programme provides the essential information for submitting a proposal
- Full respect of the Horizon 2020 legislative acts
- **The Strategic Programme provides the basis** – based on drivers, and including focus areas
- A strong challenge-based approach, allowing applicants to have considerable freedom to come up with innovative solutions
- Topics to provide clarity to applicants, but in a non-prescriptive way
- For the focus areas, the set of topics need to ensure a coherent approach in line with the strategic programme
- Expect fewer topics than was the case in FP7
- Cross-cutting issues embedded throughout (e.g. Social Sciences & Humanities, gender, international etc.)
- First calls **11th December**



Structure of a Topic

- A coherent approach across large parts of the programme:
- Specific challenge
 - The problem to be tackled
- Scope
 - Defining the type of activity
 - And/or highlighting particular issues that need addressing (e.g. socioeconomic dimension; knowledge gaps)
- Expected impact
 - Outcomes beyond the life of the project
 - Taking account of broader context
- Plus type(s) of action
 - Selection and award criteria (excellence, impact, quality and efficiency of the implementation)

Further details, weightings and thresholds to be set out in the WP

Understanding health, ageing and disease

PHC 1 - 2014) Understanding health, ageing and disease: determinants, risk factors and pathways

Specific challenge: Common diseases result from varying degrees of interaction between the genetic make-up of individuals and behavioural, environmental, occupational and other factors. Better knowledge of these factors will improve risk identification and validation, and allow better diagnosis, risk-based prevention strategies and policies, as well as stratified treatment. This is particularly important given Europe's ageing population, and its need for improved preventive and therapeutic measures providing good health and prolonged independence.

In this context, the two following specific challenges have been identified:

- Exploring the combined role of genetic and non-genetic factors (e.g. environmental, occupational and behavioural) in disease development
- Better understanding of the mechanisms underlying the process of ageing

Scope: Proposals are invited which address this challenge by focusing on one of the elements listed below:

- The identification and validation of determinants of health and risk factors for disease through the generation, integration and validation of data derived from different sources (e.g. molecular, clinical and/or environmental epidemiology, exposure sciences, genetics etc). This should involve the exploitation of existing longitudinal studies and the assessment of the necessity to establish new ones.
- Identification of molecular and pathophysiological pathways characteristic of healthy ageing as well as health deterioration caused by time, exposure to environmental factors and disease accumulation.

Expected impact: Provides the knowledge base for:

- Clinically relevant re-classification of diseases under study
- Effective patient stratification
- New pathways for clinical research for better disease prevention, better and earlier diagnostics, health promotion and therapy development

As a result of:

- A better understanding of the combined effects of various intrinsic and extrinsic factors causing disease, and contributing to health and healthy ageing
- A better understanding of disease pathways or pathways of healthy ageing

Type of action: Collaborative Projects (100%)



Final New Aspects

- No separate implementation documents e.g reporting, financial guidelines, Annexes to the GA
- **Open Access**
 - Obligation to provide OA to publications financed through H2020 projects
 - All areas
 - Peer reviewed publications
 - Allowed embargos 6/12 months
 - OA publishing costs eligible while project runs (under discussion)
 - **Enforcement?**
- Call openings and deadlines

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Comments?