Horizon 2020
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Horizon 2020 - background

What is Horizon 2020?

- Commission proposal published on 30 November 2011 for an 80 billion euro research and innovation funding programme (2014-20)

- The follow on programme to FP7, EIT and parts of Competitiveness and Innovation Programme (CIP)

- Forms part of the proposals for the next EU budget, complementing proposals for Structural Funds, education (Erasmus for All), etc.

Horizon 2020 - overview

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.

Proposed Horizon 2020 Structure

Development of Horizon 2020

Excellent Science Base
- **European Research Council (ERC)**
- **Future and Emerging Technologies (FET)**
- **Marie Curie Actions**
- **Research Infrastructures**

Industrial Leadership and Competitive Frameworks
- **Leadership in enabling and industrial technologies:**
  - **ICT; Nanotechnologies; Advanced Materials; Biotechnology;**
  - **Advanced Manufacturing and Processing; and Space**
- **Access to risk finance**
- **Innovation in Small and Medium-Sized Enterprises (SMEs)**

Tackling Societal Challenges
- **Health, demographics changes and well being**
- **Food security, sustainable agriculture marine and maritime research**
- **and the bio-economy**
- **Secure, clean and efficient energy**
- **Smart, green and integrated transport**
- **Climate action and resource efficiency including raw materials**
- **Inclusive, innovative and secure societies**

European Institute of Innovation and Technology (EIT)

Joint Research Centre (JRC)   **Euratom (2014-2018)**

Horizon 2020 – three priorities

Excellent Science	27,818m
Industrial Leadership	20,280m
Societal Challenges	35,888m

Horizon 2020 – Reimbursement Rates

- Eligible **Direct Costs: 100%** reimbursement (70% for close to market activities)
- Eligible **Indirect Costs: 20% flat rate** (of eligible direct costs)

- Applies equally to **all types of partner**

- Possibilities of deviation for some programmes (e.g. Marie Curie)

- No real indirect costs option

- Likely to be subject of debate during co-decision process

Development of Horizon 2020

Council Partial General Approach:
- **Proposes 25% indirect costs instead of 20%**
- **No real cost option**
- **100% reimbursement for close to market actions for non for profit entities**

European Parliament
- **Several amendments on reimbursement model and rates, including different rates for different types of beneficiaries**
- **Vote in ITRE end of November**

Horizon 2020 – Excellent Science

Excellent Science - breakdown

Total Budget for Programme (2014-20, €m)	**24,418**
European Research Council: 'Frontier research by the best individual teams'	13, 268
Future and Emerging Technologies: 'Collaborative research to open new fields of innovation'	3,100
Marie Curie actions: 'Opportunities for training and career development'	5,572
Research infrastructures (inc. e-infrastructure): 'Ensuring access to world-class facilities	2,478

Excellent Science - ERC

Continuity with FP7. 77% increase in funding. Will continue:

- to operate autonomously led by a Scientific Council
- to operate on a 'bottom-up basis
- to have 'research excellence' as sole criterion
- to fund 'individual teams'
- to provide funding for starting researchers to make transition to independence
- to support new ways of working with potential to create breakthrough results

Scope for continuation of 4 current schemes and flexibility to 'develop the mix of support measures to respond to emerging needs'

Excellent Science - FET

- Expanded from ICT to be used as cross-cutting instrument
- Supports frontier research: alternative ideas, concepts or paradigms of risky or non-conventional nature
- Supported under three strands:
    - FET Open: fostering novel ideas
    - FET Pro-Active: nurturing emerging themes and communities
    - FET Flagships: tackling grand interdisciplinary science and technology challenges

Excellent Science – Marie Curie

Overarching objective:

"to ensure optimum development and dynamic use of Europe's intellectual capital in order to generate new skills and innovation and, thus, to realise its full potential across all sectors and regions"

Goes from 9 actions to 4 broader lines of activity:

- **Fostering new skills by means of excellent initial training of researchers**
  - Doctoral level training: innovative, intersectoral, interdisciplinary, international
  - Follows on from ITN scheme (including new European Industrial Doctorate and Innovative Doctoral Programme strands)

Excellent Science – Marie Curie

- **Nurturing excellence by means of cross-border and cross-sector mobility**
  - Opportunities for researchers at all career levels
  - Supports cross-border and cross-sector mobility
  - Follows on from FP7 individual fellowships

- **Stimulating innovation by means of cross-fertilisation of knowledge**
  - Staff exchange – international cross-border and/or inter-sectoral
  - Follows on from IAPP/IRSES schemes

- **Co-funding of activities across other three strands**
  - Aims to "leverage additional funds to increase the numerical and structural impact of MCA"

Excellent Science – Research Infrastructures

Three main objectives:

- Developing the European research infrastructures for 2020 and beyond
- Fostering the innovation potential of research infrastructures and their human capital
- Reinforcing the European research infrastructure policy and international co-operation

Horizon 2020 – Industrial Leadership

Industrial Leadership- breakdown

Total Budget for Programme (2014-20, €m)	**17,938**
Leadership in enabling and industrial technologies: (ICT, nanotechnologies, material, biotechnology, manufacturing, space)	13,781
Access to Risk Finance: 'Leveraging private finance and venture capital for research and innovation'	3,538
Innovation in SMEs: 'Fostering all forms of innovation in all types of SMEs'	619

Industrial Leadership – Key Enabling Technologies

- Collaborative research and innovation projects
- Strong focus on industrial involvement and applied research
- Key Enabling Technologies encompasses:
    - Information & Communication Technologies (ICT)
    - Nanotechnologies
    - Advanced Materials
    - Biotechnology
    - Advanced Manufacturing and Processing
    - Space

Industrial Leadership – Access to Risk Finance

- Remedy market deficiencies in assessing risk finance for research and innovation

- **Debt funding facility** – loans, guarantees, counter-guarantees
  - Demand-driven component: first come, first served
  - Policy-driven component: focusing on key sectoral policies of the Union

- **Equity funding facility** – early stage venture capital
  - Start-up window: focus on early stage
  - Growth window: expansion and growth stage investments in conjunction with Equity Facility for Growth of COSME
  - Primarily demand-driven, possibility of earmarking for particular policy goals.

Industrial Leadership – Innovation in SMES

- Objective "to stimulate growth by means of increasing the levels of innovation in SMEs, covering their different needs over the whole innovation cycle for all types of innovation, thereby creating more fast-growing, internationally active SMES"

- Article 18 of Horizon 2020 provides integrated approach to stimulating SME participation across Horizon 2020

- 15% of total budget of societal challenges and enabling and industrial technologies to go to SMEs

- Simplification key element of approach

Industrial Leadership – Innovation in SMES

Broad lines of activity:

- **Mainstreaming SME support –** dedicated instrument used in societal challenges and industrial leadership
  - For all types of innovative SMEs and all types of innovation
  - Used in all societal challenges and enabling and industrial technologies
  - Bottom-up
  - Allowing for single SME projects where these address European-level challenges
  - 3 phases: concept and feasibility; R&D, demonstration, market replication; commercialisation

Horizon 2020 – Societal Challenges

Societal Challenges - breakdown

Total Budget for Programme (2014-20, €m)	**31,748**
Health, demographic change and wellbeing	8,033
Food security, sustainable agriculture, marine and maritime research & the bioeconomy	4,152
Secure, clean and efficient energy	5,782
Smart, green and integrated transport	6,802
Climate action, resource efficiency and raw materials	3,160
Inclusive, innovative and secure societies	3,819

Societal Challenges - Health

Objective: improve lifelong health and wellbeing

Three key areas:

- **Prevention** – through increasing understanding of relationships in all areas relating to health: genetic, environmental, socio-economic factors, healthy approach to aging

- **Disease** – to understand the development processes & process of disease & its spread in order to stimulate innovative drugs and therapies

- **Health and Social Care** – to improve sustainability & efficiency of care provision, plus management & effects of emerging health threats (e.g. epidemics)

Societal Challenges – Food Security, Sustainable Agricultures, Marine & Maritime Research and the Bio-based Economy

Objective: secure sufficient supplies of safe and high quality food and other bio-based products

Four main activity areas:

- **Sustainable agriculture and forestry**
- **Sustainable and Competitive agri-food sector for a safe and healthy diet**
- **Unlocking the potential of aquatic living resources**
- **Sustainable and competitive bio-based industries**

Societal Challenges – Secure, Clean and Efficient Energy

Objective: transition to a reliable, sustainable and competitive energy system

Broad lines of activity:

- Reducing energy consumption and carbon footprint by smart and sustainable use

- Low-cost, low-carbon electricity supply

- Alternative fuels and mobile energy sources

- A single, smart European electricity grid

- New knowledge and technologies

- Robust decision making and public engagement

- Market uptake of energy innovation

Societal Challenges – Smart, Green, Integrated Transport

Objective: to achieve a resource-efficient, environmentally friendly, safe, seamless, and performing transport system for the benefit of all citizens, the economy and society.

Delivered through three challenges:

- Resource efficient transport that respects the environment

- Better mobility, less congestion, more safety and security

- Global leadership for the European transport industry

Societal Challenges – Climate Action, Resource Efficiency & Raw Materials

Objective: to achieve a resource efficient and climate change resilient economy and a sustainable supply of raw materials

Broad lines of activity are:

- Fighting and adapting to climate change

- Sustainably managing natural resources & ecosystems

- Ensuring the sustainable supply of non-energy & non-agricultural raw materials

- Enabling the transition towards a green economy through eco-innovation

- Developing comprehensive and sustained global environmental observation & information systems

Societal Challenges – Inclusive, Innovative and Secure Societies

Objective: to foster inclusive, innovative and secure European societies

Three lines of activity:

1. **Inclusive Societies**
2. **Innovative Societies**
3. **Secure Societies**

Now likely to be 2 challenges

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2. Innovative Societies

- Strengthening the evidence base & support for Innovation Union

- Exploring new forms of innovation, inc. social innovation & creativity

- Ensuring societal engagement in research & innovation

- Promoting coherent & effective co-operation with third countries

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3. **Secure Societies**

- Fighting crime and terrorism
- Strengthening security through border management
- Providing cyber security
- Increasing Europe's resilience to crises and disasters
- Ensuring privacy and freedom in the Internet and enhancing the societal dimension of society

Horizon 2020 – current developments

What happens next?

30 November 2011
Adoption of Commission Proposal for Horizon 2020

from 30 November 2011
Legislative Procedure ('co-decision'): European Parliament readings and Council Common positions

Ongoing
Parliament and Council negotiations on EU budget 2014-2020

Mid 2012
Final calls under FP7 to bridge gap towards Horizon 2020

Q3 2013
Conciliation and adoption of next FP

1 January 2014
Start of Horizon 2020

Likely timings/Co-decision EP/Council

- ITRE draft reports available

- In parallel: Council working groups, Partial General Agreements available

- Parliament vote on final reports expected November/December 2012

- Council vote around the same time

- Informal trialogue starts beginning of 2013

- Aim to reach agreement during Irish Presidency in the first half of 2013

Current issues

- **Budget**

- **Reimbursement models**

- **Marie Curie allocation**

- **SSH/security theme**

- **Broadening participation**

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In the meantime…

- **Last round of FP7 Calls open NOW!**

- **No further calls in 2013**

- **First calls under Horizon 2020 estimated January 2014**

- **Sign up to UKRO Portal www.ukro.ac.uk to stay up to date on latest policy developments!**

Influencing the first calls of Horizon 2020

How a UK Institution might influence the next FP

- Stay informed

- Develop a strategy in your institution
  - What type of funding should the next FP provide?
  - Who will you influence in Europe?

European Parliament	**European Council**	**European Commission**

  - Who will you influence in the UK?
    - BIS?
    - UUK?

How can an institution influence the Commission?

Programme Committees

Expert Advisory Groups

European Technology Platforms

Consultations

European Commission

EU Policies

FP7 Review

Foresight Projects

Project Officers

How might an institution influence the first calls in Horizon 2020?

- **Who in your institution will feed in?**

- **When will you feed in?**

- **Include a reasoned argument**

  - Why is it needed?

  - What will the impact be?

  - How does it fit into EU priorities – Innovation Union; Europe 2020?

  - What's the EU added-value?

  - What's been funded in the past?

- **Refer to Horizon 2020 documents, societal challenges, etc.**

Erasmus for all

Erasmus for All

- **Proposed new EU programme for education, training, youth and sport**
  - Brings together LLP, Youth programme and international co-operation programmes under a streamlined structure
  - New loan facility for Masters students, Knowledge Alliances
  - Commission proposal currently under discussion in Council and European Parliament
  - Due to start in January 2014 (but calls might be issued before.)
  - Sign up to the UKRO Portal for updates

Erasmus for All

Streamlined architecture:

- **Key action 1 – Learning mobility**
  - Staff, higher education students, Erasmus Master degree, youth mobility
- **Key action 2 – Cooperation**
  - Strategic partnerships (e.g.HEI), Knowledge Alliances (HEI-business), capacity building
- **Key action 3 – Policy reform**

What happens next?

- **EC proposal published late November 2011**

- **Council and European Parliament currently working on proposal in "co-decision"**

- **European Parliament Culture and Education Committee (CULT) at draft report stage**

- **Vote in late 2012?**
- **First calls?**

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