

H2020 and Evaluator's viewpoint

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## Framework Programme for Research & Innovation "Horizon 2020"

H2020 is the EU joint effort to support research & development for the next seven years (2014 to 2020)

H2020 is the biggest EU research and innovation programme ever (~€79 billion).

It is an "umbrella programme" regrouping both research-focused (FP7, EIT) and innovation-focused programmes (CIP)

It is intended to boost Europe's knowledge-driven economy, and tackle issues that will make a difference in people's lives.

H2020 main goal is to ensure that Europe produces worldclass science and technology that drives economic growth

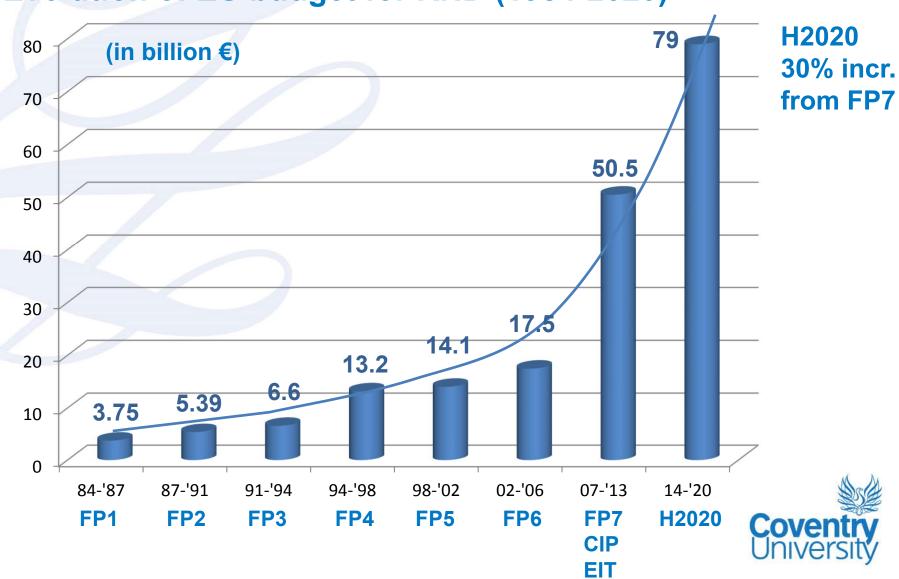
FP7: Seventh Framework Programme for Research and Technological Development

EIT: European Institute of Innovation and Technology

CIP: Competitiveness and Innovation Framework Programme

## **H2020**

### **Evolution of EU budget for RND (1984-2020)**



## Figures of the previous FP (2007-2013)

16.000 RND projects funded with participants from 169 countries

More than half of the budget allocated to the public sector (Universities, research centres, government organisations, etc.).

Global average success rate close to 19%

Current overall average success rate of H2020 grant proposals is 14.53%

(26.000 proposals were submitted by 25 February 2015)



## The three pillars and H2020 sub-programmes

International Cooperation

**Europe 2020 priorities** 

European Research Area



#### **Industrial Leadership**

- Leadership in enabling and industrial technologies
- ICT, nanotechnologies, materials, biotechnology, manufacturing, space
- Access to risk finance
   Leveraging private finance and venture
   capital for research and innovation
- Innovation in SMES
   Fostering all forms of innovation in all types of SMEs

#### **Societal Challenges**

- · Health, demographic change and wellbeing
- Food security, sustainable agriculture, marine and maritime research and the bio-economy
- · Secure, Clean and Efficient Energy
- · Smart, Green and Integrated Transport
- Climate Action, Environment,
   Resource Efficiency and Raw Materials
- Europe in a changing world
- Secure societies

#### Seamless Connections

#### **Public Private Partnerships**

#### **Excellent Science**

- European Research Council
   Frontier research by the best individual teams
- Future and Emerging Technologies
   Collaborative research to open new fields of research
- Marie Sklodowska-Curie actions 2014-2015
   Opportunities to open new fields of innovation
- European research infrastructures
   (including e-Infrastructures)

   Ensuring access to world class facilities

European Institute of Innovation and Technology (EIT) 2014-2020
Spreading Excellence and Widening Participation
Joint Research Centre (JRC) Non-Nuclear
Euratom Programme 2014-2018
Science with and for society





## **Budget breakdown**

	31,73%	п.	22,09%	III.	38,53%	Widening Participation
I. Excellent Science		Industrial Leadership		Societal Challenges		1,06%
ERC	17,00%	Enabling and Industrial	47.000	Health, dem change, wellbeing	9,70%	Science with and for Society
FET	3,50%	Technologies (LEIT)	17,60%	Bioeconomy	5,00%	0,60%
MSC	8,00%	ICT, Nanotechn. Materials, Biotechnology, Manufacturing and Processing, and Space		Energy	7,70%	
FIS	3,23%			Transport	8,23%	JRC
	· ·	Risk Finance	3,69%	Climate action, Environment	4,00%	2,47%
		SME	0,80%	Societies	1,70%	
				Secure Societies	2,20%	3,52%

## Changes in H2020

#### A new structure and focus

- Unified & simpler rules across programmes /priorities /topics
- Balance between control and trust (EC <=> Beneficiaries)
- More focus on societal challenges & innovation
- Closer-to-market activities, shift in higher TRLs
- More cross-cutting activities
- 'Impact' is increasingly important
- Higher industrial and SME involvement

#### **New programming cycle**

- ✓ Two year work programmes announce the specific areas that will be funded by Horizon 2020
- ✓ Official 2016-2017 Work programmes now released (Oct 15) Coventry

## Simplified funding rules

Reimbursement on the basis of actual costs (personnel costs, travel costs, equipment, subcontracting, etc).

#### Reimbursement varies:

- Universities and research and technology organisations are receiving 100% of direct eligible costs plus a 25% flat rate of direct costs for their indirect costs.
- <u>Industry participants and SMEs</u> are getting 100% reimbursement for direct eligible costs of R&D activities plus 25% for indirect costs, but only 70% of direct eligible costs for close to market or co-funded activities, plus a flat rate of 25% of these [70%] direct eligible costs for indirect costs.

## Research & Innovation Actions (RIA)

Research projects tackling clearly defined challenges, which can lead to the development of new knowledge or a new technology.

- Activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution.
- Projects may contain closely connected but limited demonstration or pilot activities aiming to show technical feasibility in a near to operational environment.



## **Innovation Actions (IA)**

It is more focused on closer-to-the-market activities. For example, prototyping, testing, demonstrating, piloting, scaling-up etc.

- Activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services.
- Projects may include limited research and development activities.



## **Coordination & Support Actions (CSA)**

Funding covers the coordination and networking of research and innovation projects, programmes and policies.

Funding for research and innovation per se is covered elsewhere.

- Accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies.
- Include design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries.

## **European Research Council (ERC)**

The ERC is supporting the highest quality frontier research in Europe on the basis of **scientific excellence** of applications from **individual researchers** with no specific required topics.

It is organised around three main calls covering three stages of the career of researchers:

- "Starters" (2 to 7 years after the PhD) with up to 1.5 M€ for 5 years;
- Mid-career researchers called "Consolidators" (over 7 to 12 years after the PhD) with up to 2 M€ for 5 years;
- Senior researchers called "Advanced" with up to 2.5 M€ for 5 years.

Proposals are evaluated on the sole criterion of scientific excellence, they can be at any field of research, and they can be carried out by a single national or multinational research team (led by a 'principal investigator').

**Who?** The ERC funds excellent young, early-career researchers, already independent researchers and senior research leaders.

Researchers can be of any nationality and their projects can be in any field of research.

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## Marie Skłodowska-Curie Actions (MSCA)

#### MSCA aims to foster:

- ✓ a new European culture of dynamic mobile researchers, and
- ✓ collaboration between countries, disciplines and sectors.

It is open to all research fields of basic research and innovation. Mobility is a key requirement.

Funding for international research fellowships in the public or private sector, research training, staff exchanges.

**Who?** Early stage researchers or experienced researchers (of any nationality), technical staff.

## **Types of Actions**

Type of Action <sup>1</sup>	Code	Minimum Conditions <sup>2</sup>	Funding Rate	Typical Duration	Average EC Contribution
Research & Innovation Action	RIA	≥ 3 legal entities from 3 MS/AC	100%	36-48 months	€ 2.0 - 5.0M
Innovation Action	IA	≥ 3 legal entities from 3 MS/AC	70%³	30-36 months	€ 2.0 - 5.0M
Coordination & Support Action	CSA	1 legal entity	100%	12-30 months	€ 0.5 - 2.0M
MSCA (except Cofund)	MSCA				
ERC Grants	ERC	1 legal entity in MS/AC	100%	60 months	Starting: ≤ € 2.0M Consolidator: ≤ € 2.75M Advanced: ≤ € 3.5M
Prizes	PRI	1 legal entity	n/a	n/a	variable; see respective topic
SME Instrument	SME	1 SME in MS/AC	<ul> <li>3 phases:</li> <li>Phase 1: lump sum of € 50K / project</li> <li>Phase 2: € 1 - 2.5M / project (1-2 years)</li> <li>(70% of eligible costs reimbursed)</li> <li>Phase 3: no funding</li> </ul>		
Fast Track to Innovation	FTI	≤ 5 legal entities from 5 MS/AC	70%³	tbd	≤€ 3.0M

<sup>&</sup>lt;sup>1</sup> Defined in the Work Programme.

<sup>&</sup>lt;sup>3</sup> 100% for non-profit organisation (= ar

 $<sup>^{\</sup>rm 2}$  Additional conditions may be listed in the respective Work Programmes.

## Who may apply?

"H2020 is open to everyone"

For a standard research project (RIA or IA), a consortium of at least 3 legal entities, established in different EU MS or an AC.

Exceptions: ERC, SME instr., MSC Actions, CSA, a single entity may apply.

In general, legal entities established in any country and international organisations, may participate.

<u>Special conditions may be defined in</u> <u>the call or the WP</u>





## **International Cooperation**

Cooperation with researchers and organisations from **third countries** and international organisations is welcomed.

Participants from international organisations or industrialised countries and emerging economies are eligible for funding if:



- this is explicitly mentioned in the call text
- the participation is deemed essential for carrying out the action by the EC.
- when funding for such participants is provided for under a bilateral agreement or any other arrangement between the EU and an international organisation or a third country



## How to apply

- ✓ Work programme: describes specific research and innovation areas that will be funded. indicates the timing of forthcoming Calls for Proposals.
- ✓ Each Call provides more precise information on the research and innovation issues that applicants for funding should address in their proposals.
- ✓ Proposal content corresponds, wholly or in part, to topic description against which it is submitted.
- ✓ Proposals must be submitted before the deadline of the relevant Call.
- ✓ The online system "participant portal" is simpler than ever
   no more paper!
   All proposals must be submitted online only.

## **H2020** project lifecycle

- Challenges
- Proposal Development

Call for Proposals



- Online
- Administrative & financial information
- Technical description



- Excellence
- Impact
- Implementation Evaluation "as-is"

**Evaluation** 



- Enhancing reputation
- Network development
- New projects

**Exploitation** 



#### **Implementation**

- Project & consortium management
- Project activities
- Periodic reports



#### Negotiation

- Managing changes
- Managing risks

Contracting



## How to prepare & submit a proposal

- Read carefully the work programme topic and identify EC's expectations
- Take into consideration the challenges of the call as well as the expected impact
- Follow strictly the instructions (Guide for applicants, Part B template, rules of participation, etc.)
- Be clear and explicit
- Respect rules and eligibility criteria
- Convince the evaluation experts regarding the selection and award criteria – "sell" your idea!
- Try to have a peer review of your proposal before submission



## **Coventry University & H2020**

- Building on previous successful awards
- Brussels presence (EU liaison and policy officer)
- Targeted events (6-9 months prior to deadline)
- Focussed support
- Internationalisation/strategic partnerships
- Best practice/case studies
- Internal Evaluation/Peer review (evaluators)



## **Coventry University & H2020**

- Recognised experience in the delivery of Framework Programme activity (FP6, FP7, Horizon 2020) with European collaborative management experience from lead and partner roles on Leonardo, Erasmus+, INTAS, DAPHNE, Directorate Generals, Socrates, INFO 2000, MLIS, Promise and EuropeAid projects.
- 121 projects, 48 as Co-ordinator (Apr 2015)
- Funder of interest/internationalisation

# What Makes a Winning Proposal - The evaluator viewpoint



## Why here, why now, why me?

- Based on presentation from Prof Elena Gaura (CU EEC) who has been an Evaluator for 10 years – FP6,FP7 and H2020 (4 calls in the last 12 months)
- H2020 aligns well with CU/CVUT ethos and credentials
- Competition is getting stronger in H2020
- You need to write FOR THE EVALUATOR

#### **Outline**

- H2020 and its appeal
  - Why apply and who/how/when/what's changed?
- The evaluation process
- Marking and meaning
- What all winning projects share
- Common pitfalls
- Winners' keywords



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## H2020 and its appeal

- Research sponsors in flux UK (RCUK shifting; Innovate UK new direction; International links/sources of funding growing, sole UK diminishing)
- H2020 competition is strong but budgets very large
  - Sample of 4 H2020 calls (past 12 months)
    - Per call success rates: around 16%;
    - Over Threshold proposals success rates: 25%-60%
- Excellent topical coverage
- Frequent calls
- Lots of notice
- Plays to some of CU/CVUT/individuals strengths
- It is NOT rockets science to WIN clear/known recipes for success

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## The Evaluation process

- Evaluators remote briefing understanding the call and the process (max ½ days)
- Individual Evaluation Report (remote, each evaluator, each project, max 1 day/project)
  - Each evaluator judges from personal research specialism/experience but first and foremost generic good practice in proposal writing
- Consensus Meeting/Report (on site, the 3-4 project evaluators + Rapporteur + EC officer, approx. 2 hours; seldom 6-8 hours)
  - Much of the time, IE marks change considerably
  - Proposal champions OR joint positive/negative views OR mediation over disagreements
- Ranking Meeting/Evaluation Summary Report (on site, all evaluators, 1 day)
  - Little, cosmetic changes if any
  - Line drawn when budget reached (sometimes at 14/15, sometimes at 11-12/15)

## The Evaluation process

- Luck has nothing to do with winning
- Covering all basis and excellent science/partners has everything to do with it
- Fairness and transparency is ensured and observed throughout
- Evaluators and sponsor competence in running the process increased 10 fold in last 5 years

## **Key points**

- Give evaluators what they need
  - Clarity of big picture and throughout, to detail;
  - Structure, ease of read, diagrammatic representations
  - Concise style and evidence backed throughout: genericspecific-examples writing style/assertions
- Evaluators are there to pick holes don't give opportunity
  - Marking is by "taking away" (0.5 increments; whole points; threshold)
- Evaluators like to get excited about feasible ideas and outstanding science



## How to loose a grant in 30 minutes

- Sloppy, unfocused Summary
- Big picture is not there
- Out of scope or apparently so
- Idea is not novel/original/exciting
- Idea The evaluator "does not get it"
- Budget beyond guidelines
- Unbalanced Consortium
- Unbalanced budget amongst partners
- Poor/unrelated partner pages
- Poor "key publications" for partners
- Who and How will make money/impact is not clear



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## **Evaluation Reports (Individual and Consensus)**

- Criterion 1— Excellence; Threshold 3; Weight 100%; Priority 1; (5)
- Criterion 2 Impact; Threshold 3; Weight 100%; Priority 2; (5)
- Criterion 3 Quality and efficiency of the implementation; Threshold 3;
   Weight 100%; Priority 3; (5)
- Operational Capacity Yes/No
- Proposal content corresponds, wholly or in part, to the topic description against which it is submitted, in the relevant work programme part: Yes/No
- Overall Threshold: 10
- Same criteria, same format for all other evaluation stages
- Evaluators come from different angles/disciplines; good coverage ensured most time; trained to be flexible, reason with others, evidence based argumentation, factual



## **Marking - Detail**

Excellence: (0-5)

#### **Clarity and pertinence of the objectives**

 Accurate, quantified, in line with call, support the concept, complete, not piece-meal, technical + overarching (hit IMPACT here already)

#### **Credibility of the proposed approach**

 Will the approach directly lead to Objectives being realized? What does the call say about evaluation/demos/test-beds/TRL?

**Soundness of the concept**, including trans-disciplinary considerations, where relevant

Visionary, clearly beyond state of art, motivated, articulated, evidenced as needed

**Extent that proposed work is ambitious**, has innovation potential, and is beyond the state of the art (e.g. ground-breaking objectives, novel concepts and approaches)

description and consortium credentials are key; all evaluators are TECHNICAL EXPERTS

## **Marking - Detail**

- Impact:(0-5):
  - The expected impacts listed in the work programme under the relevant topic
    - Cut/paste will not do
  - Enhancing innovation capacity and integration of new knowledge
  - Strengthening the competitiveness and growth of companies by developing innovations meeting the needs of European and global markets, and where relevant, by delivering such innovations to the markets
  - Any other environmental and socially important impacts
  - Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant; exploitation plan
    - firm, quantified, lead by major industry, thought out, academic exploitation needs to be creative and precise

## **Marking - Detail**

- Quality and efficiency of the implementation:(0-5):
- How will you execute the project? Is the methodology credible? Will it deliver? Is everyone who is anyone in area involved? Who and how will exploit?
  - Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources
  - Complementarity of the participants within the consortium (when relevant)
  - Appropriateness of the management structures and procedures, including risk and innovation management



## **Key Points**

- Read the call carefully
- Mismatch kills the proposal (beware of re-using prior proposals to fit new calls)
- Links and Coherence how does the whole thing fit together?
- Clarity aided by good formatting and fluent expression
- Proof reading/checking the little details key part of the writing process
- Don't exceed page numbers the end gets chopped!!!
- Great ideas can loose but poor ideas never win



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## What all winning projects share

- Well presented Research Excellence (Originality, Significance, Rigour, in this order)
- Outstanding consortium the greater the competition the more important this is
  - Big/Key EU Players (Industrial) bring confidence in competence, capability, self-interest, image, etc
  - Key academic players bring confidence that the science is right (no reviewer knows all of the SOTA; known players are somewhat trusted)
- Polished, professional, complete proposals a
  joy to read

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#### **Common Pitfalls**

- Proposal focused on myths SMEs and geographical coverage/new EU countries
- Weak idea when evaluated by the right technical experts beware of Interdisciplinary work without ALL the right specialists in the lead
- Great idea but:
  - Fuzzy presentation, poor fit, cut/paste, unrealistic in timescale, too narrow, lacks reach
  - Industrial partners will not clearly exploit at scale: too small/too few/wrong area/too little interest (involvement)/lateral to their core business
  - Will not make loads of money by 2020
  - Will not make money for EU!!!
  - Too many small partners with unclear added value
  - No confidence in the coordinator

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## Winners' keywords

....what should bright evaluators have to say about your proposal....



## **Excellence – Example 1**

#### Objectives

- relationship to the [named] programme is very clear.
- are clear and pertinent, excellently developed
- clear statements are given on how the accomplishment of objectives will be verified.
- The approach proposed by [project name] is novel, interesting and credible.

#### Concept and approach

- are sound and ambitious.
- thorough discussion (research and technical aspects) demonstrates a clear understanding for tackling the challenging goals.
- The vision (about xxx) is very ambitious and highly innovative.
- The related state of the art
  - is well known by the consortium
  - clearly differentiated progress beyond the state of the art is presented.

## Impact – Example 2

- The work- contributes significantly to achieving the impacts expected by the work programme.
- The challenges for successful impact are- **analysed**, including the strong dependence on **standardization**.
- Emergence of new knowledge and an integration of traditionally separated will be fostered by the project.
- There is potential for innovation, enabled by [named innovations] and by developing [named technologies].
- These also contribute to strengthen existing European industrial actors in the field.
- The core challenge of developing [named goal] may generate an important impact on the [named] market place
- However, the actual development of [named techniques] is fundamental to a large- scale success of the project ideas, which is outside the control of the project and presents a risk to achieving the desired impact.
- Exploitation plans of the industrial partners are rather generic, although during the course of the project they will be elaborated in more detail.
- The dissemination measures are appropriate, expected achievements are quantified
- Research data and IPR issues are handled appropriately.

# Quality and efficiency of the implementation – Example 3

- The workplan is **well organised** and **drives the project efficiently** towards the objectives.
- Tasks are well described.
- The time-schedule and work flow are logical: [named specific flow examples].
- Tasks and resources are allocated properly.
- The consortium as a whole is **good**, with a **strong industrial presence**
- All partners contribute to the overall goals with complementary expertise and appropriate task allocations.
- The management structures and procedures follow established principles.
- Risk and innovation management are **adequately addressed** albeit sometimes too superficially. For example xxx.

## Thank you for your attention...

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