Horizon 2020

The overall evaluation approach

Conference "New Horizons, New Challenges"
Vienna, 14 November 2013

Dr Peter Fisch

European Commission - DG Research and Innovation

EU Framework Programmes Characteristics

- Project funding only
- True common put – no national quota
- Competitive process with annual calls and peer review proposal evaluation
- Main focus on collaborative projects with partners from several countries
- Open to academia and industry alike
- Open to the world, not restricted to Europe

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FP7 in Key Figures (2007 – 2013)

103.000	Applications
485.000	Participants in applications received
20.000	Projects funded
106.000	Participants in projects funded
	39% Universities
	29% Industry (17% SME)
	29% Research Organisations
32.5	Billion € EU funding
170	Countries participating

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FP7 Evaluation Basics

- Evidence based
  - ✓ Quantitative and qualitative data
- Policy oriented
  - ✓ Recommendations for improvements
- Main products
  - ✓ FP7 Interim Evaluation 2010
  - ✓ FP7 Ex-Post Evaluation 2015
  - ✓ Annual Monitoring Reports

http://ec.europa.eu/research/evaluations

FP7 Evaluation
Work in Progress

- "Thematic Studies" - to analyse a particular area
  - ✓ Coverage across whole FP7
- "Horizontal Studies" - to analyse overarching issues
  - ✓ Effects of simplification measures
  - ✓ Long term impact of the FP
  - ✓ Network Analysis
  - ✓ FP Impact on Innovation
  - ✓ Research Management Performance
  - ✓ Human Research Capacities

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FP7 Evaluation

Example: Analysis of Project Reporting Data

Top 20 Peer Reviewed Journals by Number of Publications SJR No. of Publications % of all publications

1	PLoS One	1,8	496	2,11 %
2	Physical Review Letters	5,1	304	1,29 %
3	Physical Review B - Condensed Matter and Materials Physics	2,7	257	1,09 %
4	Proceedings of the National Academy of Sciences of the US	5,4	233	0,99 %
5	Monthly Notices of the Royal Astronomical Society	2,4	172	0,73 %
6	Nature	14,5	171	0,73 %
7	Journal of Biological Chemistry	2,8	169	0,72 %
8	Astrophysical Journal	3,2	166	0,71 %
9	Physical Review D-Particles,Fields,Gravitation and Cosmology	2,2	159	0,68 %
10	Applied Physics Letters	2,3	157	0,67 %
11	Astronomy and Astrophysics	1,9	151	0,64 %
12	Optics Express	2,3	146	0,62 %
13	Nature Genetics	19,9	140	0,60 %
14	Journal of the American Chemical Society	4,4	127	0,54 %
15	Journal of High Energy Physics	0,9	125	0,53 %
16	Journal of Neuroscience	4,6	125	0,53 %
17	Antimicrobial Agents and Chemotherapy	2,0	110	0,47 %
18	Science	11,2	103	0,44 %
19	Nucleic Acids Research	4,6	102	0,43 %
20	Journal of Physical Chemistry C	1,9	94	0,40 %
	Total		3507	14,93 %

*SJR - Journal Rank Indicator, it is a measure of journal's impact, influence or prestige. It expresses the average number of weighted citations received in the selected year by the documents published in the journal in the three previous years (2011)

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Horizon 2020 Basics

- **A single programme** bringing together three separate programmes/initiatives (FP/CIP/EIT)
- **Coupling research to innovation** – from research to retail, covering all forms of innovation
- **Simplified access**, for all companies, universities, institutes in all EU countries and beyond
- Structured around **three pillars**
  - ✓ Excellent Science
  - ✓ Industrial Leadership
  - ✓ Societal Challenges

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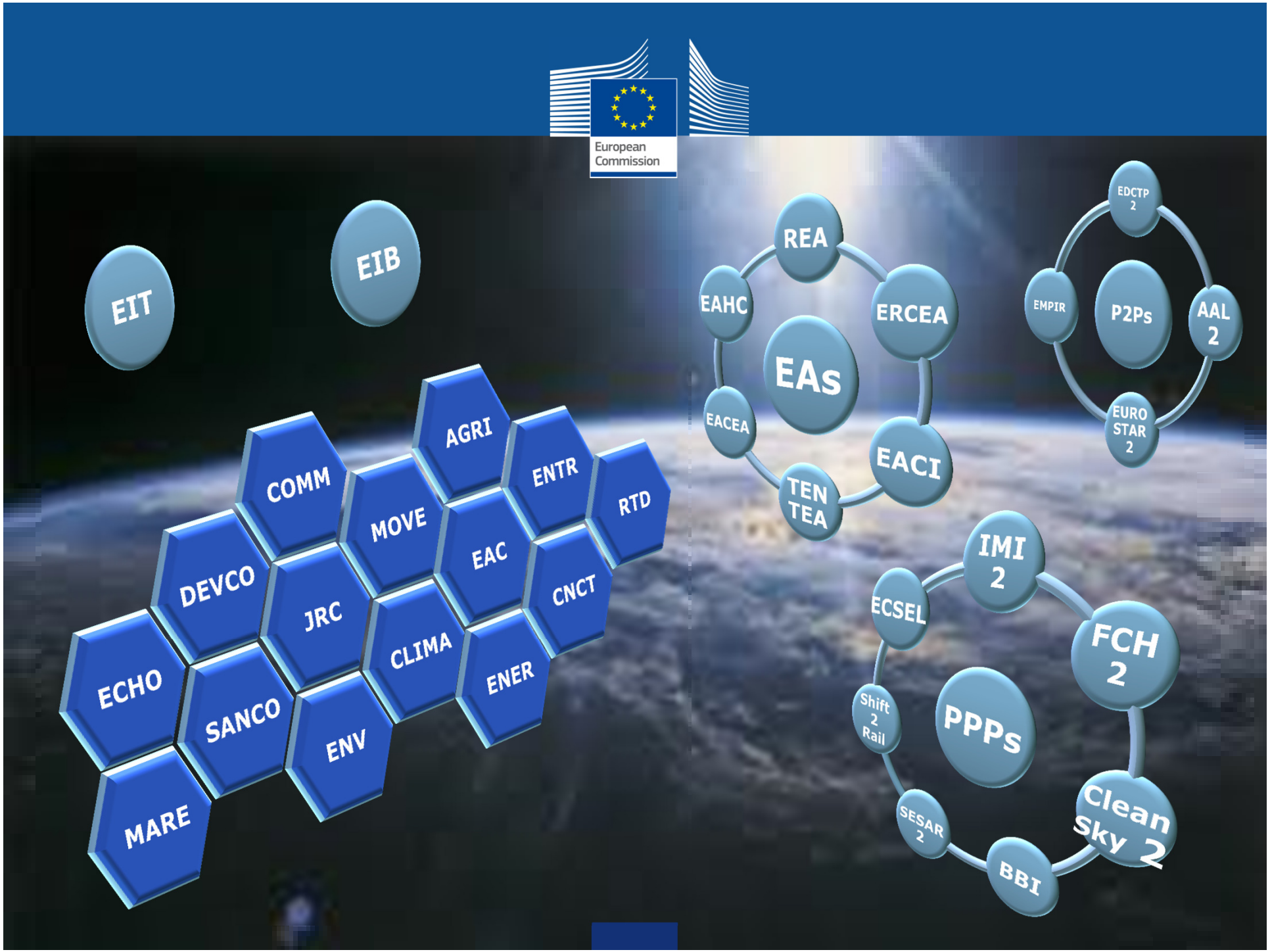
Explicit Intervention Logic

- Objectives specified
  - ➢ General objectives
    - ✓"3% target"
    - ✓ Innovation Indicator
  - ➢ Specific objectives
    - ✓ Outlined (per activity) in the Specific Programme
  - ➢ Operational objectives
    - ✓ References in the Work Programmes

- Key indicators
  - ✓Specified with benchmark figures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Examples of Key Performance Indicators

1. **EXCELLENT SCIENCE**

   European Research Council

   – Share of publications from ERC funded projects among the top 1% highly cited per field of science

   Future and Emerging Technologies

   – Publications in peer-reviewed high impact journals
   – Patent applications and patents awarded in FET

2. **INDUSTRIAL LEADERSHIP**

   Leadership in enabling and industrial technologies

   – Patent applications and patents awarded in the different (…) technologies
   – Share of participating firms introducing innovations new to the company or the market (period of the project + 3 years)

3. **SOCIETAL CHALLENGES**

   – Publications in peer-reviewed high impact journals
   – Patent applications and patents awarded
   – Number of prototypes and testing activities
   – Number of joint public-private publications

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Annual Monitoring of cross-cutting Issues

1. Contribution to the realisation of the European Research Area
2. Widening the participation
3. SMEs participation
4. Social Sciences and Humanities
5. Science and Society
6. Gender
7. International Cooperation
8. Sustainable development and climate change, including information on climate change related expenditure
9. Bridging from discovery to market application
10. Digital Agenda
11. Private Sector Participation
12. Funding for Public Private and Public Public Partnerships
13. Communication and dissemination
14. Participation patterns of independent experts

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Horizon 2020 Evaluation System Challenges: Data

- Horizon 2020 Evidence Base
  - CORDA
  - "Impact Data" (Reporting, Surveys, …)
- Open Access Publications mandatory
  - New quality of bibliometric data
- Links with other data sources
  - Bibliometric analysis (Scopus, Web of science, …)
  - Patent data
  - Company data
  - Social networks
  - …

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Horizon 2020 Evaluation System Challenges: ERA

- Horizon 2020 is unique … but part of a wider picture
- Possible longer term vision:

  A comprehensive information system for research funding within the ERA
  - ✓ Horizon 2020
  - ✓ National funding programmes
  - ✓ Other funding sources (regions, foundations, …)
- Mayor challenges to overcome
  - ✓ Technical feasibility?
  - ✓ Political agreement?
  - ✓ Legal issues (confidentiality; personal data; …)?

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Horizon 2020 Evaluation System
Challenges: Analysis and Assessment

- Evaluation is more than data and evidence
- Need to improve on analytical skills and to explore new methodologies for evaluation of research and innovation activities
  - ✓ Counterfactual analysis?
  - ✓ Formal consultation of stakeholders?
  - ✓ Survey techniques using social media?
- Improve links with the evaluation constituencies
  - ✓ Standing advisory body?
  - ✓ Research Evaluation Conference(s)?
  - ✓ …

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Horizon 2020 Evaluation System Outlook

Early 2014	Commission Staff Working Document "Horizon 2020 Evaluation and Reporting"
Mid 2015	First Annual Horizon 2020 Evaluation Report
End 2015	*FP7 Ex-Post Evaluation Report*
2017	Horizon 2020 Interim Evaluation
2023	Horizon 2020 Ex-Post Evaluation

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