

Future & Emerging Technologies (FET)

Horizon 2020

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Agenda

- Overview Future and Emerging Technologies in Horizon 2020
 - FET Proactive
 - FET Flagship
- Focus FET Open
 - FET Open submission and evaluation
- Writing a FET Proposal - Tips

[FET in H2020]

Excellent Science

- **European Research Council**
 - Frontier research by the best individual teams
- **Future and Emerging Technologies**
 - Collaborative research to open new fields of innovation
- **Marie Skłodowska Curie actions**
 - Opportunities for training and career development
- **Research infrastructures** (including e-infrastructure)
 - Ensuring access to world-class facilities

Industrial Technologies

- **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 & the bioeconomy**
- **Secure, clean and efficient energy**
- **Smart, green and integrated transport**
- **Climate action, resource efficiency and raw materials**
- **Inclusive, innovative and reflective societies**
- **Security society**

European Institute of Innovation and Technology (EIT)

Spreading Excellence and Widening Participation

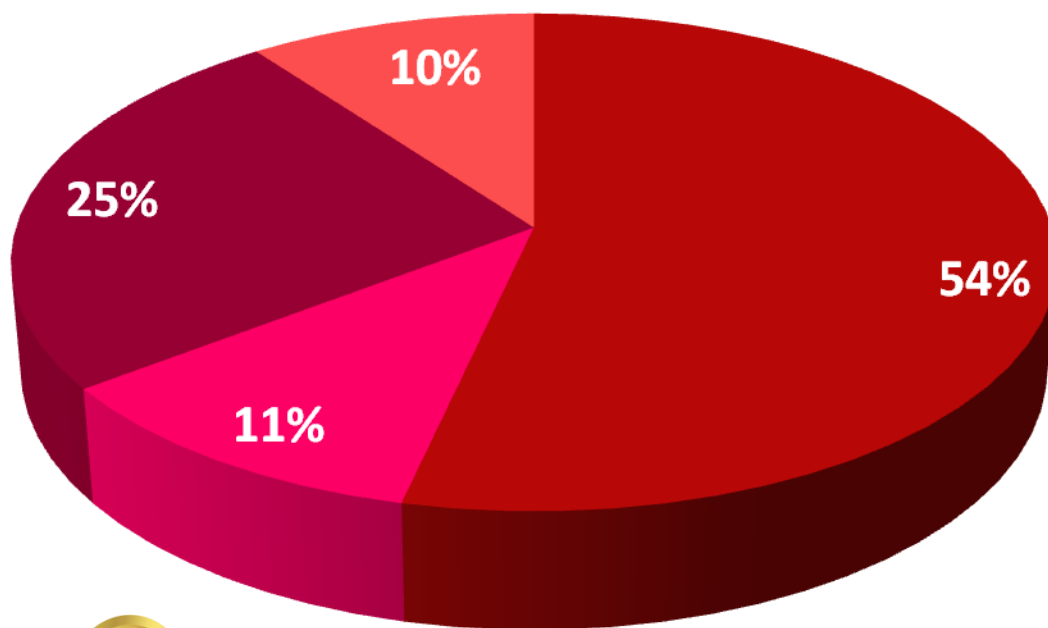
Science with and for society

Joint Research Center (JRC)

[Excellent Science]

Budget

€ 22.274 M



€ 2.696 M for FET

- European Research Council
- Future and Emerging Technologies
- Marie Skłodowska Curie Actions
- European Research Infrastructures (including eInfrastructures)

[FET: from FP7 to Horizon2020]

A new level of ambition

New mandate, going beyond ICT

- Pathfinding Europe's technological future
- Bootstrapping new R&I eco-systems

New large-scale partnering initiatives complementing small and medium scale activities

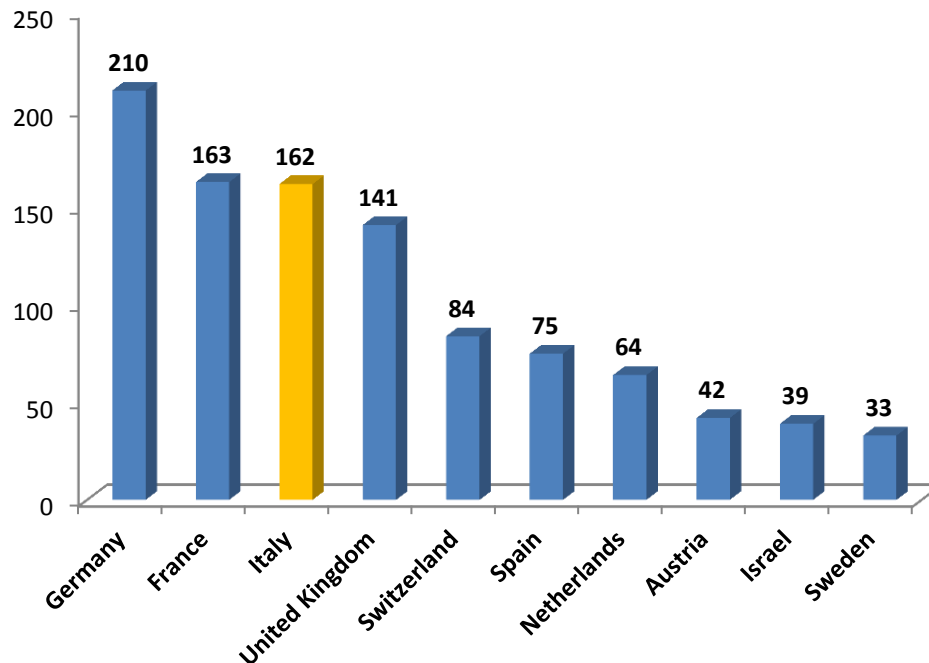
- FET Flagships
- High-Performance Computing (PPP)

A new actor in the S&T funding landscape

A much larger intervention budget

[Overview in FP7]

FET projects portfolio: up to 320 projects, 880M€ EC funding



<https://ec.europa.eu/digital-agenda/en/fet-projects-portfolio>

Brochure: http://cordis.europa.eu/fp7/ict/programme/docs/fet-proj-comp-2013_en.pdf

[FET in Horizon2020]

Pathfinding Europe's technological future

"Future and emerging technologies shall support collaborative research in order to extend Europe's capacity for advanced and paradigm-changing innovation. It shall foster scientific collaboration across disciplines on radically new, high-risk ideas and accelerate development of the most promising emerging areas of science and technology as well as the Union wide structuring of the corresponding scientific communities."

[FET Funding Schemes]

Open, light and agile

Roadmap based research

FET-Open

Early Ideas

Individual
research projects

**Exploring
novel ideas**

FET Proactive

*Exploration and
Incubation*

Topical clusters
of research projects

**Developing
topics & communities**

FET Flagships

*Large-Scale
Partnering Initiatives*

Common research
agendas

**Addressing
grand challenges**

[FET Advisory Group - FETAG]

- ✓ Provided for in the legislative text to **give consistent and consolidated advice on relevant objectives and S&T&I priorities** during the WP preparations
- ✓ Provides expertise to the Commission when preparing implementing measures, i.e. before the Commission submits these draft measures to a comitology committee
- ✓ 26 members selected from an open call for candidates
 - ✓ Balanced composition in terms of countries, gender, stakeholders, disciplines, age.
- ✓ First meeting planned for 21 February 2014
- ✓ IT: Lucia Sorba (CNR- Nanoscienze) – Gloria Origgi (CNRS- Paris e Unibo - scienze cognitive)

[FET Proactive: Objectives]

- ✓ FET Proactive nurtures **emerging themes and communities** by addressing a number of promising **exploratory research** themes with the potential to generate a critical mass of inter-related projects that, together, make up a broad and multifaceted exploration of the themes and build a European pool of knowledge and excellence.
- ✓ Through this line of activity FET engages in the coordinated exploration of a new theme, as well as in the **consolidation of promising future technologies to be taken up by industry and society**.
- ✓ Under its proactive calls the present WP supports three themes selected from a wide bottom-up consultation and a fourth one (H2020-FETHPC) implementing part of the HPC strategy elaborated in the context of the HPC Public-Private Partnership by ETP4HPC3.

[FET Proactive 2014-2015]

Collaborative research

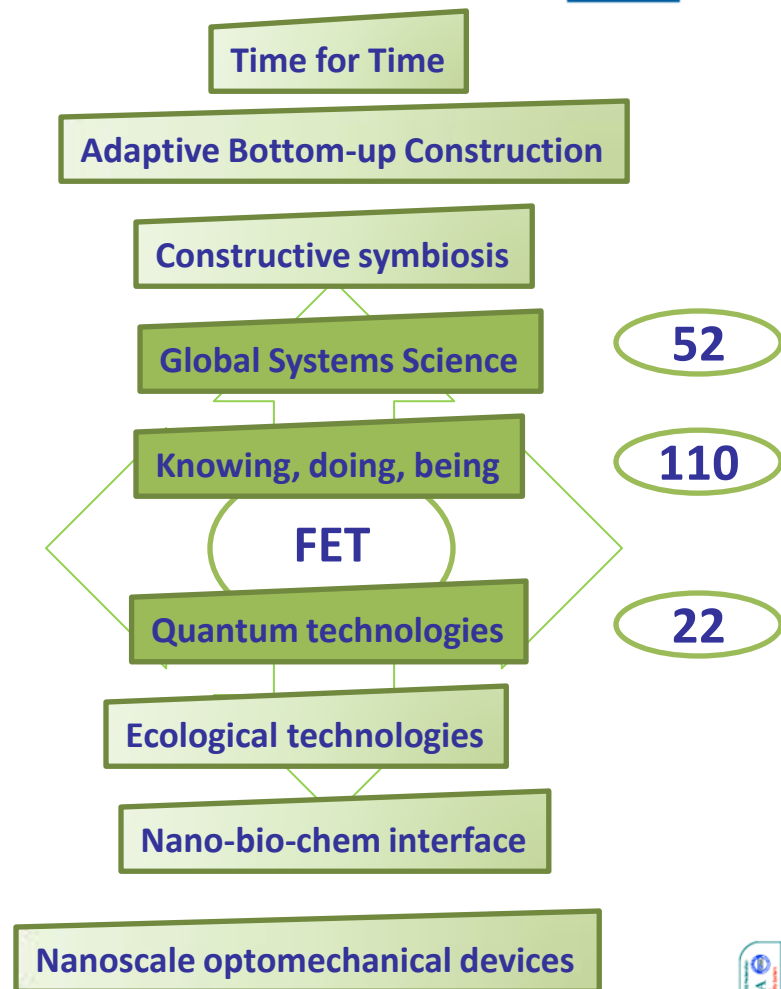
Structured around 9 candidate topics,
over 1927 contributions

A set of thematic initiatives on promising
emerging research themes.

- *Fixed deadlines calls*
- *15 page proposals*
- *1 step submission, 1 stage evaluation*
- *3 evaluation criteria*

Instrument

- Research and Innovation Actions (100% funding)
- **Total budget: 35M€ in WP 2014-15**



[FET Proactive: HPC]

FETHPC 1: HPC core Technologies, Programming Environments and Algorithms for Extreme Parallelism and Extreme Data Applications - 2014

Specific challenge: Addressing the exascale challenges to achieve, by 2020, the full range of technological capabilities for **exascale-class HPC systems** which are balanced at all levels and validated with significant application drivers

Project size : 2 to 4M€, up to 8M€ for topic a)

Budget & Deadline : 93,4M€ -> Deadline: 25/11/2014

FETHPC 2: HPC Ecosystem Development - 2014

Specific challenge: Addressing the implementation of a common HPC strategy and boosting the relevant European research excellence

Budget & Deadline: 4M€ -> Deadline: 25/11/2014



The fourth initiative implements, through a separate call (H2020-FETHPC), part of the HPC strategy elaborated in the context of the **HPC Public-Private Partnership by ETP4HPC**, signed on 17th December 2013.

[FET Flagships: Objectives]

FET Flagships are highly ambitious, large-scale, long-term, science-driven, goal-oriented, roadmap-based research initiatives, which will:

- ✓ provide strong scientific, technological and IPR basis for establishing areas of European leadership and bringing substantial benefits for society
- ✓ help overcome fragmentation and increase the impact of European research and innovation efforts

and which will require:

- ✓ cooperation among a range of scientific communities/disciplines, with industries and with the involvement of representatives from the civil society
- ✓ a long-term commitment of all key stakeholders sharing a common scientific vision and under a strong leadership
- ✓ a joint effort of EU and national programmes to provide a large financial support over a long period

[FET Flagships: 2014-2015]

Graphene & Human Brain Project selected



Stimulating ideas &
structuring the scientific
community
2009 - 2010

Preparatory
Phase
05/2011 - 04/2012

Flagship
selection
6 → 2
end 2012

FP7 ramp-up
phase
Start of:
HBP
GRAPHENE
FLAG-ERA
10/2013- 03/2016

Operational phase
2013- 2023

FLAG-ERA , FP7 ERA-NET

Started 01 October 2013

2.0 MEuros, 36 months

Coordinator: ANR (Fr)

31 Ministries & Non-Research

Funding Organizations from:

- Member States (MS)
- Associated Countries (AC)
- European Regions (MS/AC)

Enhanced complementarities and synergies of regional, national, European and international research programmes and initiatives, with:

- a) Networking / discussions of matters of interest related to the two FET Flagships;
- b) Identification of areas that complement the core projects and to launch future (trans)national calls for research projects;
- c) Reducing the fragmentation of the ERA by taking up new opportunities for Excellence

H2020 website:

<http://ec.europa.eu/programmes/horizon2020/>

Participant portal:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/index.html>

FET Work Programme call text :

[http://ec.europa.eu/research/participants/portal/doc/call/h2020/common/1587754-02. fet wp2014-2015 en.pdf](http://ec.europa.eu/research/participants/portal/doc/call/h2020/common/1587754-02_fet_wp2014-2015_en.pdf)

Contact FET : CNECT-FET@ec.europa.eu

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[Riassumendo]

- ✓ FET in H2020
- ✓ Budget
- ✓ Objectives and Programme Structure
- ✓ FET Proactive
- ✓ FET Flagship

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GRAZIE PER L'ATTENZIONE!

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