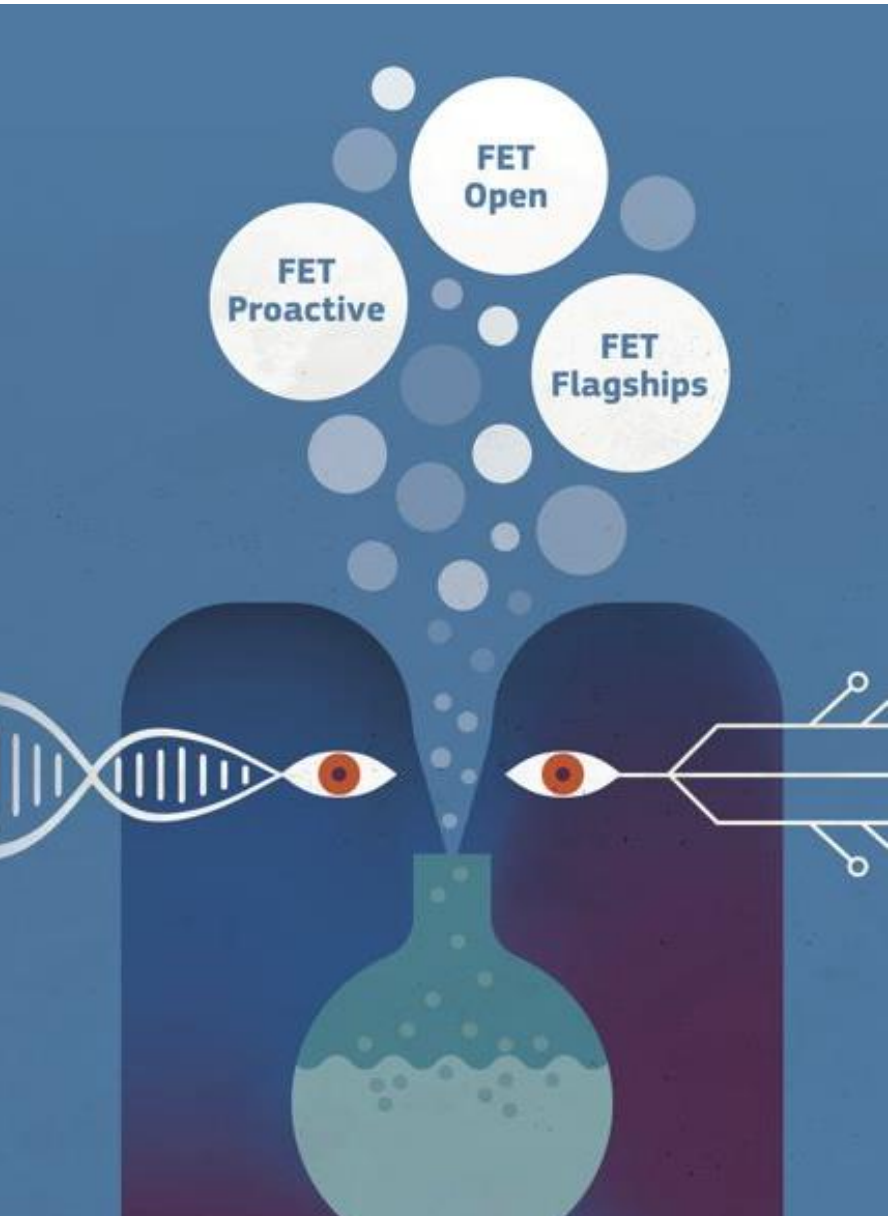


Future & Emerging Technologies

FET

Serkan Üçer
National Contact Point
FET and INFRA Domains

June 5, ’18 – METU - Ankara

What is FET?

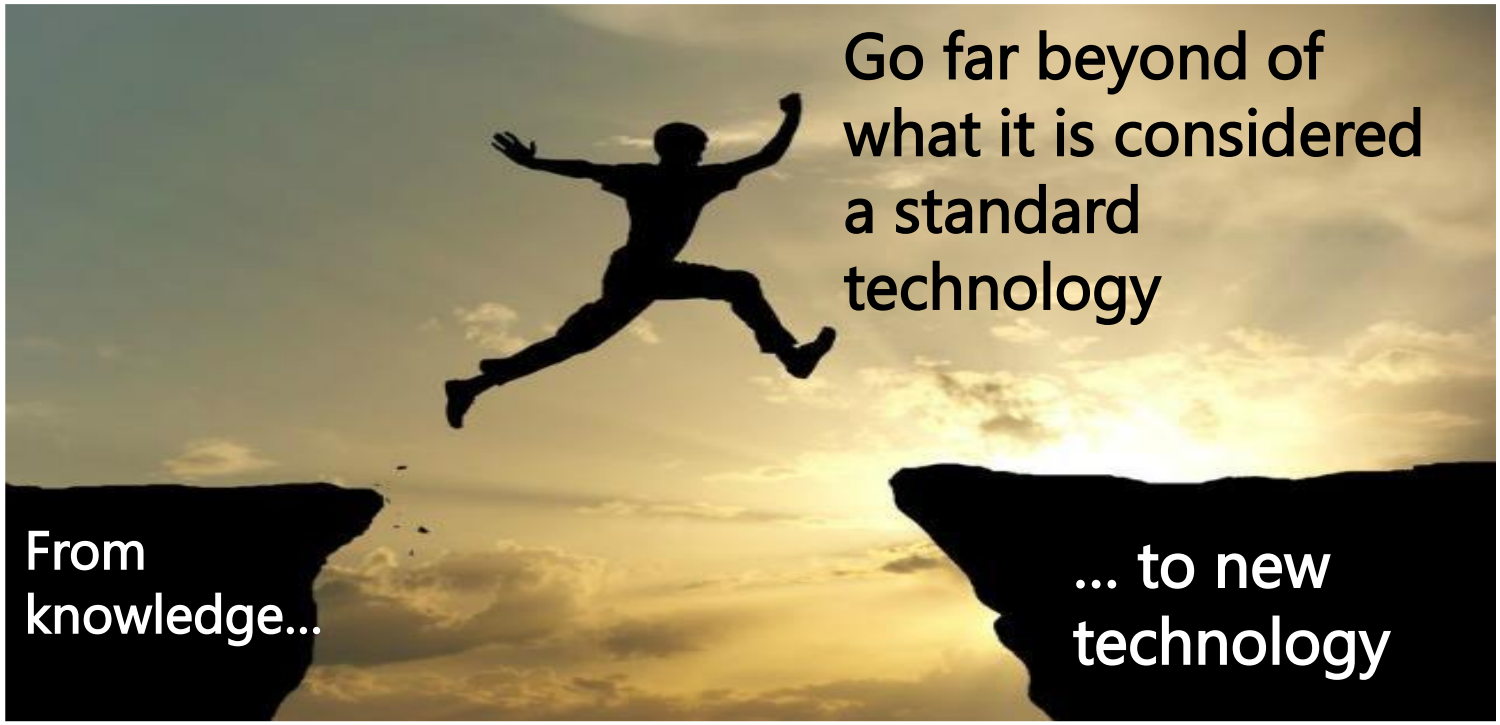
The Future & Emerging Technologies (FET) programme is all about transforming advanced scientific ideas into radically new technologies for the future. It does this through a unique combination of high risk, long term, multidisciplinary and collaborative frontier research. The programme consists of three complementary schemes: FET-Open, FET-Proactive and FET Flagships.

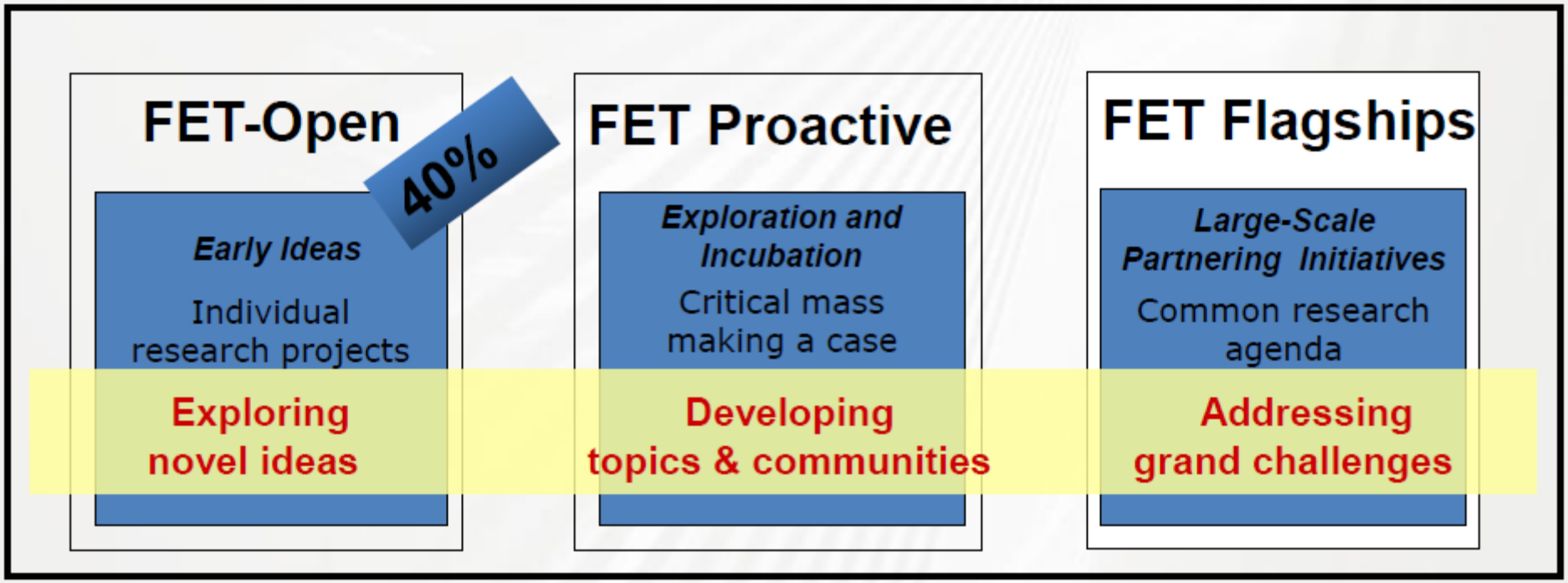
• FET-Open uses a bottom-up approach for exploring novel and visionary ideas for radically new technologies. It accommodates new and alternative ideas, concepts or paradigms that are so early-stage, high-risk and out-of-the-box that they cannot be supported elsewhere in the Framework Programme. The scheme is truly open in scope as there are no restrictions on themes that can be funded, as long as they are relevant for new future technologies.

To date, two Flagships are running: Graphene and the Human Brain Project. A third one on Quantum Technologies will start in 2018.

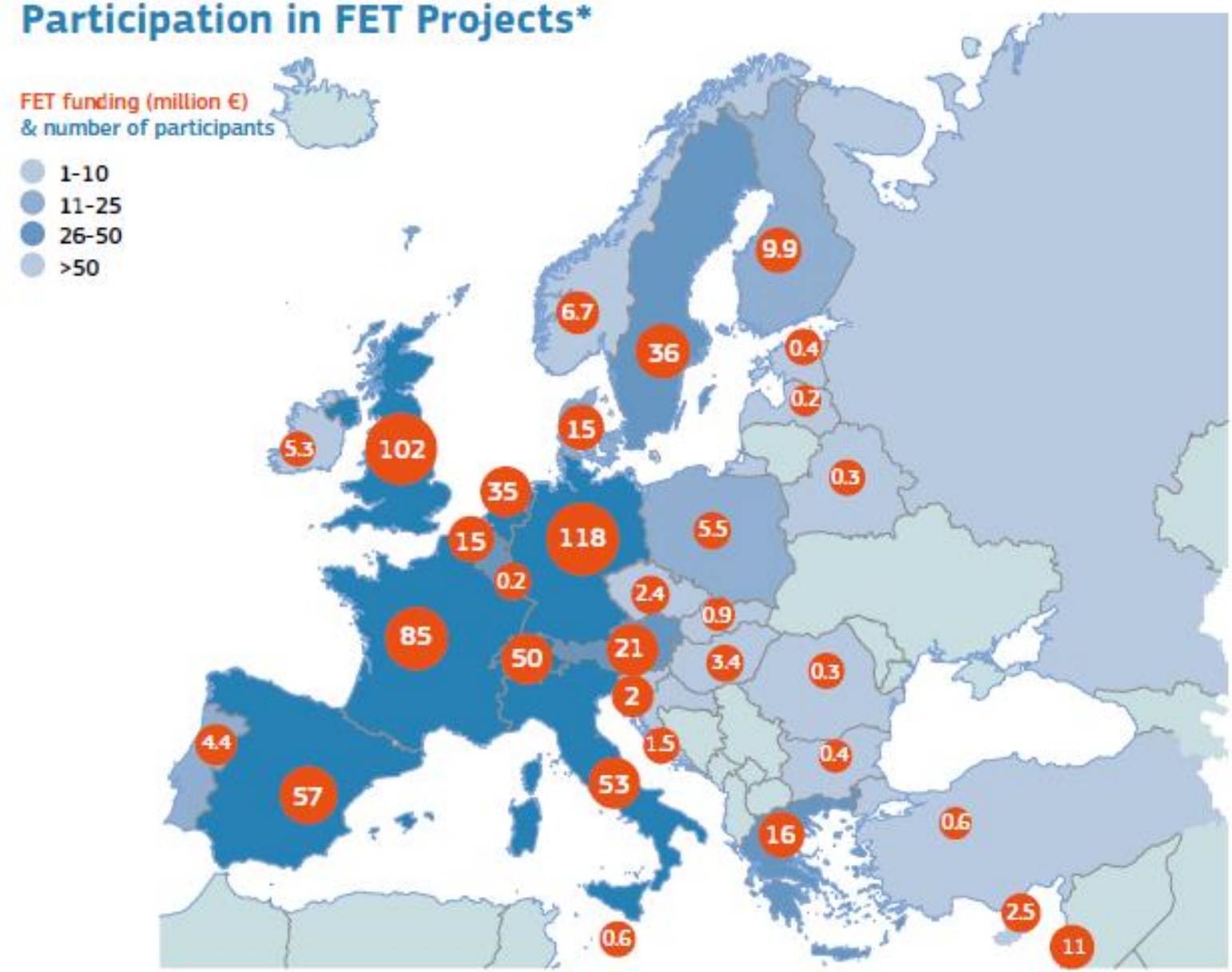
FET Philosophy

Let's try even if it may fail!




FET-Open
40%
Early Ideas
Individual research projects
FET Proactive
Exploration and Incubation
Critical mass making a case
FET Flagships
Large-Scale Partnering Initiatives
Common research agenda
Exploring novel ideas
Developing topics & communities
Addressing grand challenges

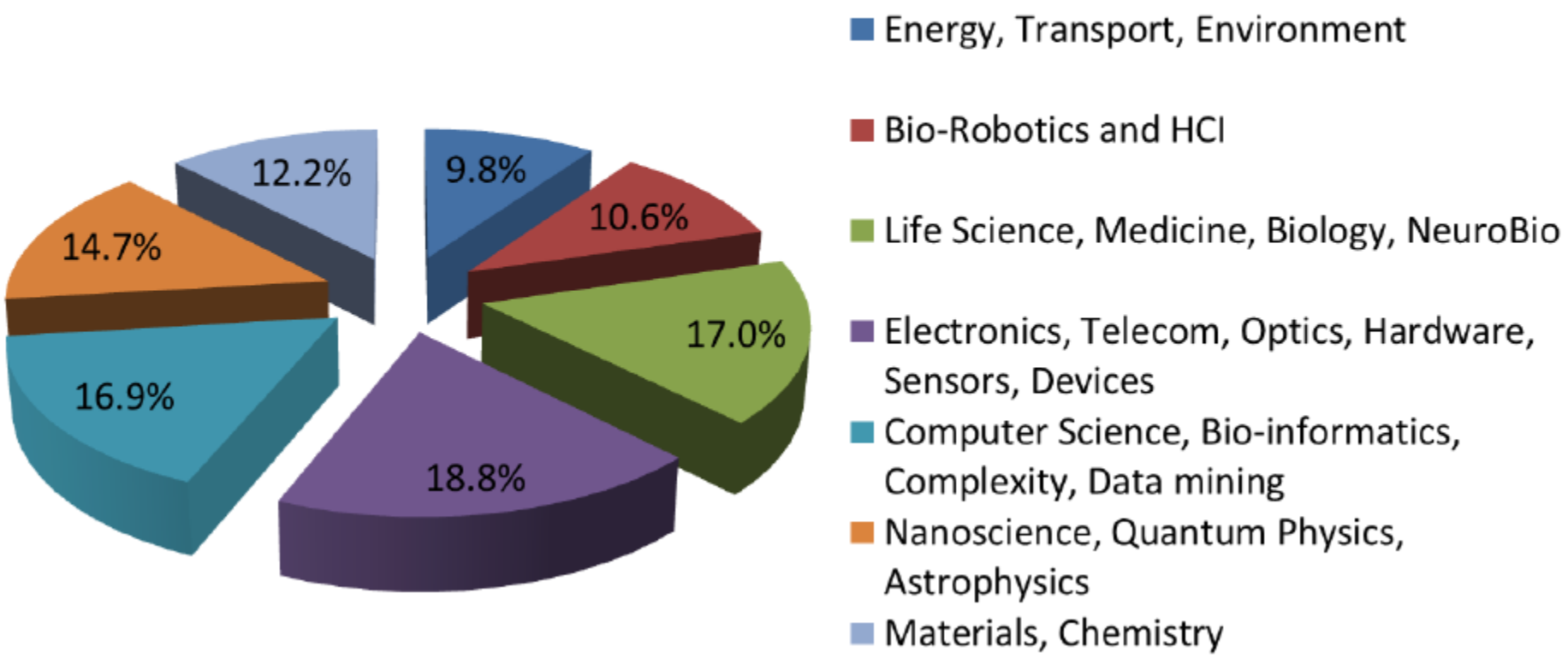
Participation in FET Projects*



* As December 2016 (131 projects)

FET Open: Diversity of domains

FET-Open H2020: Snapshot of topics covered



FET Open Gatekeepers

FET Open proposals should:

- Have a clear and radical vision for new technology challenging current paradigms
  - incremental research following a well-established roadmap will not be funded
- Target a technological breakthrough
  - blue-sky exploratory research without a clear technological objective will not be funded
- Involve **ambitious interdisciplinary research** that opens up new areas of investigation
  - proposals with only low-risk incremental research will not be funded

Topic FETPROACT-01-2018: 6 proactive sub-topics

a. Artificial organs, tissues, cells and sub-cellular structures
   - indicative project size 4-7MEuro, indicative total budget 15MEuro

b. Time
   - indicative project size 4-5MEuro, indicative total budget 13MEuro

c. Living technologies
   - indicative project size 4-7MEuro, indicative total budget 20MEuro

d. Socially interactive technologies
   - indicative project size 4-7MEuro, indicative total budget 15MEuro

e. Disruptive micro-energy and storage technologies
   - indicative project size 4-7MEuro, indicative total budget 15MEuro

f. Topological matter
   - indicative project size 4-5MEuro, indicative total budget 10MEuro

Total: 88 Meuro
Call deadline: 22/03/2018

Calls in FET: Open and Proactive

FETOPEN-01-2018-2019-2020: FET-Open Challenging Current Thinking

RIA Research and Innovation action
Open 07 November 2017
RIA Research and Innovation action
multiple cut-off dates: 16 May 2018
24 January 2019
18 September 2019
13 May 2020

FETOPEN-02-2018: FET-Open Coordination and Support Actions

Open 07 November 2017
CSA Coordination and support action
Close 11 April 2018

FETOPEN-03-2018-2019-2020: FET Innovation Launchpad

Open 07 November 2017
CSA Coordination and support action
multiple cut-off dates: 16 October 2018
08 October 2019
14 October 2020

FETPROACT-01-2018: FET Proactive: emerging paradigms and communities

Open 31 October 2017
RIA Research and Innovation action
Close 22 March 2018

FETPROACT-02-2018: Community building in Neuromorphic Computing Technologies

Open 31 October 2017
CSA Coordination and support action
Close 22 March 2018

FETPROACT-03-2018: FET ERA-NET Cofund

Open 31 October 2017
ERA-NET-Cofund
Close 18 December 2018

Participation of EU-13 in FET-Open*

	#applicants	#applicants (%)	#funded applicants	# funded applicants (%)	success rate
EU-13	1207	7.1%	21	3.9%	1.7%
EU-15	14163	83.5%	473	87.9%	3.3%
Non-EU**	1601	9.4%	44	8.2%	2.7%
Total	16971		538		3.2%

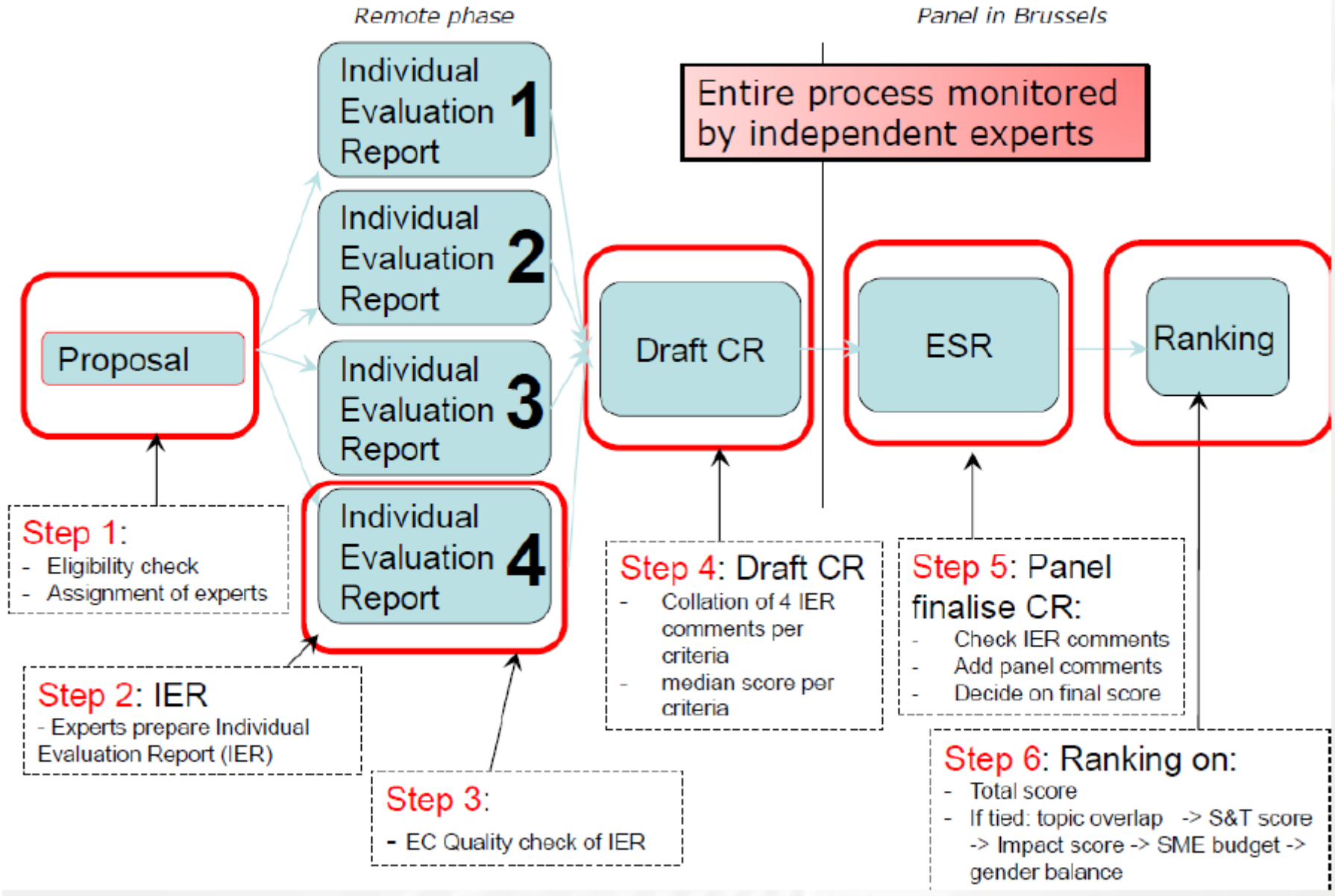
*All FET-Open calls in 2014-2016 (RIA & CSA)
** Mostly associated countries (1379) + Third countries (173) + Other (49)

Participation of EU-13 in FET-Proact*

	#applicants	#applicants (%)	#funded applicants	#funded applicants (%)	success rate
EU-13	189	6.4%	24	8.4%	12.7%
EU-15	2488	84.5%	239	84.2%	9.6%
Non-EU**	269	9.1%	21	7.4%	7.8%
Total	2946		284		9.6%

*All FET-Proactive calls in 2014-2017 (RIA & ERANET Cofound)
** Mostly associated countries

Evaluation process

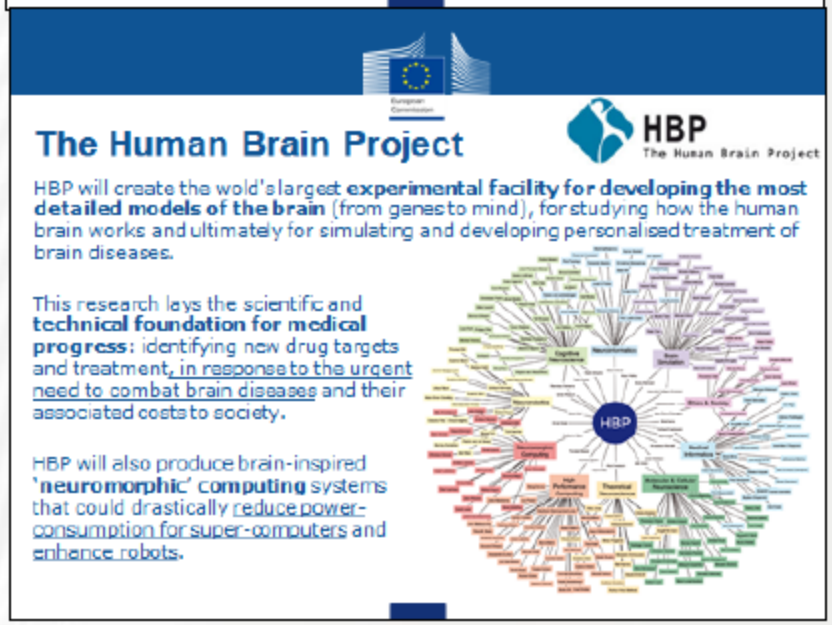


	FET-OPEN RIA FET-PROACTIVE	FET-OPEN CSA
Excellence	Threshold: 4/5 Weight: 60%	Threshold: 3/5 Weight: 40%
Impact	Threshold: 3,5/5 Weight: 20%	Threshold: 3/5 Weight: 40%
Implementation	Threshold: 3/5 Weight: 20%	Threshold: 3/5 Weight: 20%

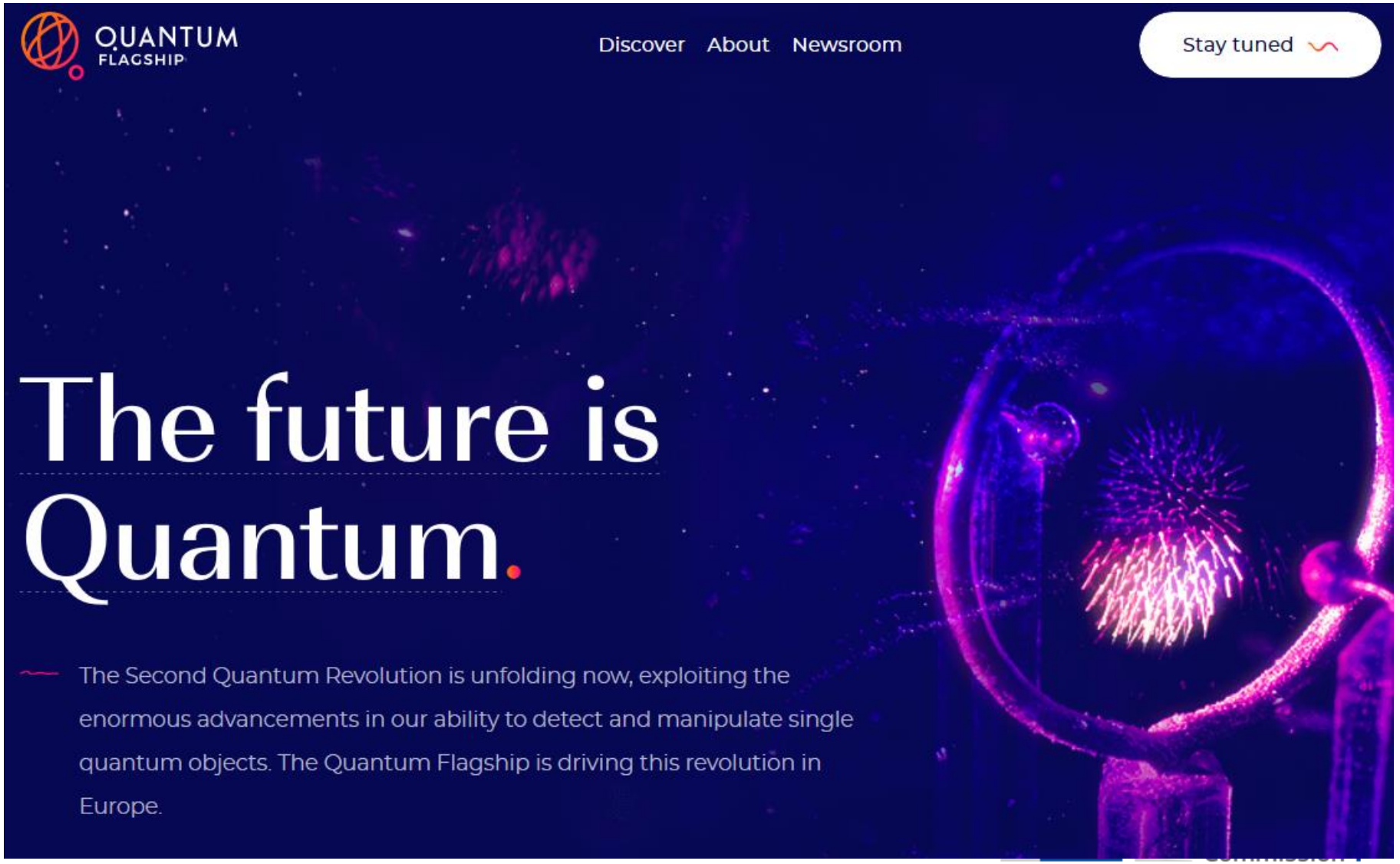
FET Flagships

FET Flagships address ambitious S&T challenges that require:

- *Setting up large-scale partnerships that bring together the leading researchers from a large number of research organisations (academia and industry);*
- *Commitment to a strong science investment over a long time period that cannot be carried out alone by the Commission or any single Member State*



Quantum Flagship



TR National Initiative on Quantum

- ***https://anket.tubitak.gov.tr/index.php?sid=82142&lang=tr***

Calls in FET: HPC, Flagships and Quantum

FETHPC-01-2018: International Cooperation on HPC
Open 01 February 2018
RIA Research and Innovation action
Close 15 May 2018

FETFLAG-01-2018: Preparatory Actions for new FET Flagships
Open 31 October 2017
CSA Coordination and support action
two-stage; closes 20 February 2018; 18 December 2018

FETFLAG-02-2018: ERA-NET Cofund for FET Flagships
Open 31 October 2017
ERA-NET Cofund
Close 17 April 2018

FETFLAG-03-2018: FET Flagship on Quantum Technologies
Open 31 October 2017
CSA Coordination and support action, RIA Research and Innovation action
Close 20 February 2018

FET EraNETs

ChistERA: http://www.chistera.eu/

FlagERA: https://www.flagera.eu/

QuantERA: https://www.quantera.eu/

FET Delegation of Turkey

Serkan Üçer	Ulusal İrtibat Noktası	TÜBİTAK
Murat Doğruel, Prof. Dr.	Alan Delegesi	Marmara Ü.
Zafer Gedik, Prof. Dr.	QT Üyesi	Sabancı Ü.
Orkun Hasekioğlu, Dr.	FET BoF Üyesi	TÜBİTAK
Mehmet Demirer, Dr.	FET BoF Üyesi	TÜBİTAK

FET after Horizon 2020

"Lamy" High Level Group - recommendations

1.	**Prioritise research and innovation in EU and national budgets** Action: double the budget of the post-2020 EU research and innovation programme
2.	**Build a true EU innovation policy that creates future markets** Action: foster ecosystems for researchers, innovators, industries and governments; promote and invest in innovative ideas with rapid scale-up potential through a European Innovation Council
3.	**Educate for the future and invest in people who will make the change** Action: modernise, reward and resource the education and training of people for a creative and innovative Europe.
4.	**Design the EU R&I programme for greater impact** Action: make the future programme's pillars driven by purpose and impact, fine-tune the proposal evaluation system and increase flexibility
5.	**Adopt a mission-oriented, impact-focused approach to address global challenges** Action: set research and innovation missions that address global challenges and mobilise researchers, innovators and other stakeholders to realise them.
6.	**Rationalise the EU funding landscape and achieve synergy with structural funds** Action: cut the number of R&I funding instruments, make those remaining reinforce each other and make synergy with other programmes work.

High Level Group – recommendations #2

7.	**Simplify further** Action: become the most attractive R&I funder in the world, privileging impact over process
8.	**Mobilise and involve citizens** Action: stimulate co-design and co-creation through citizen involvement
9.	**Better align EU and national R&I investment** Action: ensure EU and national alignment where it adds value to the EU's R&I ambitions and missions.
10.	**Make international R&I cooperation a trademark of EU research and innovation** Action: open up the R&I programme to association by the best and participation by all, based on reciprocal co-funding or access to co-funding in the partner country.
11.	**Capture and better communicate impact** Action: brand EU research and innovation and ensure wide communication of its results and impacts.

Topics to consider in FP9:

- New funding schemes between EU/MS/industry
  e.g. Germany comments: The model of tripartite funding (as used in ECSEL) is of great strategic added value compared with purely nationally or EU-financed initiatives. It should be considered for other JTIs… bureaucratic effort should be substantially reduced.
- Role of early technology research in FP9 versus close-to-market/commercial innovation-driven
- Tackling oversubscription in FET (budget)
- … ?

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