H2020 FET Open MSC actions

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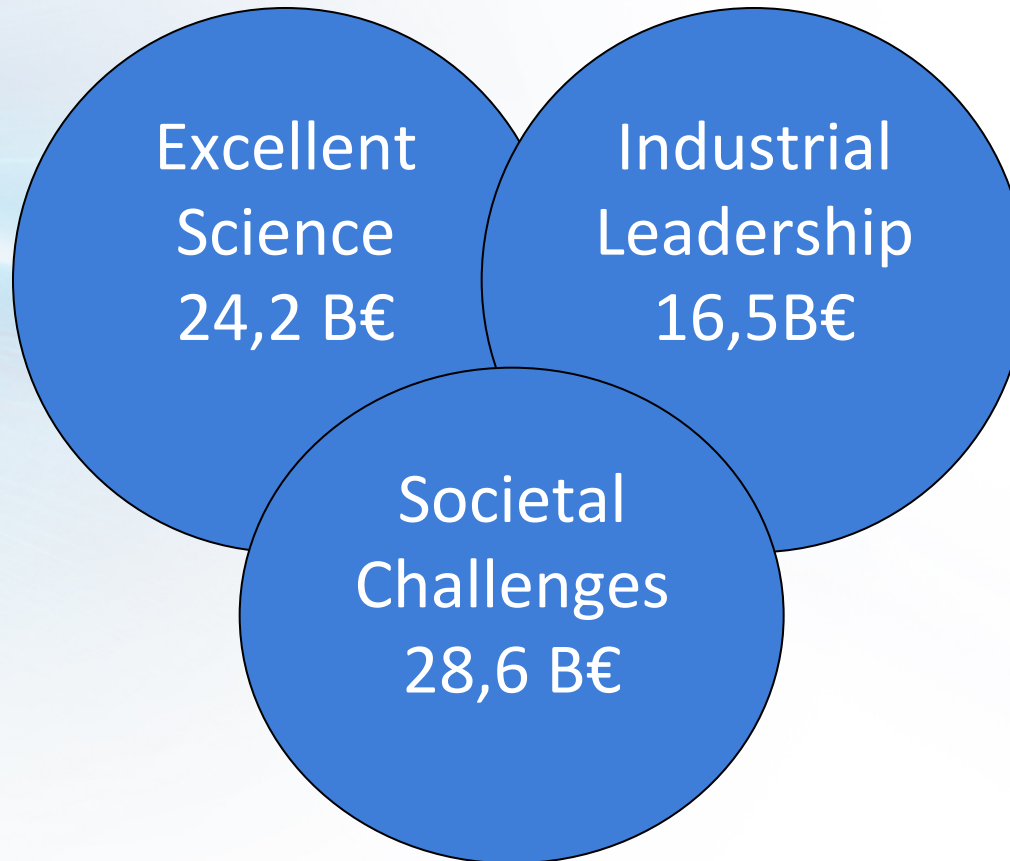European Commission

Overview

- MSCA and FET in Horizon 2020

- FET-Open in Work Programme 2016-2017:

  - Research and Innovation Actions

  - Coordination and Support Actions

  - Innovation Launchpad

- MSCA in Work Programme 2016-2017:

  - Innovative Training Networks (ITN)

  - Individual Fellowships (IF)

  - Research and Innovation Staff Exchange (RISE)

  - COFUND, NIGHT

- Call for Experts

A stronger, clearer focus

H2020 Budget: 74,8 B€ (current prices)

Excellent Science 24,2 B€

Industrial Leadership 16,5B€

Societal Challenges 28,6 B€

OTHERS: 5,5 B€ (Spreading excellence & widening participation, Science & Society, JRC, EIT)

EUROPEAN COMMISSION

HORIZON 2020

INNOVATION UNION

Excellent Science pillar in H2020 (24,2B€)

- European Research Council (13,1B€)
- **Marie Skłodowska-Curie actions (6,2B€)**
- **Future and Emerging Technologies (2,6B€)**
- Research infrastructures programme (2,4B€)

The pillar aims to reinforce and extend the excellence of the Union's science base and to consolidate the ERA in order to make the Union's research and innovation system more competitive on a global scale.
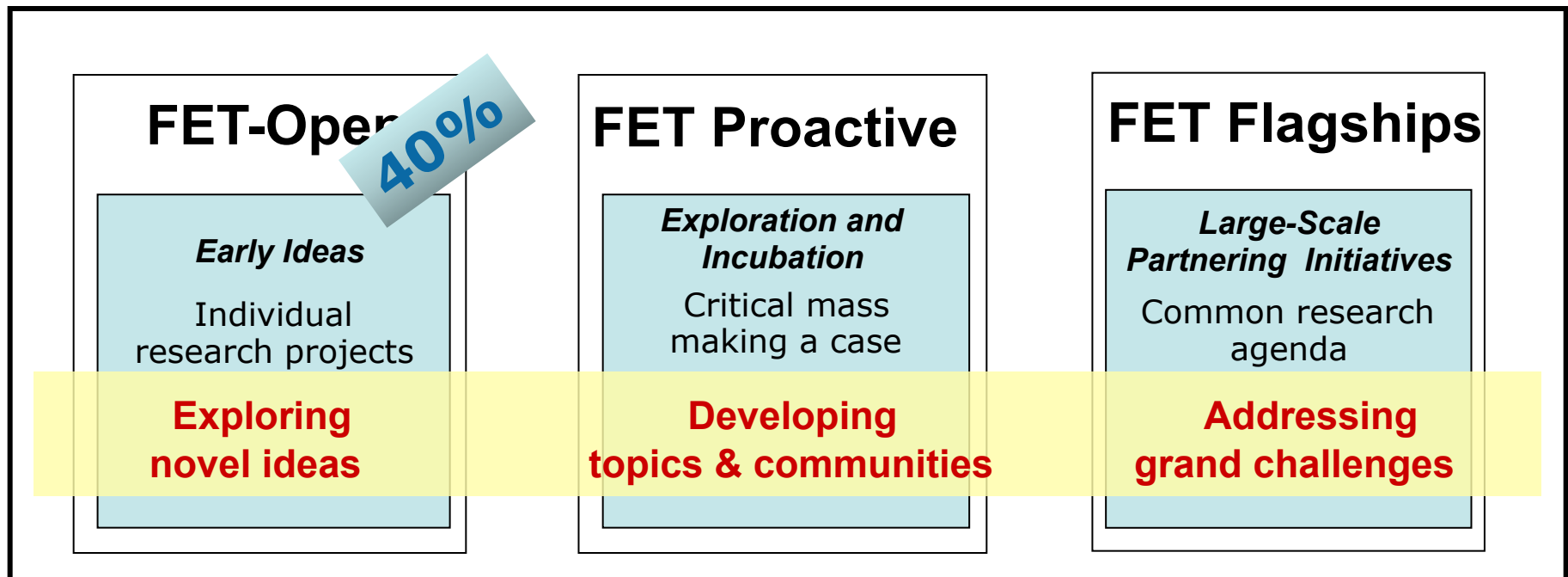
PART I

FET Open

Future and emerging technologies:

- collaborative research

- extend Europe's <u>capacity for advanced and paradigm-changing innovation</u>.

- foster <u>scientific collaboration across disciplines</u> on <u>radically new, high-risk ideas</u>

- accelerate development of the most promising emerging areas of science and technology

Pathfinding Europe's technological future

European Commission

Open, light and agile ←→ **Roadmap based research**

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

FET WP2016-17, overview

- **Call - FET-Open – Novel ideas for radically new technologies**
  - FETOPEN-01-2016-2017: FET-Open research and innovation actions
  - FETOPEN-02-2016: FET-Open Coordination and Support Actions
  - FETOPEN-03-2017: FET-Open Coordination and Support Actions
  - FETOPEN-04-2016-2017: FET Innovation Launchpad
- **Call - FET Proactive – Boosting emerging technologies**
  - FETPROACT-01-2016: FET Proactive: emerging themes and communities
  - FETPROACT-02-2017: FET ERANET Cofund
  - FETPROACT-03-2016: FET ERANET Cofund in Quantum Technologies
- **Call - FET Proactive – High Performance Computing**
  - FETHPC-01-2016: Co-design of HPC systems and applications
  - FETHPC-02-2017: Transition to Exascale Computing
  - FETHPC-03-2017: Exascale HPC ecosystem development
- **Call - FET FLAGSHIPS – Tackling grand interdisciplinary science and technology challenges**
  - FETFLAG-01-2016: Partnering environment for FET flagships
- **Other Actions**
  - FET Flagship Core Projects (within FPAs)

FETOPEN
FETPROACT
FETHPC
FETFLAG

European Commission

Call - FET-Open – Novel ideas for radically new technologies

FET Open *supports the early-stages of the science and technology research and innovation around new ideas towards radically new future technologies. It also funds coordination and support activities for such high-risk forward looking research to prosper in Europe.*

Note that 40% of the H2020 budget for FET is earmarked for FET Open.

	FET-Open	259,5M*
FETOPEN-1-2016-2017	FET-Open RIA	84+84+84M*
FETOPEN-2-2016	FET-Open CSA	3M
FETOPEN-3-2017	FET-Open CSA	1,5M
FETOPEN-4-2016-2017	FET Innovation Launchpad	3M

NEW

*in part from 2018 budget

FET-Open Research and Innovation Actions

Continuity with WP2014-15 – more than 50% budget increase

Early stages of R&I on <u>any</u> new technological possibility

Scope defined by FET gatekeepers

Expected impact

- **Establish baseline of feasibility and innovation potential**
- **European thought-leadership and future leaders**
- **New R&I practices**

Collaborative projects (RIA) up to 4M€ funding (indicative)

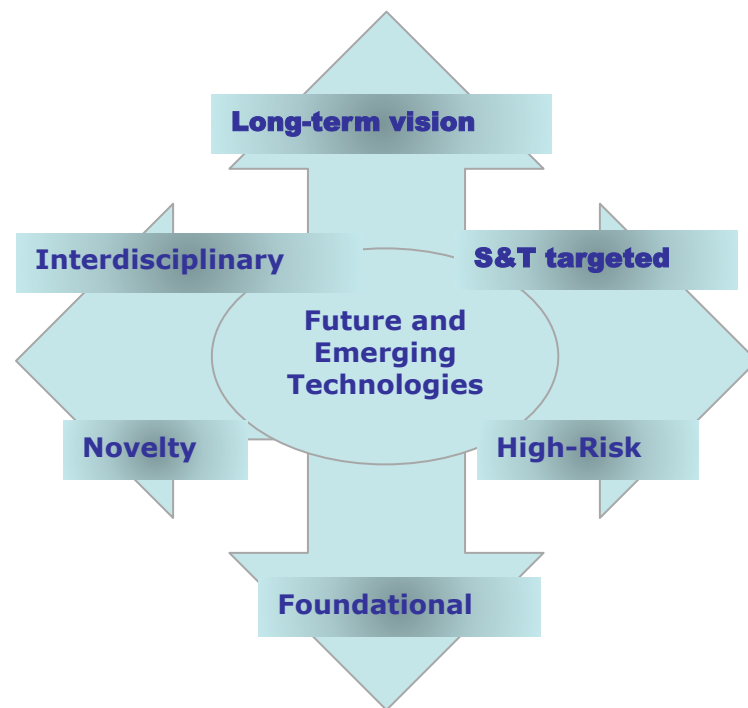*Three cut-off dates with budget of 84M€ each*

Single step submission, '1+15' pages

FET-Open Research and Innovation Actions

Scope:

*[…] Proposals are sought for **collaborative research with all of the following characteristics** ('FET gatekeepers'):*
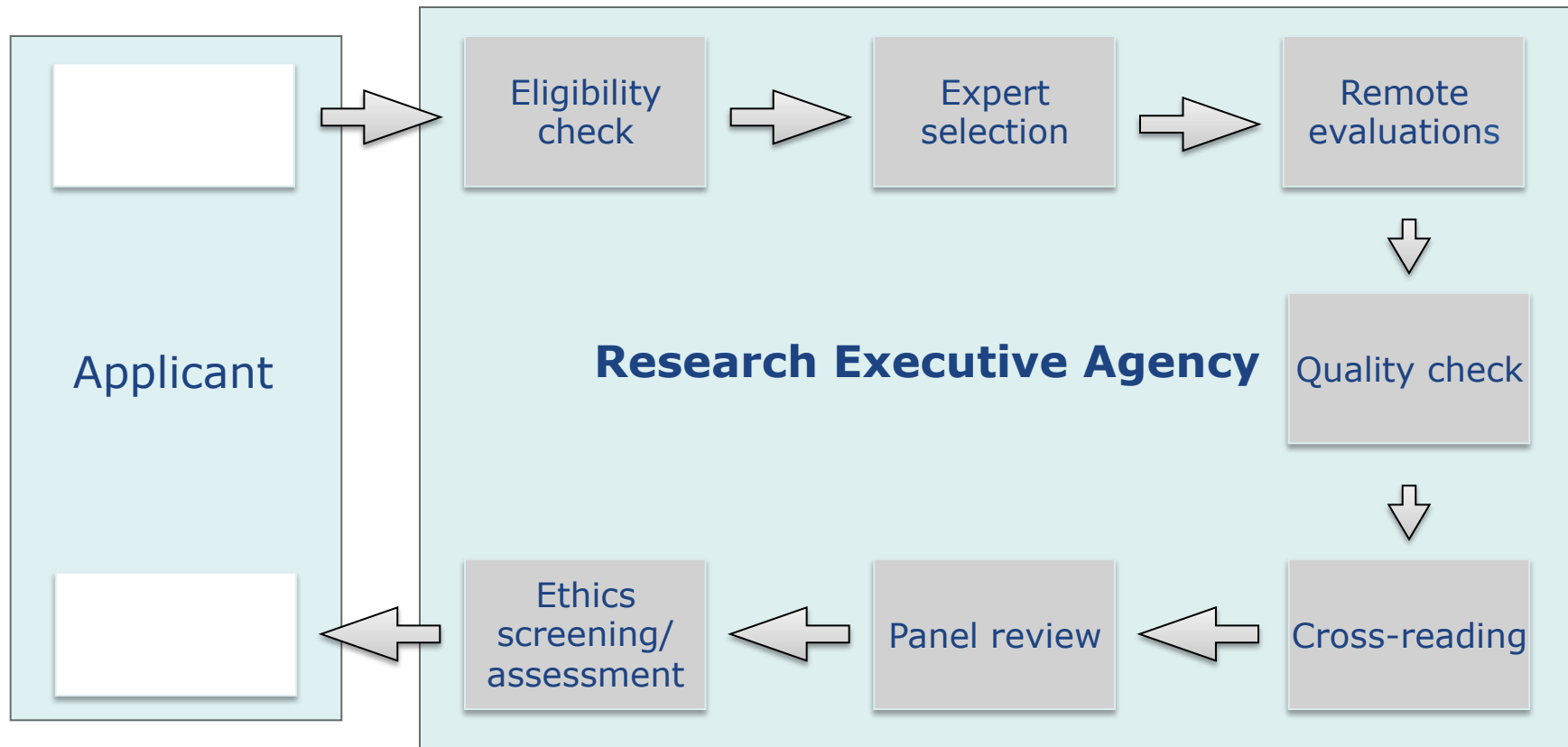
- **Long-term vision**
- **Breakthrough scientific and technological target**
- **Novelty**
- **Foundational**
- **High-risk**
- **Interdisciplinary**

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Conditions for the Call – FET Open

- **Single stage procedure**
- **High quality peer review by 4 expert evaluators**
- Interdisciplinary final panel review
- Time table for evaluation and GA signature
    - Time to Inform (TTI) - **outcome of the evaluation** within **5 months**
    - Time to Grant (TTG) - **signature of the GA** within **8 months**
- **Eligibility and admissibility conditions** - parts B and C of the General Annexes to the Work Programme
- Grant Agreement Preparation (GAP) - **grant completely based on proposal** (no negotiation)
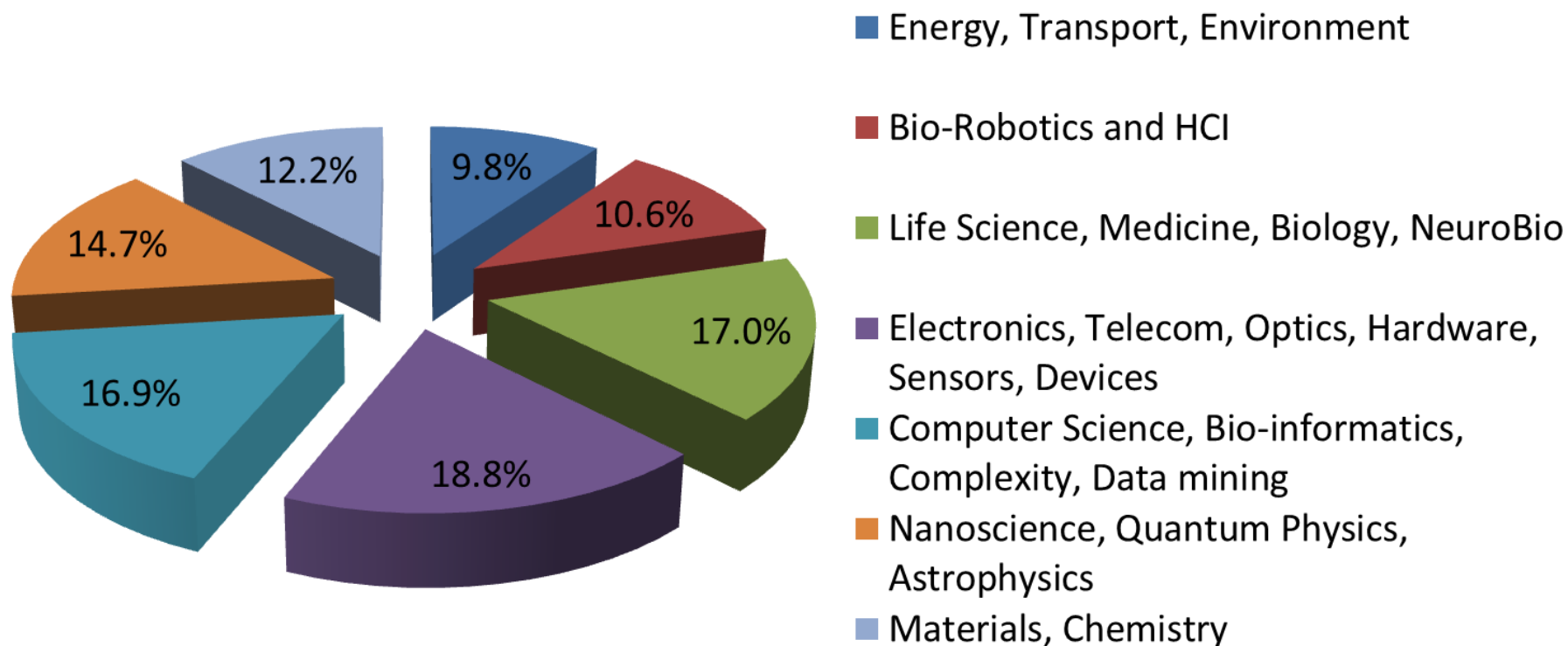
European Commission

1 step submission and evaluation

Feedback to proposers - Evaluation Summary Report (ESR)

- **Collation of all evaluators' comments**, per sub-criterion, which may be mutually contradicting (no consensus) - <u>full transparency</u>

- **Final score** per criteria is **decided by the final panel review**

- Total final score for the proposal is calculated as the **weighted sum of the final scores** from the 3 evaluation criteria

- Final panel review adds also some additional comments

Overview of topics covered*

- Energy, Transport, Environment
- Bio-Robotics and HCI
- Life Science, Medicine, Biology, NeuroBio
- Electronics, Telecom, Optics, Hardware, Sensors, Devices
- Computer Science, Bio-informatics, Complexity, Data mining
- Nanoscience, Quantum Physics, Astrophysics
- Materials, Chemistry

*first cut-off in 2014: 640 eligible RIA proposals - 77M€ budget - success rate ~3,75%

Summary evaluation outcome: RIA

Cut-off	Eligible Proposals received	Above threshold proposals	Grant requested by above threshold proposals	Retained Proposals	Grant requested by retained proposals	Success rate
SEPT 2014	643	254	805 M€	24	78,1 M€	3,7%
MAR 2015	665	326	1079 M€	11	41 M€	1,7%
SEPT 2015	799				Max 38,5 M€	1,1%-1,3% (est.)

FET-Open is extremely competitive

European Commission

Is FET-Open really the right scheme for you?

- *Check out LEIT and Societal Challenges work programmes*
- *FET is not ERC: collaboration, science and technology are all essential ingredients.*
- *It is not because something has not been done before that it is sufficiently novel for FET*
- *FET is not the long-term end of an established industry's road-map (radical novelty, interdisciplinarity,…)*
- *An exciting long-term vision is essential, but also a new and plausible idea on how to get there*
- *Writing a good FET-Open proposal is probably as hard as writing a good scientific publication.*

European
Commission

FET–Open Coordination and Support Actions

- Continuity with WP2014-15 with some new sub-topics

- <u>Specific Challenge</u>: The challenge is to make Europe the best place in the world for collaborative research and innovation on future and emerging technologies that will secure and renew the basis for future European competitiveness and growth, and that will make a difference for society in the decades to come.

- Coordination and Support Actions (CSA)

- Single step submission

European Commission

FET-Open Coordination and Support Actions

Expected Impact:

- Strengthening globally recognised European leadership in the early exploration of visionary, new and emerging technologies, beyond academic excellence and with a strong engagement of scientists, citizens, innovators and policy makers.

- Improved long-term innovation potential in Europe both from the abundance of novel ideas and the range of actors ready to take them forward.

- Improved understanding of the range of possible impact mechanisms for long-term science and technology research.

- Improved readiness across Europe to engage in silo-breaking research collaboration and to take up new research and innovation practices.

European Commission

FET-Open Coordination and Support Actions

Scope

- **FET Exchange – networking in future and emerging R&I areas [2016 and 2017]**

- **FET Communication – visibility and outreach [2016]**

- **FET Conference – 2018 [2016]**

- **FET Innovation Greenhouse – capacity for facilitating earliest stages of innovation from FET research [2016]**

NEW

- **FET Futures – looking for new topics and strategies [2017]**
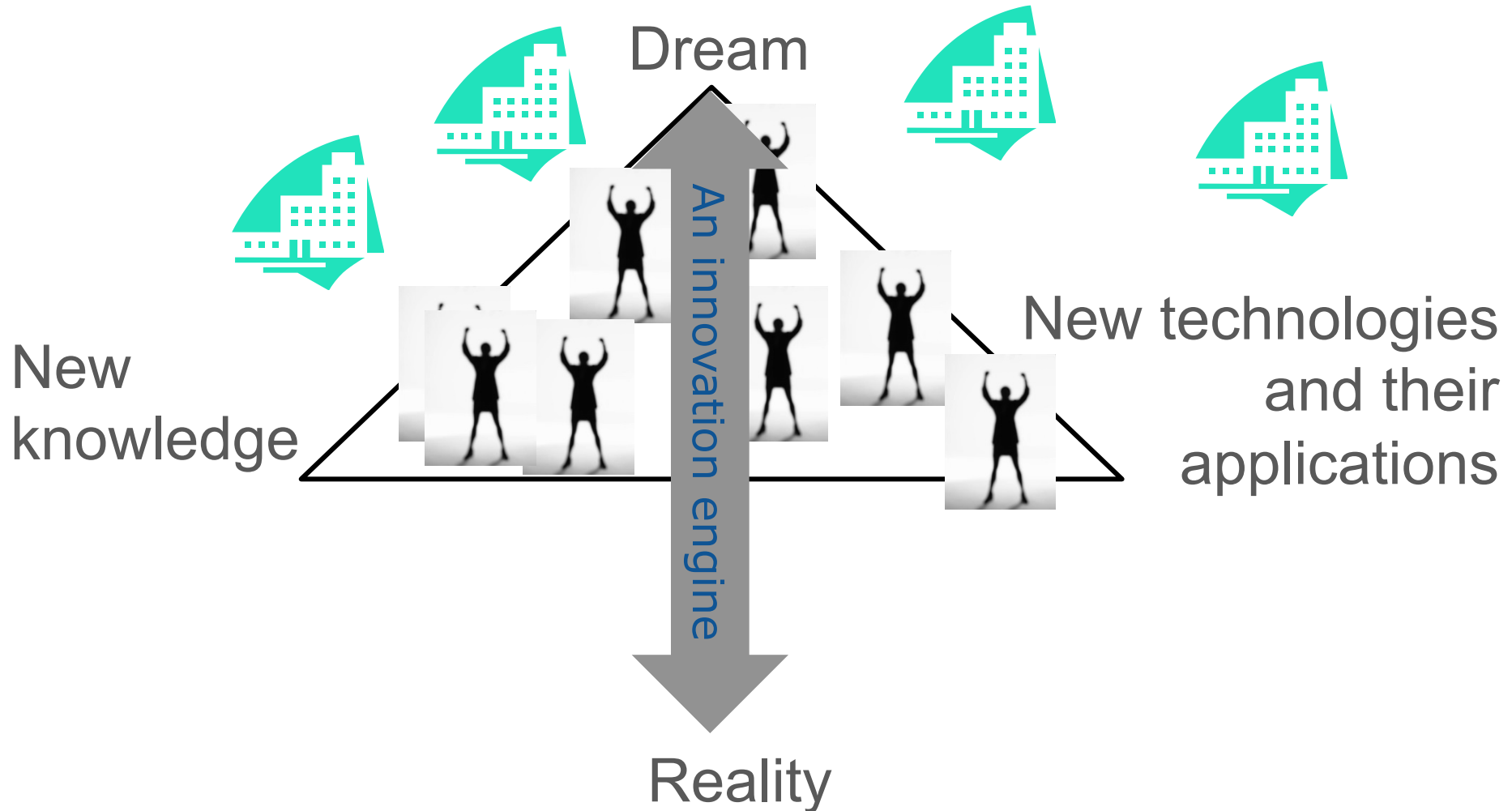
FET-Open Innovation Launchpad

NEW

- *New topic in WP2016-17*

  This topic aims at funding further innovation related work (i.e. activities which were not scheduled to be funded by the original project) to verify and substantiate the innovation potential of ideas arising from FET funded projects and to support the next steps in turning them into a genuine social or economic innovation.

- *Coordination and Support Action, 18 months, up to 100k€*

- *Single step submission, '1+7' pages, 2 deadlines*

FET and innovation?

Dream

New knowledge

An innovation engine

New technologies and their applications

Reality

European Commission

FET-Open Innovation Launchpad

NEW

Scope

- **Short and focused actions (18 months indicative, 100K€ funding)**

- **Early innovation steps to improve market- and investor-readiness**

- **Based on results from an ongoing or recently finished FET project**
  - Any FET-funded project from FP7 or H2020, ongoing or maximum 1 year from end-date of originating project to call deadline
  - The link with the originating project is to be substantiated in the proposal

- **No additional S&T research**

- **Actions not foreseen in originating project**

- **No direct link needed with originating consortium**

- **Single participant possibility**

- **Assurance on necessary intellectual property rights and agreements to be stated in the proposal**

European Commission

FET-Open Innovation Launchpad

NEW

Expected Impacts

- **Increased innovation potential from FET projects**
  (is there evidence that the chance of succeeding will be increased through this action?)

- **Creation of concrete innovations (start-up or otherwise)**
  (concreteness of the innovation idea to move closer to market than in the originating project)

- **Stimulating entrepreneurial mindset in FET research world**
  (is this providing a strong role model for going beyond the research world?)

- **Seeding growth and the creation of jobs**
  (is there a credible pathway presented towards a more inclusive society, growth and jobs?)

Calls of FET-Open in the WP 2016-17

Topic	Budget 2016 (€ Million)	Budget 2017 (€ Million)	Deadlines	Opening
FETOPEN-01-2016-2017 (RIA)	84.0	84.0 26.5 (+57.5)	11 May 2016 17 Jan 2017 27 Sep 2017	8 Dec 2015
FETOPEN-02-2016 (CSA)	3.0		11 May 2016	8 Dec 2015
FETOPEN-03-2017 (CSA)		1.5	17 Jan 2017	20 Sep 2016
FETOPEN-04-2016-2017 (CSA - ILP)	1.2	1.8	29 Sep 2016 27 Sep 2017	1 Mar 2016
Total:	88.2	113.8		

PART II

MSCA

MSCA Objective

Ensure the optimum development and dynamic use of Europe's intellectual capital in order to generate new skills, knowledge and innovation

Budget 2014-2020: over € 6 billion

Key Features

Bottom-up approach → Includes all domains of research and innovation

Openness → Strong accent on participation of industry, SMEs and non-academia overall

Mobility → A global scope with trans-national mobility required and often cross-sector mobility as a key component

Flexibility → Level of involvement is proportional to the participant's needs

MSCA Funding Schemes

Innovative Training Networks - ITN

Individual Fellowships - IF

Research and Innovation Staff Exchange - RISE

Cofunding of regional, national, and international programmes - COFUND

European Researchers' Night - NIGHT

Innovative Training Networks (ITN)

- ✓ **Raise excellence** and **structure research and doctoral training**

- ✓ Trigger **cooperation and exchange of best practice** among participants

- ✓ **Triple 'i' dimension** of mobility and particular **focus on innovation skills and employability**

| European Training Networks (ETN) | European Industrial Doctorates (EID) | European Joint Doctorates (EJD) |

Individual Fellowships (IF)

✓ Enhance the creative and innovative potential of **experienced researchers**

✓ **Optional 3-6 month secondments** anywhere in Europe to increase fellowship impact, especially on non-academic sector
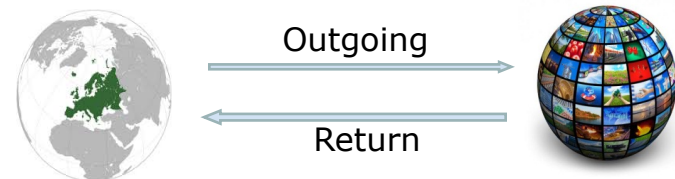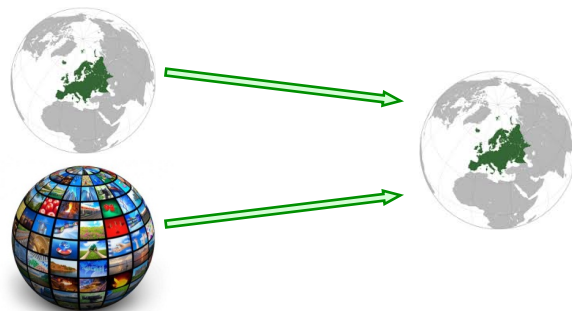

European Fellowships (1-2 years)

Career Restart Panel	Reintegration Panel

Society and Enterprise Panel
(since 2016)

Global Fellowships (2-3 years)

Outgoing

Return

Research and Innovation Staff Exchange (RISE)

✓ Strengthen the interaction between academic and non-academic organisations, and between Europe and third countries, through **R&I staff exchanges**

✓ International and inter-sector **transfer of knowledge** and sharing of ideas and of R&I culture

✓ Common **R&I project** for up to 4 years

✓ Highly skilled research and innovation staff **move for 1-12 months**

✓ **Eligibility condition** for staff members: **6 months at sending institution** prior to first secondment

COFUND

✓ Co-funding of new or existing **regional, national, and international programmes**

✓ MSCA COFUND projects offer **doctoral and 'post-doc' positions** similar to ITN and IF

✓ Suggested minimum **salary** level

Doctoral Programmes	Fellowship Programmes
Early stage researchers	Experienced researchers

NIGHT

- ✓ Bring **researchers closer to the general public**

- ✓ Increase **awareness** of research and innovation activities

- ✓ Yearly **event**, typically on the last Friday of the month of September (10th anniversary celebrated this year)

- ✓ Involvement of researchers funded by Horizon 2020

- ✓ Call under **Coordination and support action**

- ✓ Beneficiaries: any legal entity in the **EU Member States** and **Associated Countries**

MSCA WP 2016-2017

- ✓ Strong **continuity** of 2014-2015 approach

- ✓ Key features remain unchanged

- ✓ Yearly **calls** in each MSCA funding scheme (except for NIGHT covering again 2 editions)

- ✓ 2016 **budget** of MSCA comparable to 2015 level (759 million EUR)

- ✓ 2017 budget: 10.5% increase, 841 million EUR

MSCA WP 2016-2017

Main Novelties

✓An explicit link to the **Responsible Research and Innovation**

✓Link to the European Code of Conduct for **Research Integrity**

✓Elements of **Open Science** in the training of researchers

✓Better definition of **expected impact** (at researcher, organisation and ERA level)

✓**Gender aspects** explicitly indicated under the Excellence award criterion

✓Further involvement of the non-academic sector in IF – new **Society and Enterprise Panel**

MSCA – 2016-2017 Calls

Funding scheme	Call opens	Call closes	Budget
ITN	15/10/2015 15/09/2016	12/01/2016 10/01/2017	370 mEUR 430 mEUR
IF	12/04/2016 11/04/2017	14/09/2016 14/09/2017	218.5 mEUR 248 mEUR
RISE	08/12/2015 01/12/2016	28/04/2016 05/04/2017	80 mEUR 80 mEUR
COFUND	14/04/2016 05/04/2017	29/09/2016 28/09/2017	80 mEUR 80 mEUR
NIGHT	15/10/2015	13/01/2016	8 mEUR

And finally..

Call for experts !

- **Do have high-level of expertise in the relevant fields of research and innovation of H2020?** n

- **Can you be available for occasional, short-term assignments**

Sign up at the participant portal:

http://ec.europa.eu/research/participants/portal/desktop/en/experts/

Thank you for your attention!

H2020 website:
http://ec.europa.eu/programmes/horizon2020/

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

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