2019 CALLS IN FET/HORIZON 2020

DAVID KOLMAN, FFG 18.6.2019

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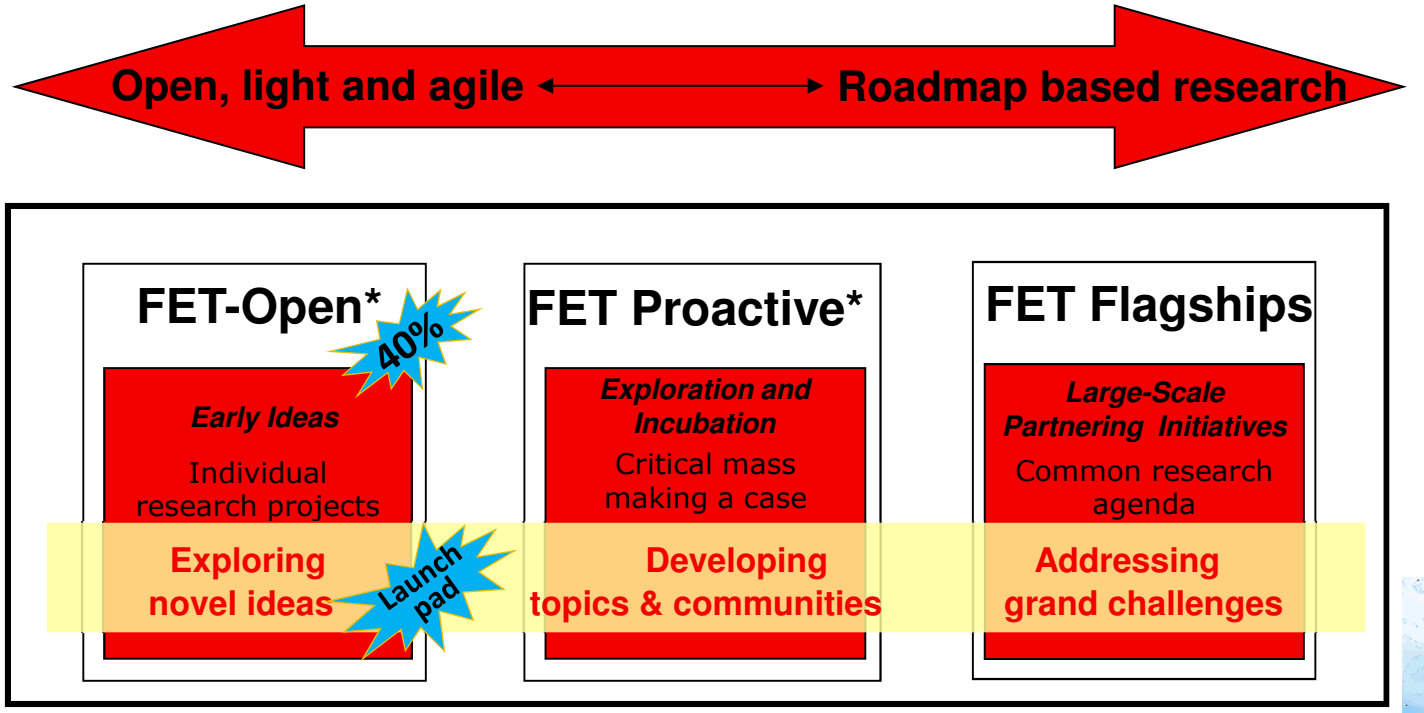
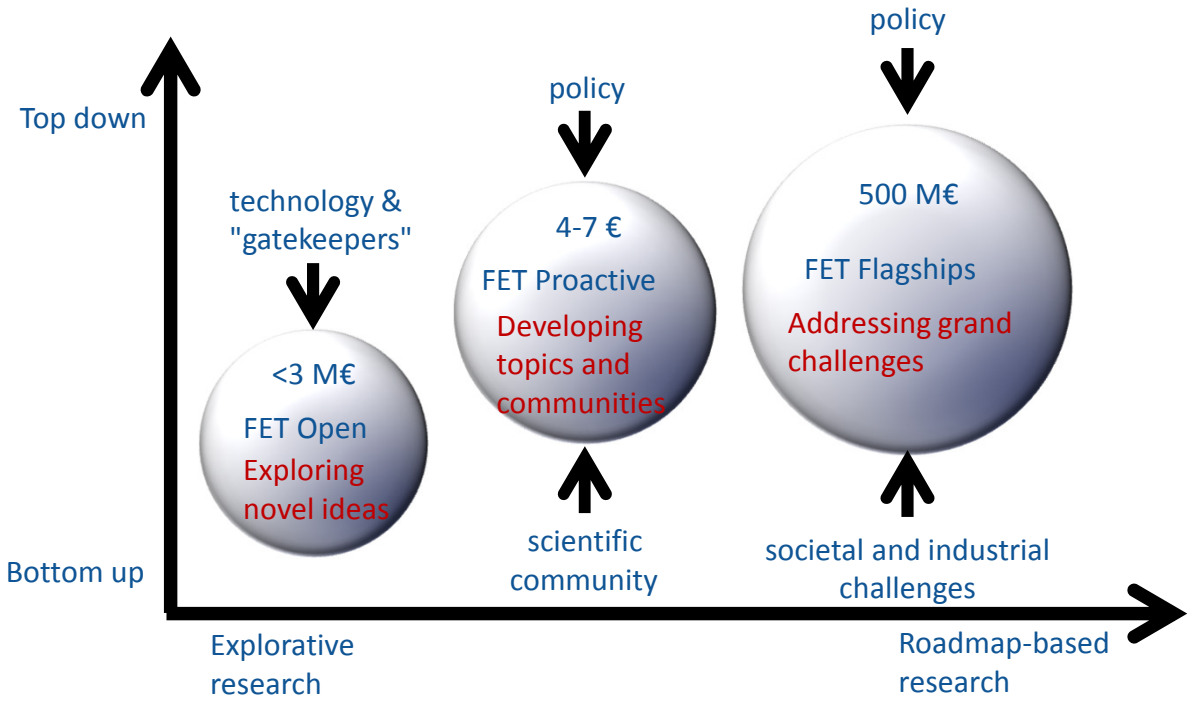
FET IN H2020: 3 COMPLEMENTARY PROGRAM LINES



* Part of EIC pilot 2019-2020

FET IN H2020: 3 COMPLEMENTARY PROGRAM LINES



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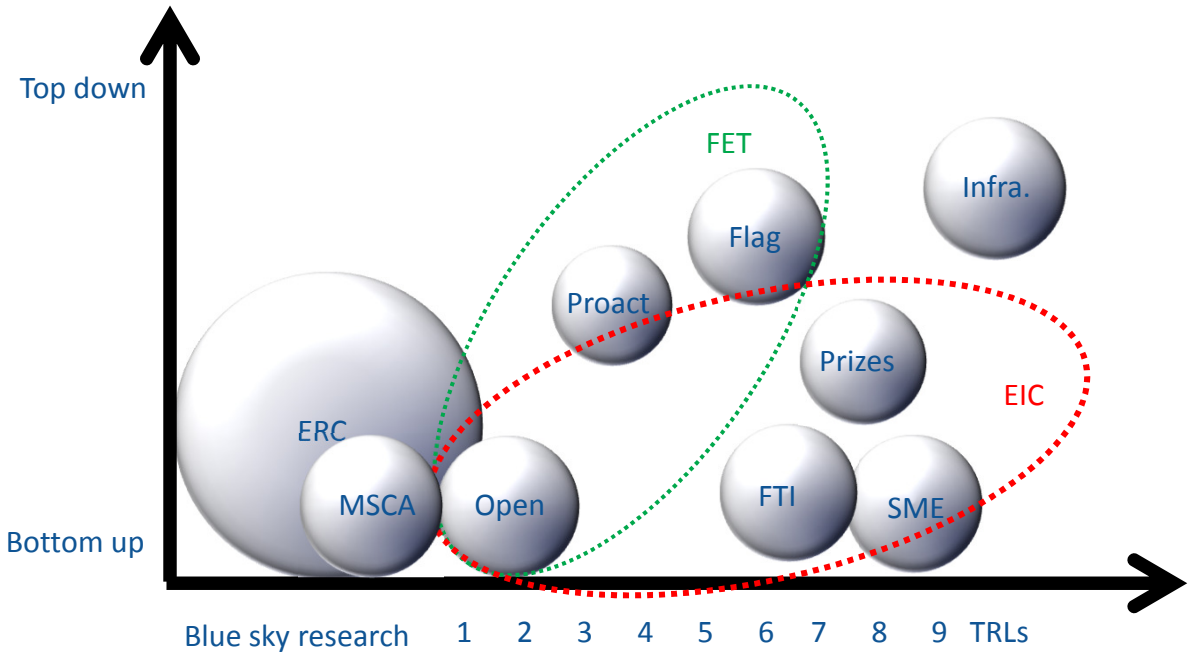
FET IN H2020: TRANSITION TO HORIZON EUROPE



SME participants in FET projects are eligible for EIC couching/services

FET OPEN OBJECTIVE

- What is funded:
  Embodiment of novel ideas into radically new technologies → TECHNOLOGY PROGRAM

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FET OPEN OBJECTIVE

- Optimal project results:
  - Proof of concept of the proposed technology
  - Early lab demonstrator

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RULES FOR PARTICIPATION: WHO CAN PARTICIPATE

Who can participate:

- Any type of legal entities: academia, industry, end-users…
- From anywhere in the world
- Minimum requirement: at least 3 independent legal entities from at least 3 different EU countries or countries associated to H2020
- Only participants from European, accociated and developing countries get funded*

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RULES FOR PARTICIPATION: WHO CAN GET FUNDING?

Entities established in:

- EU Member States (MS), or
- Associated Countries (AC): Albania, Armenia, Bosnia-Herzegovina, Faroe Islands, Georgia, Iceland, Israel, Macedonia, Moldova, Montenegro, Norway, Serbia, Switzerland, Ukraine, Tunisia, Turkey
- 'Developing countries' as listed in Annex A of H2020, e.g. Argentina, Bolivia, Colombia, Costa-Rica, Chile, Egypt, Indonesia, Jordan, Kenya, Malaysia, Morocco, Mongolia, Nicaragua, Pakistan, Panama, Peru, Philippines, Venezuela, Vietnam…
- International European interest organisations, e.g. CERN, EMBL, ESA, EUROFUSION, XFEL…

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FUNDING RATE(S)

- FET Open = Research and Innovation Action:
- Funding rate 100% of eligible direct costs*
- + 25% thereof to cover indirect costs
- for any type of legal entity

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ELIGIBLE DIRECT COSTS

- PERSONAL COSTS
- Travel costs and related subsistence allowance
- Costs for other [minor] goods and services
- Costs for subcontracting or for providing support to 3rd parties (cascade grants)
- Depreciation costs for equipment, infrastructure or other assets
- Capital and/or operating costs of large research infrastructures

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FET OPEN: GATEKEEPERS

Selection for funding is based on three “gatekeepers”

=

necessary features that any proposal with a chance to be funded has to have

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1ST GATEKEEPER: RADICAL VISION

- The project must address a clear and radical vision, enabled by a new technology concept that challenges current paradigms.

- Research to advance on the roadmap of a well-established technological paradigm, even if high-risk, *will not* be funded.

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2ND GATEKEEPER: BREAKTHROUGH TECHNOLOGICAL TARGET

- The project must target a novel and ambitious science-to-technology breakthrough as a first proof of concept for its vision.

- In particular, blue-sky exploratory research without a clear technological objective *will not* be funded.

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3RD GATEKEEPER: AMBITIOUS, INTERDISCIPLINARY, FOUNDATIONAL

- Ambitious interdisciplinary research for achieving the technological breakthrough and that opens up new areas of investigation.

- In particular, projects with only low-risk incremental research, even if interdisciplinary, *will not* be funded.

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4TH REQUIREMENT: HIGH RISK

- The inherently high risks of the research proposed shall be mitigated by a flexible methodology to deal with the considerable science-and-technology uncertainties and for choosing alternative directions and options.

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STANDARD H2020 REQUIREMENTS

Proposal has to include:

- Plan for Exploitation and Dissemination of Results (PEDR)
- Strategy for Knowledge Management and Protection incl. measures for Open Access to sci. publications
- Communication strategy

After the project start:

- *Data Management Plan*

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PROJECT PARAMETERS

- Typical project:
  - Smaller budget: ≤ 3 M€
  - Smaller consortia: 3 - 6 partners
  - Shorter execution time: ~ 3 years

- 'Light' scheme:
  - Light submission: single-stage, 15 pages (no cover page)
  - Light administration: mid-term and final reviews based on periodic S&T reports

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PROPOSAL COMPOSITION

- Part A: Administrative part of the proposal (online)
- Part B: Narrative part (core proposal; word document)
- Cover page (1 page A4)
- Section 1: S&T Excellence
- Section 2: Impact
- Section 3: Implementation
- Section 4: Members of the consortium (Additional information)
- Section 5: Ethics and Security (Additional information)

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PROPOSAL COMPOSITION

- Page limit: Sections 1-3 together are strictly limited to 15 pages,
  No page limit applies to Sections 4-5.
- Template: The structure of the template has to be strictly followed!
- Description/content of sections 1-3 matches the description/content of the respective evaluation criteria
  => Familiarize yourself with the specific evaluation criteria before writing!

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EVALUATION CRITERIA

Evaluation criteria:

Criterion	Treshold	Weight
Excellence	4/5	60%
Impact	3.5/5	20%
Implementation	3/5	20%

Success rate: presently ~ 10% and rising ☺

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CALL PARAMETERS

Future FET Open Deadlines:

Date	Budget
18 Sept. 2019	160 M€
13 May 2020	190 M€

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CALL INFO & SUBMISSION TOOL

Funding & Tenders Portal of the European Commission:

ec.europa.eu/info/funding-tenders/opportunities/portal/screen/programmes/h2020

- Excellent Science
  - Future and Emerging technologies (FET)
    - FET Open Challenging Current Thinking

** You need an ECAS account (European Commission's account) to start proposal submission*

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SEVEN CUT-OFF DATES IN H2020 SO FAR

Cut-off	Budget	Proposals submitted	Proposals funded	Success rate
30. Sept. 2014	~ 80 M€	639	24	3,8%
31. March 2015	~ 41 M€	665	11	1,7%
30. Sept. 2015	~ 38 M€	800	11	1,4%
11. May 2016	~ 88 M€	544	22	4,1%
17. Jan. 2017	~ 84 M€	365	26	7,1%
27. Sept. 2017	~ 84 M€	395	27	6,8 %
16. May 2018	~ 124 M€	375	38	10%

** Funding treshold: ≥ 4,5 points*

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PROPOSAL WITH AT PARTICIPATION IN MAY 2018

FFG Promoting Innovation.

Acronyme	Title	Budget	Coordinator	AT partner
CANCER SCAN	Body Scan for Cancer Detection using Quantum Technology	3,93 M€	Ben Gurion Uni	MU Wien
cFLOW	Coherent ultraFast Long Wave infrared communications	3,00 M€	III-V Lab	TU Wien
HOTZYMES	Redesigning biocatalysis: Thermal-tuning of one-pot multienzymatic cascades by nanoactuation	2,99 M€	Agencia Estatal Consejo Superior	TU Graz Acib GmbH
LION-HEARTED	Light and Organic Nanotechnology for Cardiovascular Disease	2,90 M€	Fondazione Istituto Italiano Di Tecnologia	Uni Linz
PRIME	Advanced and versatile PRInting platform for the next generation of active Microfluidic dEvices	2,82 M€	Agencia Estatal Consejo Superior	Bionanonet
Q-AFM	Quantum Limited Atomic Force Microscopy	2,19 M€	Kungliga Tekniska Hoegskolan	TU Wien
SensApp	Super-sensitive detection of Alzheimer's disease biomarkers in plasma by an innovative droplet split-and-stack approach	3,29 M€	Consiglio Nazionale Delle Ricerche	Uni Linz
TriboREMEDY	The triboreactor as breakthrough remediation strategy for safeguarding human and environmental health	2,83 M€	Fundacion Tekniker	Ac2t Research TU Wien

FET OPEN VS. ERC

FET OPEN	ERC
Topic free	Topic free
Collaborative project	One Principal Investigator (PI)
Objective: Research	Objective: Career development
Idea crucial	Idea & PI quality crucial
Turning science into technology	Blue-sky research
~ 3 M€	~ 1,5-3 M€
~ 3 years	~ 5 years

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FET OPEN: PERSONAL HINTS

- Balance between ground-breaking and feasibility =
  high risk, but realistic
- Mixture of highly specialized text with a sufficient level of explanation for “generalists”
- 'Less is more': it's the idea that counts, do not attempt to cover everything
- FET character needs to be visible early in the proposal!
- Consortium 'fit for purpose‘
- *If meaningful*, devote certain project budget to an SME (high potential actor)

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FET OPEN: USEFUL LINKS

- FET Open official website http://ec.europa.eu/programmes/horizon2020/en/h2020-section/fet-open
- H2020 project abstracts: http://cordis.europa.eu/projects
- H2020 FAQ: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/faq
- EC instructions to FET-Open Evaluators Sept. 2017:
  https://ec.europa.eu/info/remote-evaluators-fet-open-ria-cut-date-27-september-2017-useful-info_en
- Self-evaluation form FET Open:
  http://ec.europa.eu/research/participants/data/ref/h2020/other/call_ptef/ef/h2020-call-ef-fetopen-ria-2018-19-20_en.pdf
- IPR Helpdesk webinars, www.iprhelpdesk.eu/events:
  - *10.07.2019 Exploitation Strategies in Horizon 2020 Proposals*
  - *17.07.2019 Effective IP and Outreach Strategies Help Increase the Impact of R&I*
- FFG FET Open webinar 14.11.2018 (more details on proposal preparation and evaluation):
  https://www.ffg.at/sites/default/files/fet_open_14.11.2018_webinar.pdf
- Submit your draft proposal(s) to FFG for pre-proposal check: david.kolman@ffg.at

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FET INNOVATION LAUNCHPAD

Objective: Funding further innovation-related work:

- to verify and substantiate the innovation potential of ideas arising from FET projects
- to support the next steps in turning them into a genuine social or economic innovation

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FET INNOVATION LAUNCHPAD

- EC contribution: max. 100 k€ over 18 months
- Single step submission, 7 pages
- Eligibility criterion:
  - Anyone can submit, but the proposal *has* to be linked to an ongoing or recently finished FET project (≤ 1 year):
  - No direct link with originating consortium needed
  - Ownership of the IP to be exploited has to be demonstrated
  - Single participant submission possible

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FET INNOVATION LAUNCHPAD

Possible activities:

- Definition of a commercialization process to be followed
- Market and competitiveness analysis
- Technology assessment
- Verification of innovation potential
- Consolidation of IPR and IP strategy
- Business case development
- Developing contacts and support relevant activities with technology transfer partners, potential license-takers, investors, societal organizations or potential end-users

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FET INNOVATION LAUNCHPAD

Excluded activities:

- *No* funding of activities that are/were already foreseen in the original FET project
- *No* funding of substantial R&D activities without clear and necessary role in the proposed innovation strategy
- *No* full funding for construction of prototypes (i.e. H2020 rules apply)

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FET INNOVATION LAUNCHPAD

Evaluation criteria:

Criterion	Treshold	Weight
Excellence	3/5	40%
Impact	3.5/5	40%
Implementation	3/5	20%

Past success rate: ~ 40%

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FET INNOVATION LAUNCHPAD

Three cut-off dates in H2020 so far:

Cut-off	Budget	Proposals submitted	Proposals funded	Success rate
Sept. 2016	~ 1,6 M€	88	16	18 %
Sept. 2017	~ 1,8 M€	54	19	38 %
Sept. 2018	~ 2,5 M€	41	25	62%

Applicants:

- ~50% universities
- ~25% public research organisations
- ~25% industry & SMEs

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FET INNOVATION LAUNCHPAD

Future Cut-off Dates and Tentative Budgets

Date	Budget
8 Oct. 2019	2,7 M€
14 Oct. 2020	3,0 M€

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FET PROACTIVE

High-risk / high-reward R&I projects with the objectives:

- to explore and consolidate a new technological direction/paradigm
- to foster the interdisciplinary communities that are able to drive this forward
- to foster the emergence of a broader R&I ecosystem for a new technology and for its future take-up

Broadly defined topics developed in dialogue with stakeholders

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FET PROACTIVE 2019 (FETPROACT-EIC-05-2019)

Topics open in 2019:

1. Human-Centric AI
2. Implantable autonomous devices and materials
3. Breakthrough zero-emissions energy generation for full decarbonization

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HUMAN-CENTRIC AI

Objectives: To advance AI with

- verifiable, evidence-based features of trustworthiness (i.e., reliable and unbiased alignment of values, goals and beliefs)
- transparency (explainable performance),
- exploring radically new approaches (e.g., inspired from neuro-science, cognition or social science)

New data collection and ownership/governance models that go beyond the dominant off-line and centralised data processing should be investigated

New avenues, such as for incremental, unsupervised, active, one-shot and 'small data' machine learning, should be explored

Contribution to the wider debate on the sociotechnical, organisational and ethical dimensions

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IMPLANTABLE AUTONOMOUS DEVICES AND MATERIALS

Objective: To demonstrate dramatically extended functional lifetimes of implantable devices, e.g. through incorporation of smart sensing, self-awareness, adaptation and self-repair capabilities

Included are devices that can perform advanced functions: site specific automigration, ability to distinguish tissue types (diseased, normal), performing highly localised actions (e.g. delivery of therapeutic agents)

Abilities to blend-in with the native biological environment, to independently generate power, synthesise active agents or sense and respond to changes in the local molecular environment, are particularly welcome

Work on ethical implications should be included.

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BREAKTHROUGH ZERO-EMISSIONS ENERGY GENERATION FOR FULL DECARBONIZATION

Objective: Multidisciplinary exploration of new directions for power generation that is clean, compact and low-cost, aimed at stand-alone, mobile or portable use

…in specific application contexts, e.g. in the transport sector, for portable uses, in remote places or in emergency situations

…heat and/or electricity generation

Battery-based solutions and fuel/solar cells are *eligible*

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PROJECT PARAMETERS

Typical project:

- Budget: 4-7 M€*
- Duration: ≤ 5 years
- Consortium: 6-12 partners

Medium size proposals: 30 pages

** Projects could provide secondary grants to 3rd parties for small experimentation etc.*

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EVALUATION CRITERIA

Evaluation criteria:

Criterion	Treshold	Weight
Excellence	4/5	60%
Impact	3.5/5	20%
Implementation	3/5	20%

Past success rate: ~ 15%

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FET PROACTIVE (FETPROACT-EIC-05-2019)

Future Deadline and Tentative Budget

Date	Budget
08. Oct. 2019 ***(!)***	~ 100 M€ ***(!)***

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FET PROACTIVE: PAST H2020 PROJECTS

Three deadlines in H2020 so far:

Date	Status
1. April 2014	13 RIAs funded
12. April 2016	12 RIAs funded
2. March 2018	16 RIAs funded

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FET PROACTIVE: PAST H2020 PROJECTS

Lists of running FET Proactive projects:

- http://ec.europa.eu/programmes/horizon2020/en/news/first-future-and-emerging-technologies-fet-proactive-projects-under-horizon-2020-framework (April 2014)
- https://ec.europa.eu/digital-single-market/en/news/12-new-fet-proactive-projects-defy-bounds-innovation (April 2016)
- https://ec.europa.eu/digital-single-market/en/news/15-new-fet-proactive-research-and-innovation-actions-chosen (March 2018)

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SUCCESSFUL AUSTRIAN FET PROACTIVE APPLICANTS

- Project A-LEAF (2016), TU Wien, Ms. Ulrike Diebold, www.a-leaf.eu, www.iap.tuwien.ac.at/www/surface/group/diebold
- Project CresPace (2016), Meduni Wien, Ms. Mariann Gyöngyösi, www.crespace.eu, www.meduniwien.ac.at/web/index.php?id=688&res=mariann_pavone-gyoengyoesi
- Project Hiveopolis (2018), Uni Graz, Mr. Thomas Schmickl (coord.), www.hiveopolis.eu, http://zool33.uni-graz.at/artlife/schmickl
- Project Harvestore (2018), TU Wien, Mr. Jürgen Fleig, www.harvestore.eu, https://tiss.tuwien.ac.at/adressbuch/adressbuch/person/43182
- NeuHeart (2018), MU Wien, Mr. Francesco Moscato, www.neuhearth2020.eu, www.meduniwien.ac.at/web/index.php?id=688&res=francesco_moscato

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FET PROACTIVE: USEFUL LINKS

- Funding & Tenders Portal of the European Commission: ec.europa.eu/info/funding-tenders/opportunities/portal/screen/programmes/h2020
- FET Proactive official website: https://ec.europa.eu/programmes/horizon2020/en/h2020-section/fet-proactive
- H2020 project abstracts: http://cordis.europa.eu/projects
- H2020 FAQ: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/faq
- Self-evaluation form FET Proactive: http://ec.europa.eu/research/participants/data/ref/h2020/other/call_ptef/ef/h2020-call-ef-fetproact-ria-01-2018_en.pdf
- IPR Helpdesk webinars, www.iprhelpdesk.eu/events:
  - *10.07.2019 Exploitation Strategies in Horizon 2020 Proposals*
  - *17.07.2019 Effective IP and Outreach Strategies Help Increase the Impact of R&I*
- FFG FET Proactive webinar 17.01.2018 (more details on proposal preparation and evaluation): https://www.ffg.at/sites/default/files/fet_proactive_17.01.2018_webinar.pdf
- Submit your draft proposal(s) to FFG for pre-proposal check: david.kolman@ffg.at

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TRANSITION TO INNOVATION (FETPROACT-EIC-06-2019)

Objective: Bringing promising technologies at the end of a FET-Open/Proactive project (~ TRL 2/3) to a level of development, validation and demonstration where they become a credible basis for entrepreneurship, business creation, investment and economic and/or societal returns (~ TRL 5/6)

- Proposals must build on results from an ongoing or finished H2020 FET Open or FET Proactive project
- Declaration about the ownership of the respective IPR (by “new” and/or the “old” coordinator)

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TRANSITION TO INNOVATION

- Various types of partners are needed to do the work
- Should be business-driven: could be academia if is having the right skills/capabilities (to start spin-off or start-up…)
- 6 selected broad areas eligible:
    1. Micro- and Nano-technologies
    2. AI and advanced robotics
    3. Technologies for the life sciences, health and treatment
    4. Energy technologies
    5. Interaction technologies (VR/AR/XR)
    6. ***Low-carbon energy & climate change technologies***
- Strong exploitation plan with market potential is a must
- Value for money is looked at => do not overstretch the budget

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PROJECT PARAMETERS

Typical project:

- Budget: 1-2 M€
- Duration: ~ 2 years
- Consortium: 3-7 partners (?)

Medium size proposals: 30 pages

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PROJECT PARAMETERS

Evaluation criteria:

Criterion	Treshold	Weight
Excellence	4/5	40%
Impact	4/5	40%
Implementation	3/5	20%

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TRANSITION TO INNOVATION (FETPROACT-EIC-06-2019)

Future Deadline and Tentative Budget

Date	Budget
08. Oct. 2019 ***(!)***	~ 28 M€ ***(!)***

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TRANSITION TO INNOVATION ACTIVITIES VS. INNOVATION LAUNCHPAD

- ILP: ~ learning excercise for researchers to familiarize themselves with the „business world“
- TIA: real further development work towards marketable product (service)

  … TIA could include some ILP activities (market definition)

- ILP: single applicant possible (CSA)
- TIA: standard RIA rules apply (3 partners min)

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DEADLINES & BUDGET

Deadlines for submission of proposals:

FET Open:

Date	Budget
18 Sept. 2019	160 M€
13 May 2020	190 M€

Innovation Launchpad:

Date	Budget
08 Oct. 2019	2.7 M€
14 Oct. 2020	3.0 M€

FET Proactive:

Date	Budget
08. Oct. 2019	~100 M€

Research on batteries & solar/fuel cells eligible

Transition to Innovation:

Date	Budget
08. Oct. 2019	~28 M€

Low-carbon energy & climate change technologies eligible

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THANK YOU FOR YOUR ATTENTION

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