Proposal template: technical annex
Research and Innovation actions

Call: H2020-FETOPEN-2018-2020

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

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The structure of this template must be followed when preparing your proposal. It has been designed to ensure that the important aspects of your planned work are presented in a way that will enable the experts to make an effective assessment against the evaluation criteria. Sections 1, 2 and 3 each correspond to an evaluation criterion.

Please be aware that proposals will be evaluated as they were submitted, rather than on their potential if certain changes were to be made. This means that only proposals that successfully address all the required aspects will have a chance of being funded. There will be no possibility for significant changes to content, budget and consortium composition during grant preparation.

⚠ A proposal that, according to the evaluators' assessments, does not convincingly satisfy all FET gatekeepers as described in the FET Work Programme will be declared out of scope.

⚠ **Page limit**: Sections 1 to 3 of the proposal should consist of a maximum of 15 A4 pages (no cover page). All tables, figures, references and any other element pertaining to these sections must be included as an integral part of these sections and are thus counted against this page limit. There is no page limit for sections 4 and 5.

The page limit will be applied automatically; therefore you must remove the first 2 instruction pages of this template before submitting.

If you attempt to upload a proposal longer than the specified limit before the deadline, you will receive an automatic warning and will be advised to shorten and re-upload the proposal. After the deadline, excess pages (in over-long proposals/applications) will be automatically made invisible, and will not be taken into consideration by the experts. The proposal is a self-contained document. Experts will be instructed to ignore hyperlinks to information that is specifically designed to expand the proposal, thus circumventing the page limit.

⚠ The following formatting conditions apply.

Each page should include a footnote with the acronym of the proposal.

The reference font for the body text of H2020 proposals is Times New Roman (Windows platforms), Times/Times New Roman (Apple platforms) or Nimbus Roman No. 9 L (Linux distributions).

The use of a different font for the body text is not advised and is subject to the cumulative conditions that the font is legible and that its use does not significantly shorten the representation of the proposal in number of pages compared to using the reference font (for example with a view to bypass the page limit).

The minimum font size allowed is 11 points. Standard character spacing and a minimum of single line spacing is to be used.

Text elements other than the body text, such as headers, foot/end notes, captions, formula's, may deviate, but must be legible.

The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).

<div align="center">**PROPOSAL TITLE**</div>

1. Excellence

1.1 Radical vision of a science-enabled technology

- Describe the vision of a radically-new science-enabled technology that the project[1] would contribute towards.

- Describe how this vision surpasses substantially any technological paradigms that currently exist or are under development.

- Describe the overall and specific objectives for the project, which should be clear, measurable, realistic and achievable within the duration of the project. (The details of the project plan belong to the Implementation section).

1.2 Science-to-technology breakthrough that addresses this vision

- Discuss the relevant state-of-the-art and the extent of the advance the project would provide beyond this state-of-the-art.

- Describe the science-to-technology breakthrough, targeted by the project that would represent the first proof of concept of the envisioned technology.

1.3 Interdisciplinarity and non-incrementality of the research proposed

- Describe the research disciplines necessary for achieving the targeted breakthrough of the project and the added value from the interdisciplinarity.

- Explain why the proposed research is non-incremental.

1.4 High risk, plausibility and flexibility of the research approach

- Explain how the research approach relates to the project objectives and how it is suitable to deal with the considerable science-and-technology uncertainties and appropriate for choosing alternative directions and options. (The risks and mitigation plan should be spelled out under the Implementation section).

2. Impact

2.1 Expected impacts

⚠️ *Please be specific, and provide only information that applies to the proposal and its objectives. Wherever possible, use quantified indicators and targets.*

Describe how your project will contribute to:

- each of the expected impacts listed in the work programme:

  - Scientific and technological contributions to the foundation of a new future technology.
  - Potential for future social or economic impact or market creation.

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[1] The term 'project' used in this template equates to an 'action' in certain other Horizon 2020 documentation.

- Building leading research and innovation capacity across Europe by involvement of key actors that can make a difference in the future, for example excellent young researchers, ambitious high-tech SMEs or first-time participants[2] to FET under Horizon 2020.

- any substantial impacts not mentioned in the work programme, that would enhance innovation capacity; create new market opportunities, strengthen competitiveness and growth of companies, address issues related to climate change or the environment, or bring other important benefits for society.

2.2 Measures to maximise impact

a) Dissemination and exploitation of results

Provide a draft '**plan for the dissemination and exploitation of the project's results'**. Please note that such a draft plan is an admissibility condition.

Show how the proposed measures will help to achieve the expected impact of the project.

The plan, should be proportionate to the scale of the project, and should contain measures to be implemented both during and after the end of the project.

⚠ *Your plan for the dissemination and exploitation of the project's results is a key to maximising their **impact**. This plan should describe briefly, the **area** in which you expect to make an impact and **who** are the potential users of your results. Your plan should also describe **how** you intend to use the appropriate channels of dissemination and interaction with potential users.*

⚠ *Actions under Horizon 2020 participate in the extended 'Pilot on Open Research Data in Horizon 2020 ('open research data by default'), except if they indicate otherwise ('opt-out'.)[3]. Once the action has started (**not** at application stage) those beneficaries which do not opt-out, will need to create a more detailed Data Management Plan for making their data findable, accessible, interoperable and reusable (FAIR).*

⚠ *You will need an appropriate consortium agreement to manage (amongst other things) the ownership and access to key knowledge (IPR, research data etc.). Where relevant, these will allow you, collectively and individually, to pursue market opportunities arising from the project's results.*

⚠ *The appropriate structure of the consortium to support exploitation is addressed in section 3.3.*

- Outline the strategy **for knowledge management and protection**. Include measures to provide **open access** (free on-line access, such as the 'green' or 'gold' model) to peer-reviewed scientific publications which might result from the project[4].

⚠ *Open access publishing (also called 'gold' open access) means that an article is immediately provided in open access mode by the scientific publisher. The associated costs are usually shifted away from readers, and instead (for example) to the university or research institute to which the*

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[2] First time participation here refers to the individuals involved, not their institution or organisation. Please make sure in section 4 the first-time participants are clearly indicated.

[3] Opting out of the Open Research Data Pilot is possible, both before and after the grant signature. For further guidance on open research data and data management, please refer to the H2020 Online Manual on the Participant Portal.

[4] Open access must be granted to all scientific publications resulting from Horizon 2020 actions (in particular scientific peer reviewed articles). Further guidance on open access is available in the H2020 Online Manual on the Participant Portal.

researcher is affiliated, or to the funding agency supporting the research. Gold open access costs are fully eligible as part of the grant. Note that if the gold route is chosen, a copy of the publication has to be deposited in a repository as well.

⚠ *Self-archiving (also called 'green' open access) means that the published article or the final peer-reviewed manuscript is archived by the researcher - or a representative - in an online repository before, after or alongside its publication. Access to this article is often - but not necessarily - delayed ('embargo period'), as some scientific publishers may wish to recoup their investment by selling subscriptions and charging pay-per-download/view fees during an exclusivity period*

b) Communication activities

Describe the proposed communication measures for promoting the project and its findings during the period of the grant[5]. Measures should be proportionate to the scale of the project, with clear objectives. They should be tailored to the needs of different target audiences, including groups beyond the project's own community.

3. Implementation

3.1 Research methodology and work plan – Work packages, deliverables

Please provide the following:

- details of the research methodology and overall structure of the work plan;
- timing of the different work packages and their components (Gantt chart or similar);
- Please use the following indicative table for the project reporting periods (RPs):

Proposed length of the project (months)	RP1 duration (months)	RP2 duration (months)	RP3 duration (months)
48	12	18	18
42	12	12	18
36	12	24	
30	12	18	
24	12	12	

- detailed work description, i.e.:
  - o a list of work packages (table 3.1a);
  - o a description of each work package (table 3.1b);
  - o a list of all deliverables (table 3.1c);
- Graphical presentation of the work packages showing how they inter-relate (Pert chart or similar).

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[5] For further guidance on communicating EU research and innovation guidance for project participants, please refer to the H2020 Online Manual on the Participant Portal.

⚠️ *Give full details. Base your account on the logical structure of the project and the stages in which it is to be carried out. The number of work packages should be proportionate to the scale and complexity of the project.*

⚠️ *You should give enough detail in each work package to justify the proposed resources to be allocated and also quantified information so that progress can be monitored, including by the Agency*

⚠️ *Resources assigned to work packages should be in line with their objectives and deliverables. You are advised to include a distinct work package on 'management' (see section 3.2) and to give due visibility in the work plan to 'dissemination and exploitation' and 'communication activities', either with distinct tasks or distinct work packages.*

⚠️ *You will be required to include an updated (or confirmed) 'plan for the dissemination and exploitation of results' in both the periodic and final reports. This should include a record of activities related to dissemination and exploitation that have been undertaken and those still planned. A report of completed and planned communication activities will also be required.*

⚠️ *If your project is taking part in the Pilot on Open Research Data, you must include a 'data management plan' as a distinct deliverable within the first 6 months of the project. A template for such a plan is given in the guidelines on data management in the H2020 Online Manual. This deliverable will evolve during the lifetime of the project in order to present the status of the project's reflections on data management.*

Definitions:

'Work package' means a major sub-division of the proposed project.

'Deliverable' means a distinct output of the project, meaningful in terms of the project's overall objectives and constituted by a report, a document, a technical diagram, a software etc.

3.2 Management structure, milestones and procedures

- Describe the organisational structure and the decision-making (including a list of milestones (table 3.2a))

- Explain why the organisational structure and decision-making mechanisms are appropriate to the complexity and scale of the project.

- Describe any critical risks, relating to project implementation, that the stated project's objectives may not be achieved. Detail any risk mitigation measures. Please provide a table with critical risks identified and mitigating actions (table 3.2b) and relate these to the milestones.

Definition:

'Milestones' means control points in the project that help to chart progress. Milestones may correspond to the completion of a key deliverable, allowing the next phase of the work to begin. They may also be needed at intermediary points so that, if problems have arisen, corrective measures can be taken. A milestone may be a critical decision point in the project where, for example, the consortium must decide which of several technologies to adopt for further development.

3.3 Consortium as a whole

⚠️ *The individual members of the consortium are described in a separate section 4. There is no need to repeat that information here.*

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- Describe the consortium. Explain how it will support achieving the project objectives. Does the consortium provide all the necessary expertise? Is the interdisciplinarity in the breakthrough idea reflected in the expertise of the consortium?

- In what way does each of the partners contribute to the project? Show that each has a valid role and adequate resources in the project to fulfil that role. How do the members complement one another?

  Other countries and international organisations: If one or more of the participants requesting EU funding is based in a country or is an international organisation that is not automatically eligible for such funding (entities from Member States of the EU, from Associated Countries and from one of the countries in the exhaustive list included in General Annex A of the work programme are automatically eligible for EU funding), explain why the participation of the entity in question is considered essential for carrying out the action on the grounds that participation by the applicant has clear benefits for the consortium.

3.4 Resources to be committed

⚠ *Please make sure the information in this section matches the costs as stated in the budget table in section 3 of the administrative proposal forms, and the number of person months, shown in the detailed work package descriptions.*

Please provide the following:

- a table showing number of person months required (table 3.4a)

- a table showing 'other direct costs' (table 3.4b) for participants where those costs exceed 15% of the personnel costs (according to the budget table in section 3 of the administrative proposal forms)

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Tables for section 3.1

Table 3.1a: List of work packages

Work package No	Work Package Title	Lead Participant No	Lead Participant Short Name	Person-Months	Start Month	End month
				Total person-months		

Table 3.1b: Work package description

For each work package:

Work package number		**Lead beneficiary**					
Work package title							
Participant number							
Short name of participant							
Person months per participant:							
Start month			**End month**				

Objectives

Description of work (where appropriate, broken down into tasks and deliverables), lead partner and role of participants.

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**Deliverables** (brief description and month of delivery)



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Table 3.1c: List of Deliverables[6]

Deliverable (number)	Deliverable name	Work package number	Short name of lead participant	Type	Dissemination level	Delivery date (in months)

KEY

Deliverable numbers in order of delivery dates. Please use the numbering convention ‹WP number›.‹number of deliverable within that WP›.

For example, deliverable 4.2 would be the second deliverable from work package 4.

Type:

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6   If your action is taking part in the Pilot on Open Research Data, you must include a data management plan as a distinct deliverable within the first 6 months of the project. This deliverable will evolve during the lifetime of the project in order to present the status of the project's reflections on data management. A template for such a plan is available in the H2020 Online Manual on the Participant Portal.

Use one of the following codes:
     R: Document, report (excluding the periodic and final reports)
     DEM: Demonstrator, pilot, prototype, plan designs
     DEC: Websites, patents filing,   press & media actions, videos, etc.
     OTHER: Software, technical diagram, etc.

Dissemination level:
Use one of the following codes:
     PU =   Public, fully open, e.g. web
     CO =   Confidential, restricted under conditions set out in Model Grant Agreement
     CI =   Classified, information as referred to in Commission Decision 2001/844/EC.

Delivery date
Measured in months from the project start date (month 1)

Tables for section 3.2

Table 3.2a: **List of milestones**

Milestone number	Milestone name	Related work package(s)	Due date (in month)	Means of verification

KEY

Due date
Measured in months from the project start date (month 1)

Means of verification
Show how you will confirm that the milestone has been attained. Refer to indicators if appropriate. For example: a laboratory prototype that is 'up and running'; software released and validated by a user group; field survey complete and data quality validated.

Table 3.2b: **Critical risks for implementation**

Description of risk (indicate level of likelihood: Low/Medium/High)	Work package(s) involved	Proposed risk-mitigation measures

Definition critical risk:
A critical risk is a plausible event or issue that could have a high adverse impact on the ability of the project to achieve its objectives.

Level of likelihood *to occur:* **Low/medium/high**
The likelihood is the estimated probability that the risk will materialise even after taking account of the mitigating measures put in place.

Tables for section 3.4

Table 3.4a: **Summary of staff effort**

Please indicate the number of person/months over the whole duration of the planned work, for each work package, for each participant. Identify the work-package leader for each WP by showing the relevant person-month figure in bold.

	WP1	WP2	WPn	Total Person-

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				Months per Participant
Participant Number/Short Name				
Participant Number/ Short Name				
Participant Number/ Short Name				
Total Person Months per WP				**Total Person Months**

Table 3.4b: 'Other direct cost' items (travel, equipment, other goods and services, large research infrastructure)

Please complete the table below for each participant when the sum of the costs for Travel, Equipment, and Other goods and services exceeds 15% of the personnel costs for that participant (according to the budget table in section 3 of the proposal administrative forms).

Participant Number/Short Name	Cost (€)	Justification
Travel		
Equipment		
Other goods and services		
Total		

Please complete the table below for all participants that would like to declare costs of large research infrastructure under Article 6.2 of the General Model Agreement[7], irrespective of the percentage of personnel costs. Please indicate (in the justification) if the beneficiary's methodology for declaring the costs for large research infrastructure has already been positively assessed by the Commission.

Participant Number/Short Name	Cost (€)	Justification
Large research infrastructure		

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[7] Large research infrastructure means research infrastructure of a total value of at least EUR 20 million, for a beneficiary. More information and further guidance on the direct costing for the large research infrastructure is available in the H2020 Online Manual on the Participant Portal.