FUEL CELLS AND HYDROGEN
JOINT UNDERTAKING

Rules for participation, call conditions, evaluation and submission

Lionel Boillot

29/01/2019

FCH2 JU – Call 2019

Applicable rules

H2020

General Annexes to H2020

- List of countries eligible and rules for funding (Annex A)
- Admissibility and eligibility conditions (Annexes B and C)
- Types of action and funding rates (Annex D)
- Technology readiness level (TRL) (Annex G)
- Evaluation rules (Annex H)
- Open Access to research data (Annex L)

H2020-JTI-FCH-2019-1
Total budget: 80.8 M€

Publication date:
15 January 2019

Deadline:
23 April 2019

AWP

Annual Work Plan *"AWP 2019"*

AWP may introduce additional eligibility criteria

- Funding limit

List of countries and rules for funding – Annex A

International Cooperation

Participation “Open to the World”

- Open for all legal entities established in third countries and for international organisations

International cooperation

Funding is provided for legal entities established in:

- Member States and countries associated to H2020
- A list of countries: Afghanistan, Algeria, … , Zambia, Zimbabwe
- Any other country:
  - **if** participation deemed by the FCH2 JU essential in the action

Assessed by experts during evaluation !

Brexit

- UK entities are eligible today
- Brexit agreement would clarify eligibility for the entire duration of the grants

Please note that until the UK leaves the EU, EU law continues to apply to and within the UK, when it comes to rights and obligations; this includes the eligibility of UK legal entities to fully participate and receive funding in Horizon 2020 actions such as those called for in this work plan. Please be aware however that the eligibility criteria must be complied with for the entire duration of the grant. If the UK withdraws from the EU during the grant period without concluding an agreement with the EU ensuring in particular that British applicants continue to be eligible, they will no longer be eligible to receive EU funding and their participation may be terminated on the basis of Article 50 of the grant agreement.

International cooperation

All topics are opened to international cooperation (IPHE, MI, CTCN)

… and in particular for 6 topics and with Mission Innovation countries

Topics encouraging participation of Mission Innovation members

Transport: FCH-01-2-2019 and FCH-01-4-2019
Energy: FCH-02-4-2019
Cross-Cutting: FCH-04-1-2019, FCH-04-2-2019, FCH-04-3-2019

Innovation Challenge Members: EU countries on the map and …

- Australia
- Canada
- European Union
- Chile
- China
- India
- Japan
- USA
- Saudi Arabia

+

International cooperation

How to include an international entity in your proposal?

Participation with funding

How to demonstrate that participation is essential?

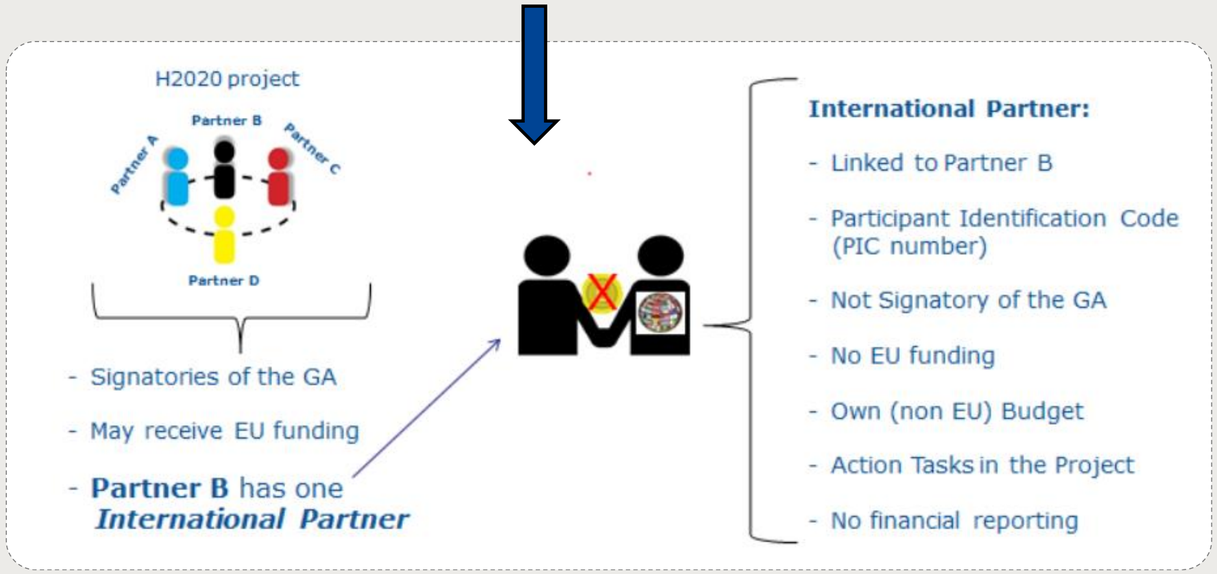
- Part B, Section 3.3 - explain why its activities are essential to the project on the basis of:
  - **outstanding competence/expertise**
  - **access to research infrastructure**
  - **access to particular geographical environments**
  - **access to data**
  - **Etc.**

- Table 3.2, risk for implementation ➔ convincing mitigation measure in case participant is not accepted for funding.

Participation without funding

- Participating in the consortium without requesting EU budget → **Full partners that will be validated and sign the contract**

- Becoming the international partner of one of the beneficiaries (article 14a of the grant agreement)



https://ec.europa.eu/easme/sites/easme-site/files/documents/8._20180829_int_cooperation_final.pdf

Admissibility and eligibility conditions - Annexes B-C

A proposal is:

ADMISSIBLE, when:

- **Submitted** in the electronic submission system “SEP” in time
- **Readable**, accessible and printable
- **Complete** (admin data, proposal description, **operational capacity**, etc.)
- Include draft **plan for the exploitation and dissemination** of the results

Respect page limit !

ELIGIBLE, when:

- In line with the topic
- Complies with:

+ Additional Conditions in the AWP

RIA and IA ➔	At least three legal entities each established in a different Member State or Associated Country. All three legal entities must be independent of each other.
CSA ➔	At least one legal entity established in a Member State or in an Associated Country

Types of Actions – Annex D

RIA - Research and Innovation Actions

Actions primarily consisting of activities aiming to establish new knowledge and/or to explore the **feasibility of a new or improved technology**, product, process, service or solution. For this purpose they may include **basic and applied research**, technology development and integration, testing and validation on a **small-scale** prototype in a laboratory or simulated environment.

*funding rate max.**100%***

IA- Innovation Actions

Actions primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, **demonstrating, piloting, large-scale** product validation and **market replication.**

*funding rate max.70%**

*Funding 100% for non-profit legal entities

CSA - Coordination and Support Action

Actions consisting primarily of accompanying measures such as **standardization, dissemination, awareness-raising and communication, networking,** coordination or support services, **policy dialogues** and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programs in different countries.

*funding rate max.**100%***

Technology readiness levels (TRL) – Annex G

TRL 1 – basic principles observed

TRL 2 – technology concept formulated

RIA

TRL 3 – experimental proof of concept

TRL 4 – technology validated in lab

TRL 5 – technology validated in relevant environment

TRL 6 – technology demonstrated in relevant environment

TRL 7 – system prototype demonstration in operational environment

IA

TRL 8 – system complete and qualified

TRL 9 – actual system proven in operational environment

Evaluation rules – Annex H

Selection criteria

Financial Capacity:

Coordinator completes a self-assessment at the proposal stage

Operational Capacity:

Indicated by the experts, based on partners information:

- CV
- Previous publications/products
- Previous projects/activities
- Infrastructure and equipment
- Third parties contribution

Each individual participant has, or will have in due time, a sufficient operational capacity to carry out its tasks in the proposed work plan?

➔ If No, please list the concerned partner(s), the reasons for the rejection, and the requested amount

Evaluation rules – Annex H

Award criteria, scores and weighting

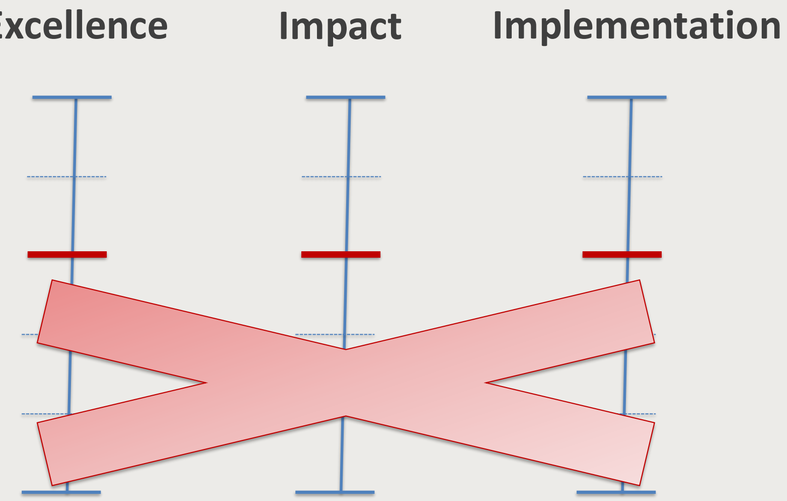
The proposals will be evaluated against the following **award criteria**:

- **Excellence**
- **Impact**
- Quality and efficiency of the **implementation**

Evaluation grid available in Annexe H

Scores, weighting and **thresholds**

Excellent	-	5
Very good	-	4
Good	-	3
Fair	-	2
Poor	-	1
		0



Thresholds apply to:

- Individual criterion, score must be ≥ 3
- Overall score must be ≥ 10

Open Access to research data – Annex L

Open Access

Beneficiaries must ensure that any user can access, mine, exploit, reproduce and disseminate, free of charge :

- Underlying data
- Other data, as specified in Data Management Plan, which provides:
  - Data the research will generate
  - How to ensure its curation, preservation and sustainability
  - What parts of that data will be open (and how)

Costs covered by the grant

“Opt-out” possible

- Before or after GA signature
- Only if justified

Does not influence the scores given by the evaluators

As open as possible, as closed as necessary

FAIR Data:

- **F**indable
- **A**ccessible
- **I**nteroperable
- **R**e-usable

FCH2 JU – Call 2019

Applicable rules

H2020

General Annexes to H2020

There is no derogation from the H2020 Rules for Participation !

H2020-JTI-FCH-2019-1
Total budget: 80.8 M€

Publication date:
15 January 2019

Deadline:
23 April 2019

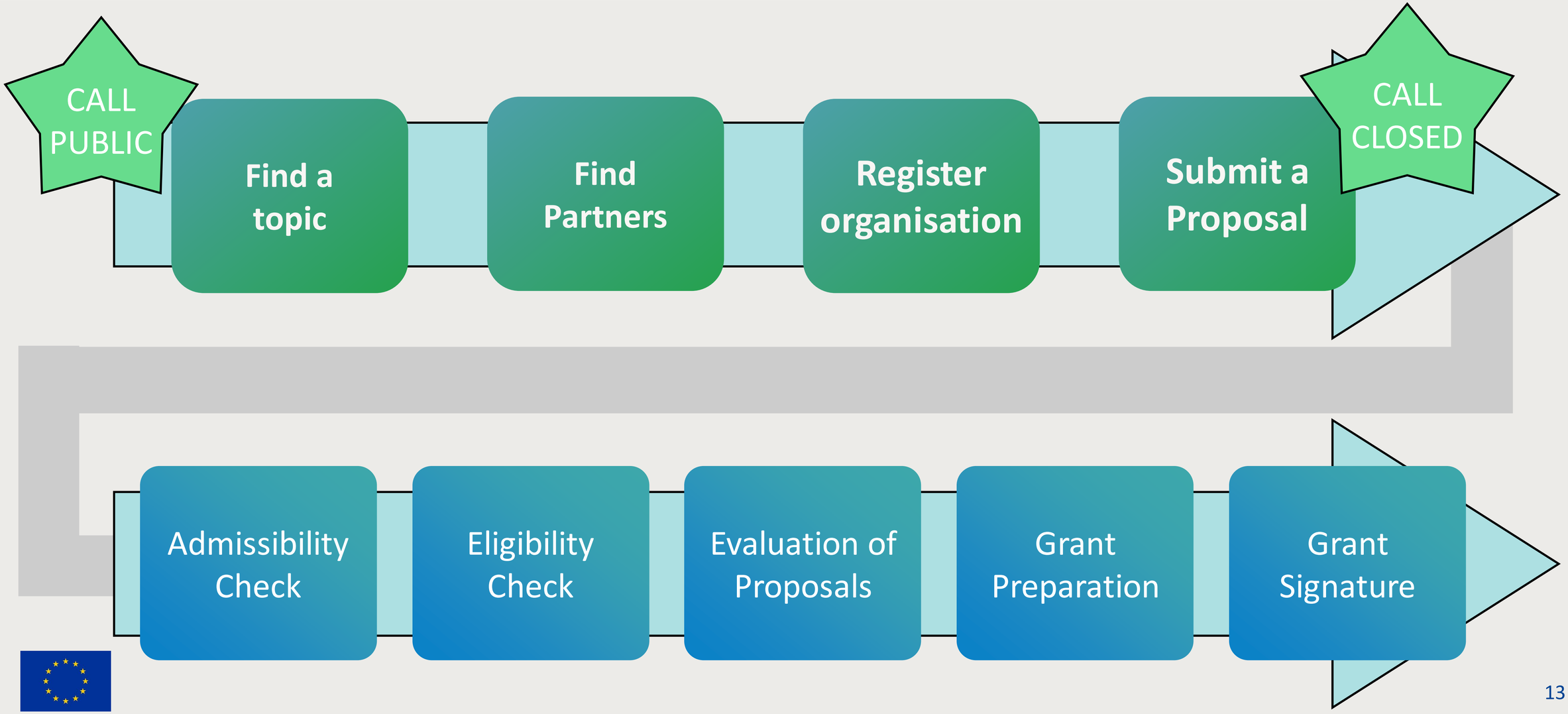
AWP

Annual Work Plan
"AWP 2019"

Additional eligibility criteria

<u>Max. Funding (relevant for 8 topics)</u>
"The maximum FCH 2 JU contribution …. proposals requesting FCH 2 JU contribution above this amount will not be evaluated"

Evaluation is part of a bigger process



Finding the 2019 FCH call

Find a topic → Find Partners → Register organisation → Submit a Proposal

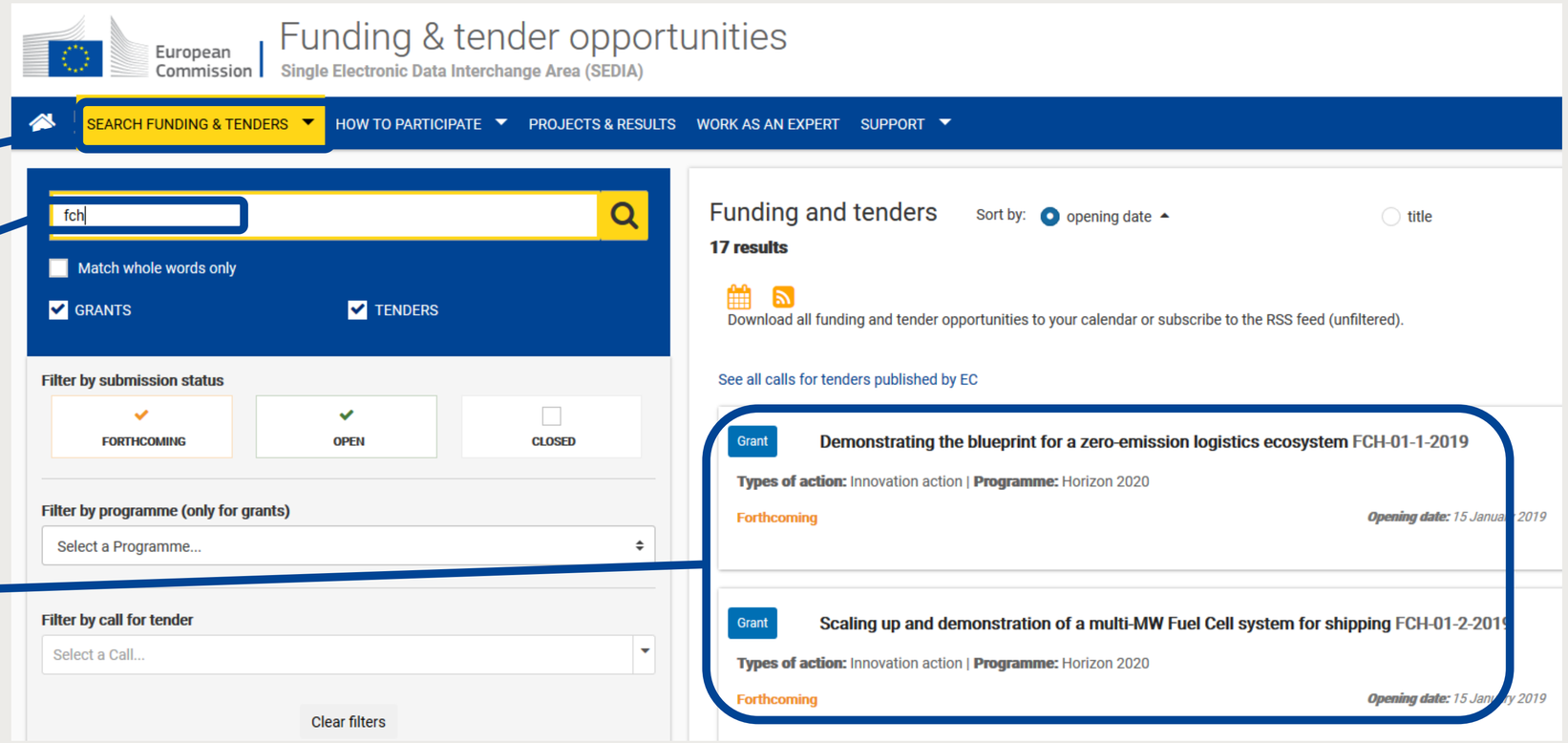
Funding & Tender Portal

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home

Search Funding & Tender

Type « FCH »

List of 17 topics – Call 2019



Topics details and partner search

Find a topic → Find Partners → Register organisation → Submit a Proposal

Topic description

Topic conditions and documents

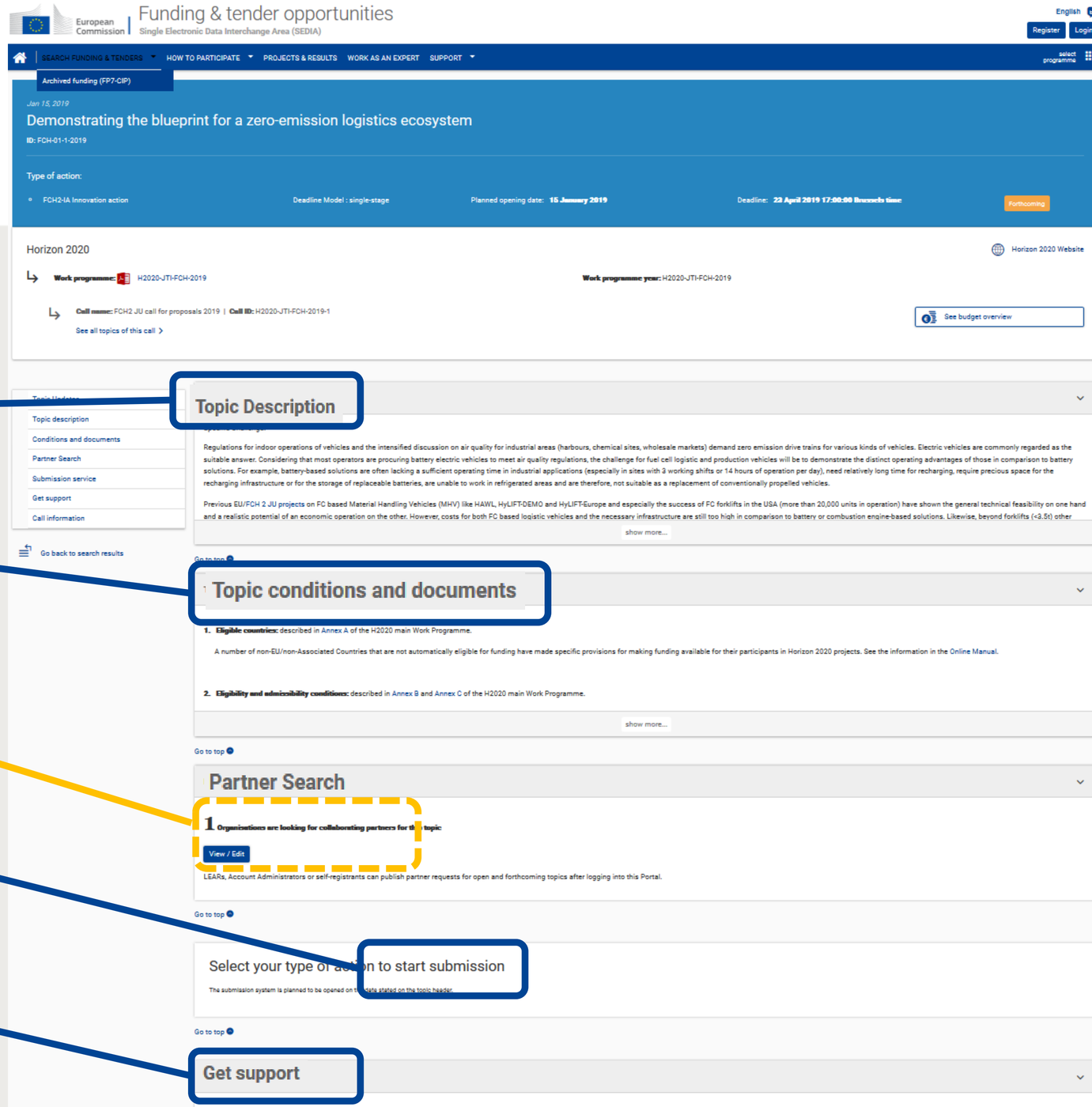
Partner search

Submission

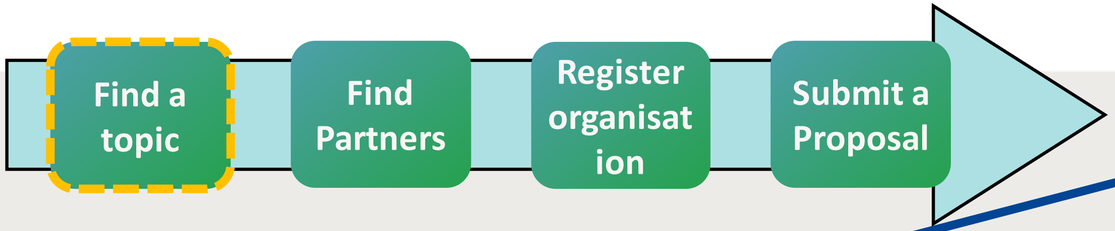
- Templates of proposals
- On-line tool for submission

Support and Guidance

- H2020 Online Manual
- HOW TO



Topic description



Specific Challenge

- Context of the topic

Scope

- Operational requirements and focus
- TRL
- Consortium composition
- Indicative budget
- Expected duration
- …

Out-of-scope proposals = ineligible

Expected Impact

- Technical targets
- Costs reduction
- Contribution to policies (env., indus., …)
- …

Topic Description

Specific Challenge:

Mini combined heat and power fuel cell systems (mini-CHP) are energy conversion devices in the range of 5-10 kWe and constitute a promising technology to satisfy local demands for heat residential or commercial scale applications, not only for primary power but also for heating. Such system must be able to offer an addition to intermittent RES power production with high e

Prior projects on HTPEMFCs focused on the increase of electrical efficiency and performance on the stack level. This topic requests to tackle the performance and efficiency of the CHP sys to recover the maximum amount of the fuel cell's wasted heat thus, aiming to system's level electrical efficiencies up to 55% (LHV). Furthermore, the design and construction of compact sys

Scope:

The overall objective of this topic is to develop, manufacture and validate in a relevant environment mini-CHP energy conversion device using HTPEMFCs technology at 5 kWe. The developn start up time and improve the dynamic response, the volume power density, and simplify the Balance of Plant, as well to increase the durability of a mini-CHP system. Activities on materials generated in relevant environment. If possible, it is encouraged to reach TRL6 by the end of the project.

The project should aim at both high electrical efficiency and performance as well as high volumetric power density of the mini-CHP system. The topic should therefore aim at the following:

- Validation of system's 50-55% (LHV) DC electrical efficiency depending on fuel (NG, LPG or MeOH) and more than 90% overall efficiency and volumetric power density 10-20 W/l. To a
  - Improvements or design innovations of the fuel processor and/or the HTPEM stack so that their effective thermal coupling into the system's BoP will reach DC electrical effici
  - Improved BoP design through new concepts for the efficient use of the high temperature heat produced with focus on heating, cooling or additional electricity production;
- The mini CHP unit should be compact with high volumetric power density, according to the KPIs mentioned below. The robustness of the system should be proven with accelerated s operation.

The projects should increase the state of the technology from TRL3 to TRL5.

The consortium should include at least two industrial partners comprising fuel cell system-core component suppliers (MEA, stack or reformer) and a system integrator with clear perspectiv

Activities should build on past experience and achievements, for example, from earlier FCH 2 JU funded projects (e.g. DeMStack, IRMFC, CISTEM, etc.)

Any safety-related event that may occur during execution of the project shall be reported to the European Commission's Joint Research Centre (JRC) dedicated mailbox JRC-PTT-H2SAFETY

Test activities should collaborate and use the protocols developed by the JRC Harmonisation Roadmap (see section 3.2.B "Collaboration with JRC – Rolling Plan 2019"), in order to benchma

The maximum FCH 2 JU contribution that may be requested is EUR 1.5 million. This is an eligibility criterion – proposals requesting FCH 2 JU contributions above this amount will not be eva

A maximum of 1 project may be funded under this topic.

Expected duration: 3 - 4 years.

Expected Impact:

The project should:

- Prove the scalability of the components, systems and processes cost reduction for systems up to 50 kW;
- Strengthen the EU knowledge on the CHP technology and result in strong synergies or joint ventures including beyond the consortium for the manufacturing of viable and competitive
- Show that can produce cheap and secure electricity with low carbon footprint according to the KPIs mentioned below;
- Support the RES system with an always available, highly efficient and flexible power source (fast start up in less than 15 min and dynamic adaptation during variable power demand v

Additional specific KPIs include the following:

- CAPEX 10,000 €/kW according to the target set for 2024 in the MAWP;
- On the fuel cell stack level electrical efficiency 55% (LHV) at performance exceeding 0.2 W/cm2;
- On the system level Volume Power density 10-20 W/l should be achieved at an electrical efficiency of 50-55% (LHV) depending on the fuel, LPG, natural gas or methanol;
- Projected degradation of the system < 0.4 % per 1,000h on the electrical efficiency at constant power output;
- No less than 85 % fuel processor efficiency at the Begin of Life (BoL);
- Reference test conditions can be realized with reformate gas originating from methanol, bio-gas, LPG/NG or NG blended with H2 admixtures with composition H2 (55-70 %), H2O (7-2

Type of action: Research and Innovation Action

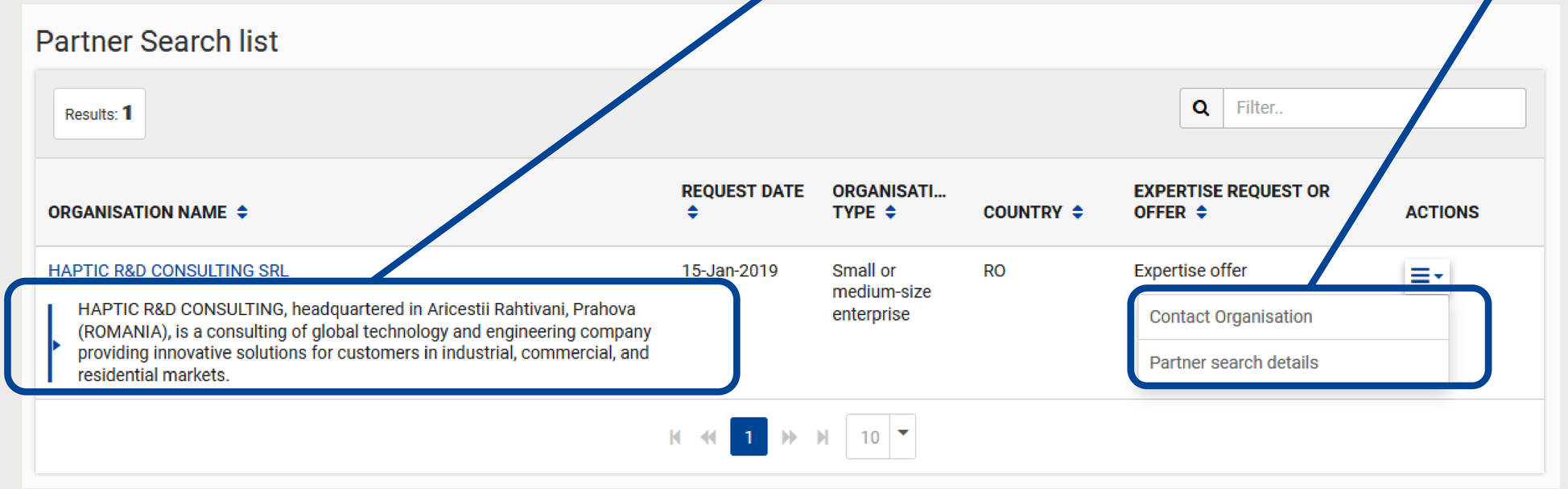
The conditions related to this topic are provided in the chapter 3.3 and in the General Annexes to the Horizon 2020 Work Programme 2018– 2020 which apply mutatis mutandis.

Contact partners through the participant portal

Actions:

- Contact per email
- See details

Partner description



Registering your organisation

Why register?

Mandatory for participation in a proposal, your organisation needs to be registered and have a 9-digit Participant Identification Code (PIC).

How

Via the Participant Portal: To register, you need to **login** in the Portal or, if you are a new user, create your account.

What next?

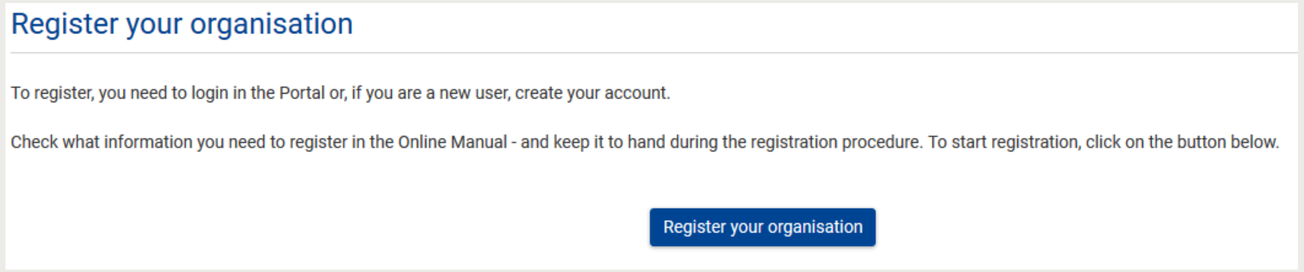
DON'T FORGET!

Perform the Financial Viability Self-Check!

The FCH 2 JU always checks the financial capacity of a project coordinator when the requested EU funding for the action is **equal or superior to EUR 500,000**

Where?

In the Participant Portal



Building a proposal in some clics

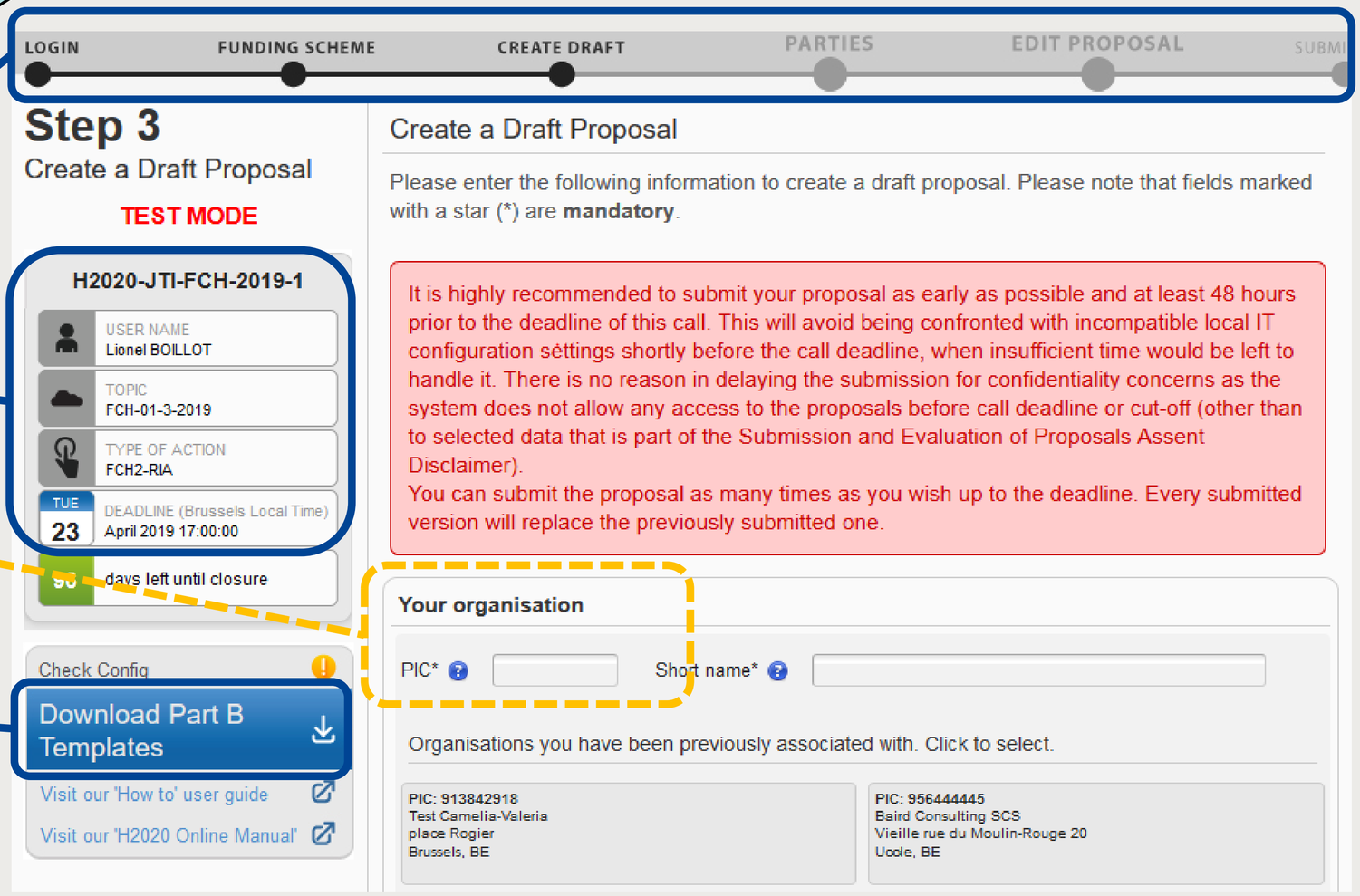
Find a topic → Find Partners → Register organisation → Submit a Proposal

Process overview

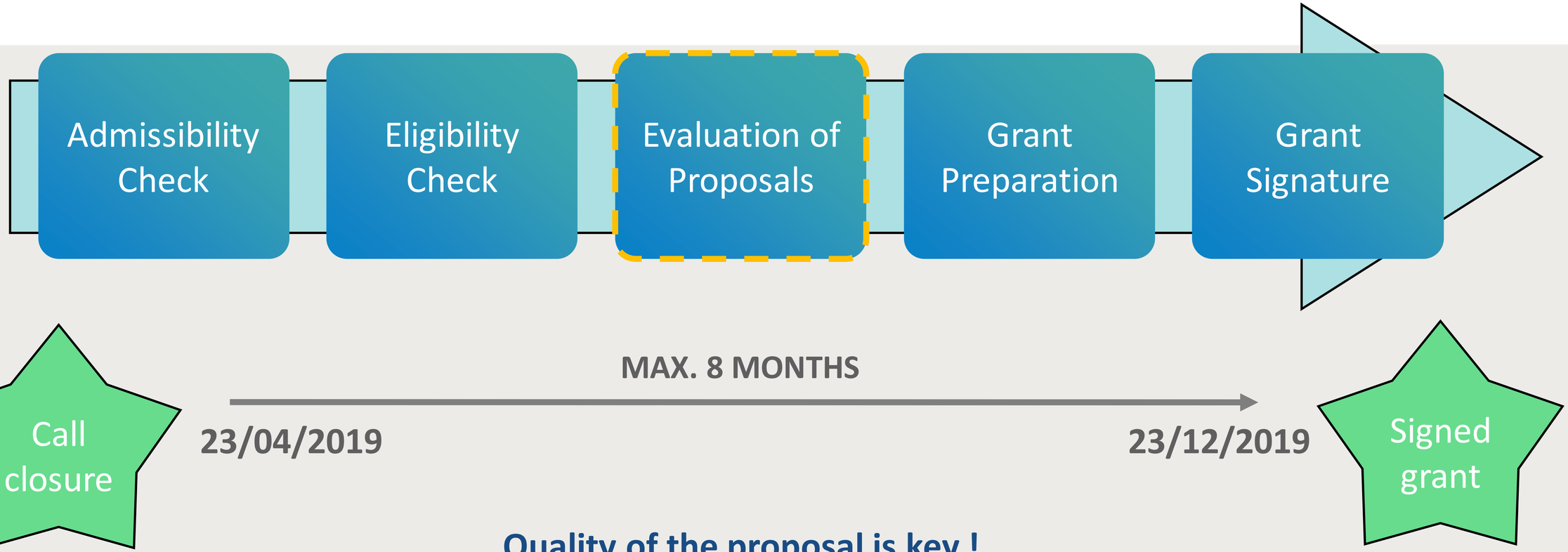
Information Pane

Org. Registration needed

Technical Annexes Word documents



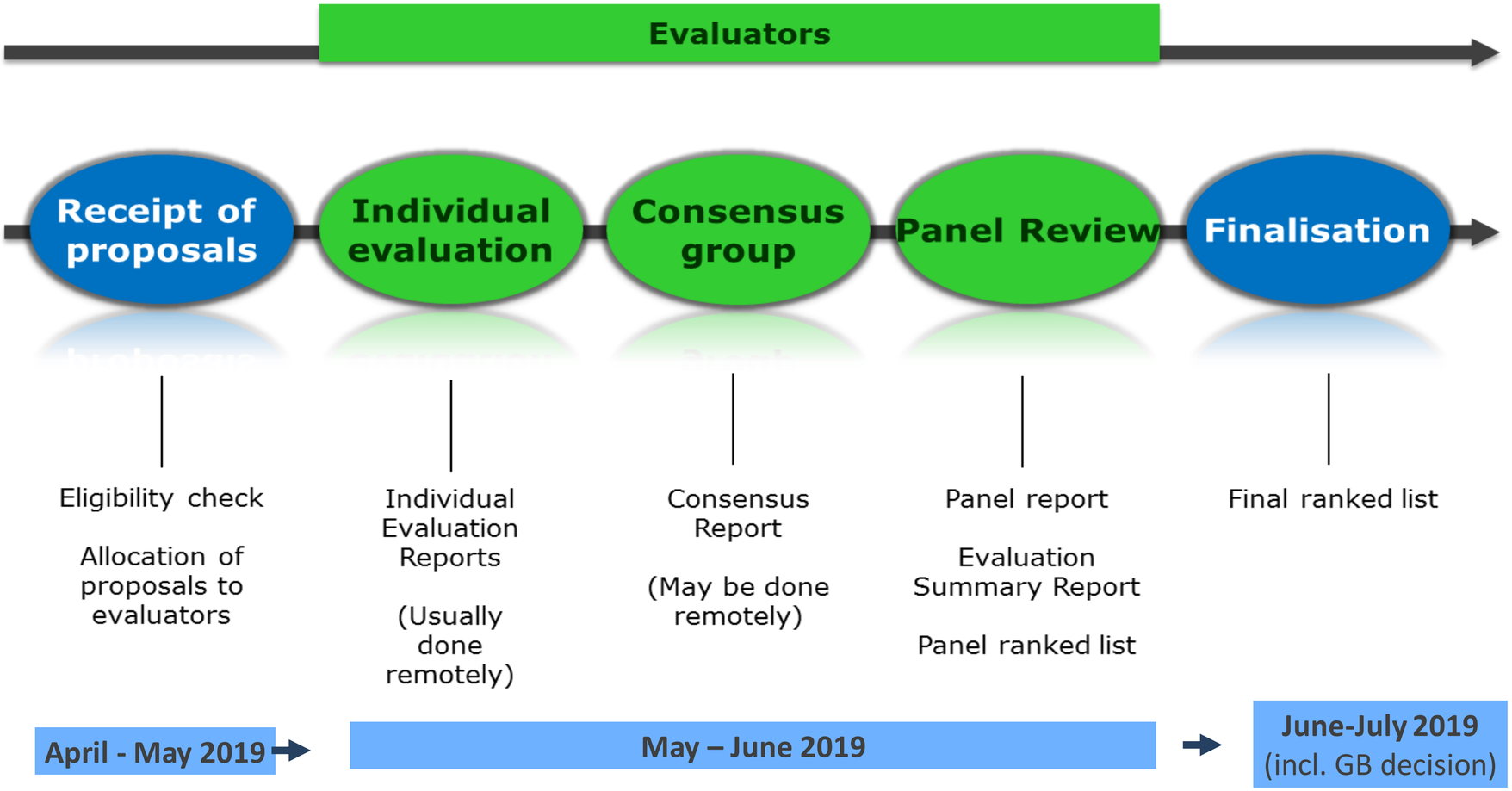
8 months for Time-To-Grant



Quality of the proposal is key !

- The experts evaluate each proposal as submitted
- The experts do not recommend substantial modifications
- If the experts identify significant shortcomings, they must reflect those in a lower score for the relevant criterion

Overview of the Evaluation Process



FCH JU will evaluate the proposals with the help of independent external experts ('evaluators')

Evaluation by independent experts

How are the evaluators selected?

European Commission database of experts

Register through the Participant Portal

Selection of experts

- High level of skill, experience and knowledge
- Independence and absence of conflict of interest

And **a balance** in terms of:
- geographical diversity
- gender
- where appropriate, the private and public sectors, and
- an appropriate ‘rotation’ from year to year.

In principle, each proposal will be examined by **at least three experts**

Presence of **one or more independent observers**

Experts that have a **conflict of interests** will be excluded by us !

25% new experts

Large fields of expertise

Network with fellows

Feedback to applicants

- **Maximum 5 months from the call deadline:** Evaluation Results Letter (through Participant Portal)

- **Complaints** *(request for evaluation review):* within ***30 days*** of receiving the Evaluation Results Letter (through Participant Portal)

- **Flash Info** on Participant Portal *(similarly on FCH2 JU website):*
  - Publishing number of proposals submitted per budget/list of topics, **after the call deadline;**
  - Publishing basic statistics on the outcome of the call (e.g. total proposals, ineligible, above/below-thresholds) **at the same time with the feedback/evaluation results to all applicants**