Fed4FIRE+ Open Call - Experiments
"SME Cascaded Experiments"

(updated 16 March 2021)

Call information:
- Project full name: **Fed4FIRE+: Federation for FIRE** plus
- Project grant agreement number: **732638**
- Call identifier: **F4Fp-SME**
- Call title: **Fed4FIRE+ Competitive Call - Innovative Experiments Category "SME Cascaded Experiments"**

Submission deadline Stage 1: Continuous submission (2-weekly cut-off dates)

Submission deadline Stage 2: Regular deadlines synchronized with the standard Open Calls

Financial information:

- Maximum requested funding per experiment:
  - Stage 1: € 12 500 (incl. a max of €2 500 for patron) with a max of 40 experiments over whole of Fed4FIRE+ duration
  - Stage 2: € 60 000 (incl. a max of €5 000 for patron) with a max of 8 experiments over whole of Fed4FIRE+ duration

- The above mentioned amounts include the budget for the Fed4FIRE+ partner(s) acting as Patron for the experiment. The split of budget between experimenter and patron is flexible with a maximum set for the budget allocated to the patron as indicated per stage.

The proposer:
- Proposals will only be accepted from a single party eligible for participation in the EC H2020-projects
- Can only be selected for funding for one proposal every 6 months

Eligibility & re-submissions
- For stage 2 only successful proposals from stage 1 can be submitted.
- For stage 1 a proposal, if rejected can only be re-submitted after 6 months
- For stage 2 a proposal, if rejected, can only be re-submitted once

Detailed information about the open call and its aspects can be retrieved online (**www.fed4fire.eu)**

Language in which the proposal must be submitted: English

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1 Table of Contents

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2 Introduction to Fed4FIRE+

Fed4FIRE+ is a Research and Innovation Action under the European Horizon 2020 Programme addressing the work programme topic Future Internet Research and Experimentation. The project started on 01 January 2017 and runs for 60 months, until the end of 2021.

The Fed4FIRE+ project has the objective to run and further improve Fed4FIRE+'s "best-in-town" federation of experimentation facilities for the Future Internet Research and Experimentation initiative. Federating a heterogeneous set of facilities covering technologies ranging from wireless, wired, cloud services and open flow, and making them accessible through common frameworks and tools suddenly opens new possibilities, supporting a broad range of experimenter communities covering a wide variety of Internet infrastructures, services and applications.

Fed4FIRE+ continuously upgrades and improves the facilities and include technical innovations, focused towards increased user satisfaction (user-friendly tools, privacy-oriented data management, testbed SLA and reputation, experiment reproducibility, service-level experiment orchestration, federation ontologies, etc.). It will open this federation to the whole community and beyond, for experimentation by industry and research organisations, through the organization of Open Calls and Open Access mechanisms

The project also offers a flexible, demand-driven framework which allows test facilities to join during the course of its lifetime by defining a set of entry requirements for new facilities to join and to comply with the federation.

Fed4FIRE+ also continues to build on the existing community of experimenters, testbeds and tool developers and bring them together regularly (two times a year) in engineering conferences to have maximal interaction between the different stakeholders involved.

An overview of the available FIRE facilities offered through Fed4FIRE+ can be retrieved at the facility overview page on the Fed4FIRE+ website[1]. Additional background information about both the offered facilities, the tools adopted by the federation, and the implementation steps needed from a facility when joining the federation can also be found in the Fed4FIRE+ training material[2].

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[1] https://www.fed4fire.eu/testbeds/
[2] http://doc.fed4fire.eu/

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3 Objectives of the call

The major objective of this Open Call is to make the federated infrastructure directly available for execution of innovative experiments by experimenters from SMEs with a limited amount of effort in preparing the proposals and increasing the quality of the experiments.

Standard Open Calls work in a 1-stage scenario, and imply a relatively significant investment in time and effort for the proposing party to prepare and submit a proposal. It also takes a significant amount of time for the proposer to receive notification of acceptance / rejection of the proposals. These considerations regularly restrict the submissions by SMEs and their participation in Open Calls.

To overcome these thresholds, Fed4FIRE+ has run a 2-staged submission process in the 2nd Fed4FIRE+ Open Call and based on the positive feedback implements this staged submission in a continuous way through this Open Call.

The principle is as follows:

1) A 1st stage submission requires the submission of a very limited-sized proposal for a short-duration experiment after consultation with the required testbeds.

2) Bi-monthly, all submitted proposals are collected and submitted to an external panel of reviewers for a fast review.

3) This quasi continuous review process targets a notification of acceptance / rejection within 2 weeks. In exceptional circumstances like holiday periods,… this period may be slightly longer but feedback will always be provided within 4 weeks.

4) This review process involves a review by:

   a. at least 3 reviewers as well as

   b. a review on technical feasibility by the Patron(s), i.e. the responsible of the testbeds intended to be used.

5) Once accepted, the experiment runs for 3 months

6) The budget is max. 12 500 euro including the support for the Patrons (testbed providers). How the split of the budget is made the experimenter and the patron is flexible however the budget of the Patron cannot exceed 2 500 euro in Stage 1

7) At the end of the experiment a report is produced by the experimenter to Fed4FIRE+.

8) If desired, the proposers can submit a more elaborated proposal for a more extensive experiment (duration 5 months) together with the testbeds, which will be used in the experiment, at specific submission deadlines (submission deadlines will be set with a periodicity of 6 months)

9) The submission process for this 2nd stage runs synchronised every 6 months with the standard Open Calls of Fed4FIRE+ but acceptance is independent from these standard Open Calls and runs on a separate budget.

10) Once accepted the 2nd stage experiment runs for 5 months

11) The budget is max. 60 000 euro including the support for the Patrons (testbed providers). How the split of the budget is made the experimenter and the patron is flexible however the budget of the Patron cannot exceed 5 000 euro in Stage 2

12) At the end of the experiment, a report is produced by the experimenter to Fed4FIRE+.

13) If a proposal is not accepted in the 1st stage, re-submission is only allowed after 6 months.

14) If a proposal is not accepted in the 2nd stage, only 1-time re-submission is allowed.

The experiments submitted in Stage 1 are innovative experiments with a limited time in order to collect information on feasibility, requirements, challenges,.. to prepare for the 2nd stage. The experiments submitted in the 2nd stage are proposals for more extensive innovative experiments which are built upon the proposals and experiments run after selection in the 1st stage.

Examples of such experiments may include but are not limited to testing of new protocols or algorithms, performance measurements, service experiments. It is required that these experimenters will come from parties or organisations that are not part of the Fed4FIRE+ project consortium and which have NOT submitted any proposal yet in the previous Open Calls of the Fed4FIRE+ project. Parties which have submitted proposals in Open Calls from other projects are eligible.

The Fed4FIRE+ project is issuing this series of open and competitive calls for experiments with a degree of industrial and/or scientific innovation, relevance for the Fed4FIRE+ federation and an appropriate scale of complexity. Independent evaluations of the submitted proposals will be performed, in order to select experiments which will be executed within the project. It is required that the experiments are performed by a single organization.

This continuous Open Call targets only experiments originating from SME's:

In both stages, external reviewers will evaluate proposals and selection will be made upon:

- Exceeding set thresholds on specific evaluation criteria (see below) for Stage 1

- Ranking of the proposals after review for Stage 2

Benefits for an experimenter to propose experiments on the Fed4FIRE+ federation of testbeds:

- Possibility to perform experiments that break the boundaries of different testbeds or domains (wireless, 5G, wired, OpenFlow, cloud computing, smart cities, services, etc.)

- Easily access all the required resources with a single account.

- Focus on your core task of experimentation, instead of on practical aspects such as learning to work with different tools for each testbed, requesting accounts on each testbed separately, etc.

- An extra benefit which is offered in this call is the
  - 2-stage approach with a minimum effort in Stage 1
  - A dedicated support from specific Fed4FIRE+ members. Each proposer, preparing a proposal is required to seek a supporting Fed4FIRE consortium partner or partners (the "Patron") that will be in charge of dedicated (advanced) support of the experiment.
  - A limited budget available for running small experiments in preparation of the Stage 2 proposal submission

4 Eligibility

- Proposals will only be accepted from parties eligible for participation in EC H2020-projects.

- Proposals will only be accepted from single parties (no consortia are allowed).

- Proposers must originate from parties or organisations that are not already part of the Fed4FIRE+ project consortium.

- Proposers can submit multiple experiment proposals, but only one experiment per proposer will be selected for funding every 6 months. In case multiple proposals are submitted by the same party, reference should be made to each submitted proposal and clear indication should be given on the complementarity of the proposals.

- For stage 2 only successful proposals from stage 1 can be submitted.

- For stage 1 a proposal, if rejected can only be re-submitted after 6 months

- For stage 2 a proposal, if rejected, can only be re-submitted once

- Proposers who have submitted proposals in previous calls of the Fed4FIRE+ - project are allowed to re-submit. Details on how this information needs to be included in the proposal are given below and should be included in a specific section in the proposal (cfr. Proposal template)

  - Parties who have submitted proposals in previous calls which were NOT selected for funding should indicate the exact dates and details of the previous submissions.

  - Parties who have submitted proposals in previous calls which were selected for funding should indicate the difference between the current proposal and the previously submitted proposal.

  - Parties belonging to a legal entity of which other groups have submitted proposals in previous calls also need to indicate the difference between the current proposal and the previously submitted proposals.

- Proposals acceptance is subject to budget availability

5 Inclusion into the consortium

Once a party is selected to perform the proposed experiment, it will be contracted by the Project Coordinator (imec) as a 3rd Party receiving financial support. This will require the signature of the Agreement of which can be found as download on the Fed4FIRE+ website together with this Call information.

6 Participation in meetings and submission of reports

6.1 Submission of reports (templates can be found as download on the Fed4FIRE+ website together with this Call information):

The proposer will need, if its experiment is:

- Selected for funding in Stage 1:
    - o to submit a report (template provided)
    - o to prepare a flyer (1 A4-page) describing the objective and results of the experiment as well as the impact of the experiment on the proposers' business. This flyer can be used by the Fed4FIRE+ consortium at public events.
    - o to prepare a presentation and demo, to be used at the formal review meeting, explaining and illustrating:
        - ▪ the objective and results of the experiment
        - ▪ the impact of the experiment on the proposers' business.
        - ▪ The feedback towards the Fed4FIRE+ consortium on the use of the facilities

- Selected for funding in Stage 2:
    - o To submit a report at the end of the experiment (template provided).
    - o To prepare a Poster (A1-format) describing the objective and results of the experiment as well as the impact of the experiment on the proposers' business. This poster can be used by the Fed4FIRE+ consortium at public events and will be used at the occasion of the review meetings.
    - o To prepare a flyer (2 A4-pages) describing the objective and results of the experiment as well as the impact of the experiment on the proposers' business. This flyer can be used by the Fed4FIRE+ consortium at public events.
    - o To prepare a presentation and demo explaining and illustrating:
        - ▪ the objective and results of the experiment
        - ▪ the impact of the experiment on the proposers' business.
        - ▪ The feedback towards the Fed4FIRE+ consortium on the use of the facilities
    - o The production of a short video about the experiment is recommended. This video will be used by the Fed4FIRE+ project at public events.

6.2 Attendance at meetings (to be budgeted in the proposal)

- The proposer of a 1st stage proposal, is *stimulated* to attend FEC-events:
    - o Objective: attend tutorials and learn about Fed4FIRE+
    - o Discuss preparation of Stage 1 proposal with testbeds

- If accepted for funding in the 1st stage, experimenters are *required* to attend the FEC-event immediately following the end of the experiment
    - o To be attended by all funded experimenters
    - o Objectives:
        - ▪ presentations by the finished experiments will serve as tutorials and demonstrations towards participants and new experiments attending the event.
        - ▪ formal review meeting by EC representatives of all finished experiments.
    - o Discuss preparation of Stage 2 proposal with testbeds

- If accepted for funding in the 2nd stage, experimenters are *required* to attend the FEC-event immediately following the end of the experiment
    - o To be attended by all funded experimenters

- o Objectives:
    - ▪ presentations by the finished experiments will serve as tutorials and demonstrations towards participants and new experiments attending the event.
    - ▪ formal review meeting by EC representatives of all finished experiments.
- Project meetings
    - o As the experimenter will be linked to the project as 3rd Party, there will no possibility to attend formal meetings of the consortium but specific (remote) meetings regarding the experiment can be set up with Fed4FIRE+ partners. The engineering conferences should be used to discuss face-to-face.

7 Targeted timing:

7.1 Stage 1

- Submission deadline: 2-weekly cut-off dates

  Target dates:
    - o 06/11/18
    - o 20/11/18
    - o 04/12/18
    - o 18/12/18
    - o 08/01/19
    - o 22/01/19
    - o 05/02/19
    - o 19/02/19
    - o Etc…
- Notification of selection: 2 weeks (target) after submission
- Attending FEC Tutorials (suggested): continuous
- Start of the experiment: 1 month after notification of acceptance (maximum)
- End of the experiment 3 months after start
- Submission of Report: 3 months after start
- Formal review meeting (co-located with FEC) FEC immediately following end of experiment

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7.2 Stage 2

- Submission deadline: submission deadline of standard Open Calls:

Submission	Call Open	Call Close	Start exp.	Duration Exp.	Review
OC4-M	20/06/18	18/09/18	10/18 (*)	5M	FEC5 (spring 19)
OC5-M	01/12/18 (*)	01/03/19 (*)	04/19 (*)	5 M	FEC6 (fall 19)
OC6-M	01/06/19 (*)	15/09/19 (*)	10/19 (*)	5 M	FEC7 (spring 20)
OC7-M	01/12/19 (*)	01/03/20 (*)	04/20 (*)	5 M	FEC8 (fall 20)
OC8-M	01/06/20 (*)	15/09/20 (*)	10/20 (*)	5 M	FEC9 (spring 21)
OC9-M	01/12/20 (*)	01/03/21 (*)	04/21 (*)	5 M	FEC10 (fall 21)

(*): tentative dates only

- Targeted acknowledgment of selection: 4 weeks after submission deadline

- Start of the experiment: 1 month after notification of acceptance (maximum)

- Attending FEC Tutorials (suggested): continuous
- End of the experiment: 5 months after start
- Submission of Report: 5 months after start
- Presentation at FEC: FEC immediately following end of experiment

- Formal review meeting (co-located with FEC): FEC immediately following end of experiment

8 Open Research Data (only for Stage 2)

8.1 Motivation & Principles

In order to support open and repeatable scientific experiments, the EC is advocating that experimenters publish their experiment data[3,4]. This is not mandatory: the EC recognises that there are legitimate reasons why experimenters may want to keep their data confidential. To support this in Fed4FIRE+, experimenters are encouraged (but not mandated) to create a data package containing their experiment results with all data that supports them, and upload it to the Fed4FIRE+ approved repository so that it may be found and reused by other interested parties.

The EC's guiding principle regarding open research data is *"AS OPEN AS POSSIBLE, AS CLOSED AS NECESSARY"*. This means the default situation is that all experiment data should be open but if there

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[3] https://ec.europa.eu/research/press/2016/pdf/opendata-infographic_072016.pdf
[4] http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

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are genuine reasons why experiment data is not to be opened, experimenters can opt out and their experiment data can be kept confidential. Fed4FIRE+ experimenters can opt out of opening data at any time up to the point of publication after the experiment has completed, even if they have previously declared that they want to open data. Experiment proposers need to state the reasons why they will not open data, and these can include:

- Commercial confidentiality & IPR
- Personal data
- Conflict with the experiment's main objective

In general, most academic experimenters are anticipated to want to open data in order to support their academic work, and most commercial experimenters will want to keep their data confidential, but the final decision is the experimenter's, provided they give valid reasons for opting out of opening data.

8.2 Data Archive

The repository chosen for Fed4FIRE+ is **Zenodo**[5]. The reasons for this choice are given in detail in Fed4FIRE+ D2.1, Initial Guidelines on Data Management, but they are summarised here:

- Zenodo is hosted by CERN, so it is unlikely to disappear any time soon, and has a stated long-term data preservation policy.
- Zenodo exports descriptive metadata to ORD search engines, enabling the data to be easily found.
- Zenodo is an issuer of Digital Object Identifiers (DOIs)[6], enabling the data to be uniquely identified.
- Zenodo is flexible on licensing of data.
- Zenodo provides automated reporting to the EC for open data stored within it, so evidence of the commitment from Fed4FIRE+ and experimenters to provide open experiment data can be easily verified.

8.3 Funding Available (only Stage 2)

Funding to cover the experimenter's costs in preparing the ORD data package is available from the Fed4FIRE+ Federator. This is additional to the support funding for experiments, and will be paid to an experimenter upon confirmation that their Stage 2 experiment data package is complete and uploaded into the Fed4FIRE+ approved data repository, Zenodo.

The funding available is capped to an upper limit of €500 and justification of the costs must be provided.

8.4 Process

The process for ORD in Fed4FIRE+ is shown in Figure 1. The left-hand column shows activities by the experimenter, and the right hand column shows activities by the Federator.

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[5] https://zenodo.org/

[6] https://www.doi.org/

At experiment proposal time, the experimenter decides whether they want to open data. If they want to keep data confidential, they need to provide satisfactory reasons why not in their proposal. Valid reasons will not prejudice against funding for experiment proposals. If experimenters want to open data, they must complete a basic data management plan and include this with the proposal submission. If the proposal (including the basic DMP) is accepted, in addition to providing the experiment funding, the Federator puts aside funding to cover the experimenter's extra costs in preparing the ORD package.

After the experiment is complete, the experimenter has another opportunity to decide whether they want to open their research data. If they wish to keep their data closed, they need to provide reasons in their experiment report. If they wish to open data, they must complete a more detailed DMP, prepare a data package including metadata describing the experiment data and upload the data package to Fed4FIRE+'s approved data repository, Zenodo. Zenodo will issue a Digital Object Identifier, and this must be submitted to the Federator. The Federator will check the existence and completeness of the data package, and if all is well, will authorise a cost claim for the experimenter covering their costs for opening data (up to a limit of €500).
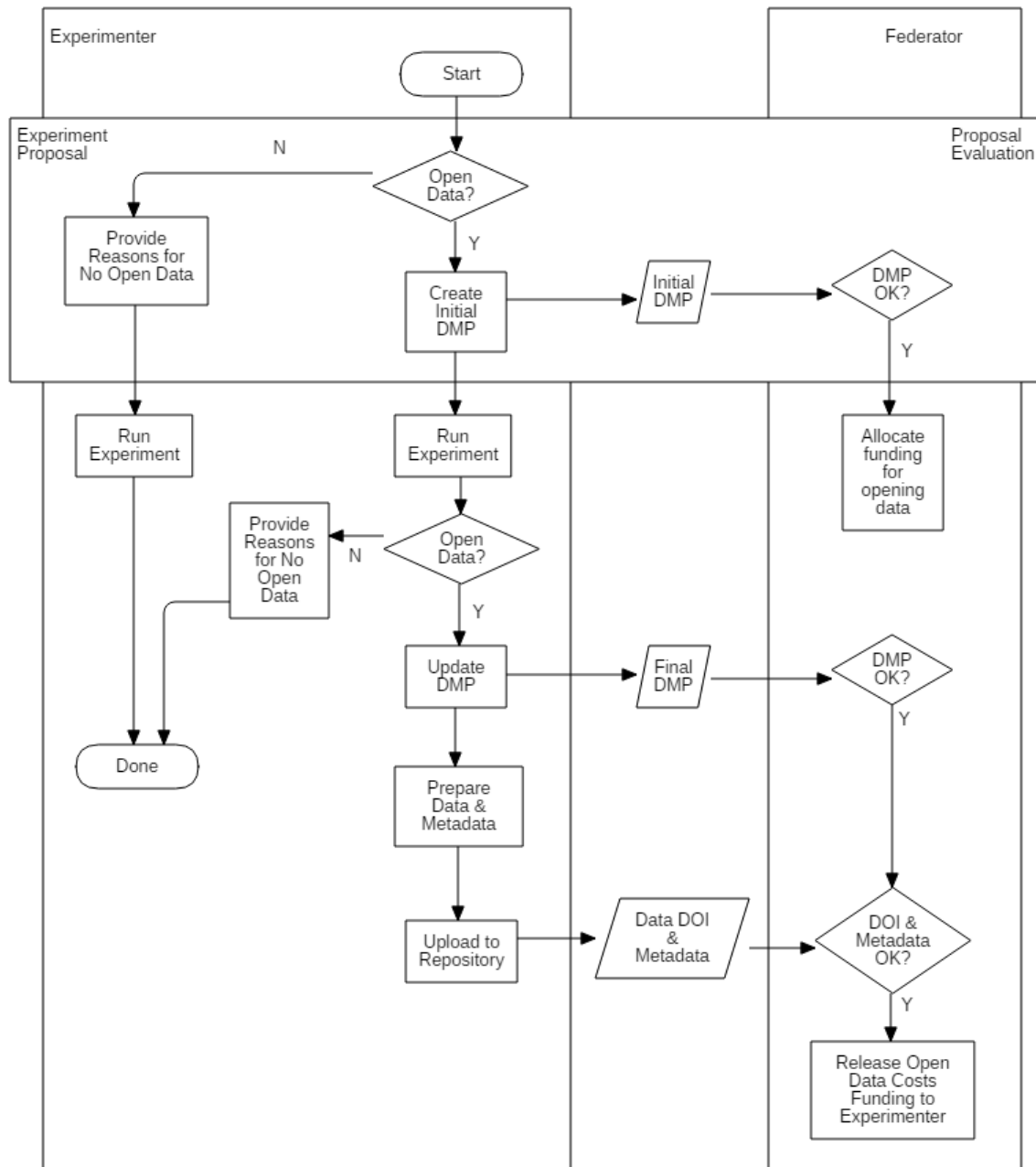
Figure 1: Fed4FIRE+ Open Research Data Process

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9 Proposal template

The use of a specific proposal format as described in this section is mandatory. The template (can be found as download on the Fed4FIRE+ website together with this Call information) is limited in size and is focusing on "what experimenters want to do" and "what the expected result is".

9.1 Proposal template – Stage 1

Section A   Information page and Summary (200 word summary)
The information in this section may be used in public documents and reports by the Fed4FIRE+ consortium.

Section B   Description and Expected Results (target length 2 pages)
describing the details on the planned experiment (what do you hope to obtain, how, why is it relevant, how this prepares to a Stage 2 proposal). This section may also include all information with respect to the State-of-the-Art to show the innovative character of the experiment and the expected business impact

Section C   Requested Fed4FIRE+ tools, testbeds and facilities (1 page, standard form)
The information in this section needs to be collected in collaboration with the Fed4FIRE+ partner acting as patron on this experiment. For this section a specific format needs to be used, which is attached to this document and available for download.

Section D   Compliance check (max. 1 page, standard form to be provided by the Fed4FIRE+ Patron)
This section contains the formal statement of the Fed4FIRE+ partner(s) acting as patron on this experiment that he/she has been informed about your proposed experiment and that he agrees that it can be carried out on the required testbed(s).

Section E   Background and qualifications (target length 1/2 page)
This section describes the proposing experimenters and includes an overview of the activities, your qualifications, technical expertise and other information to allow the reviewers to judge your ability to carry out the experiment.

Section G   Requested funding (1 page. standard form).
This section provides an overview of the budgeted costs and the requested funding. A split is made in
  o   personnel costs
  o   other direct costs (travel, consumables,..) and
  o   indirect costs (see section 6).

This section also includes the split between the budget allocated to the experimenter and the budget allocated to the Patron(s), clearly arguing this split (max. €2 500 in total for the patron(s) in Stage 1).
The budget can be split in a flexible way between the experimenter and the Patron but the split needs to be provided and argued in the proposal. It is thus possible to have:

- example 1:   Experiment budget = 10 000 euro
Patron budget = 2 500 euro

- example 2:   Experiment budget = 11 000 euro
patron budget = 1 500 euro

- example 3: Experiment budget = 10 500 euro
Patron 1 budget = 1 500 euro
Patron 2 budget = 500 euro

Section G   Participation in previous Open Calls of the Fed4FIRE+ project.
This section provides information on previous participation in Open Calls of the Fed4FIRE+ project:

- Parties who have submitted proposals in previous calls which were NOT selected for funding should indicate the exact dates and details of the previous submissions.

- Parties who have submitted proposals in previous calls which were selected for funding should indicate the difference between the current proposal and the previously submitted proposal.

- Parties belonging to a legal entity of which other groups have submitted proposals in previous calls also need to indicate the difference between the current proposal and the previously submitted proposals.

Section H   Data Management
In stage 1, this section just contains 1 single question with respect to the intention of the proposer to make the result of the experiment public or not.

9.2   Proposal template – Stage 2

Section A   Information page and Summary (300 word summary)
The information in this section may be used in public documents and reports by the Fed4FIRE+ consortium.

Section B   Detailed Description and Expected Results (target length 6 pages)
describing:
- the details on the results of the experiment carried out in Stage 1 and
- the details on the planned experiment (what do you hope to obtain, how, why is it relevant).
This section may also include all information with respect to the State-of-the-Art to show the innovative character of the experiment and the expected business impact

Section C   Requested Fed4FIRE+ tools, testbeds and facilities (1 page, standard form)
The information in this section needs to be collected in collaboration with the Fed4FIRE+ partner acting as patron on this experiment. For this section a specific format needs to be used, which is attached to this document and available for download.

Section D   Compliance check (max. 1 page, standard form to be provided by the Fed4FIRE+ Patron)
This section contains the formal statement of the Fed4FIRE+ partner(s) acting as patron on this experiment that he/she has been informed about your proposed experiment and that he agrees that it can be carried out on the required testbed(s).

Section E   Background and qualifications (target length 1 page)
This section describes the proposing experimenters and includes an overview of the activities, your qualifications, technical expertise and other information to allow the reviewers to judge your ability to carry out the experiment. This section can be copied from the Stage 1 proposal.

Section F   Expected feedback to the Fed4FIRE+ Consortium (target length 1-2 pages)
This section is an updated and more elaborated version of Section F of the Stage 1 proposal. It contains valuable information for the Fed4FIRE+ consortium and should indicate the expected feedback the Fed4FIRE+ consortium can expect form the use of its federated facilities after carrying out your experiment. This information is essential in view of the sustainability of the facilities and use of tools and procedures. Note that the production of this feedback is one of the key motivations for the existence of the Fed4FIRE+ open calls.

Section G   Future plans (target length 1 page)
This section contains information regarding expected possible follow-up experiments, new initiatives, new projects which may follow out of the experiment as proposed in this Open Call.

Section H   Requested funding (1 page).
This section provides an overview of the budgeted costs and the requested funding. A split is made in
o   personnel costs
o   other direct costs (travel, consumables,..) and
o   indirect costs (see section 6).

This section also includes the split between the budget allocated to the experimenter and the budget allocated to the Patron(s), clearly argumenting this split (max. €5 000 in total for the patron(s) in Stage 2).
The budget can be split in a flexible way between the experimenter and the Patron but the split needs to be provided and argumented in the proposal. It is thus possible to have:

- example 1:   Experiment budget = 55 000 euro
  Patron budget = 5 000 euro

- example 2:   Experiment budget = 57 000 euro
  patron budget = 3 000 euro

- example 3: Experiment budget = 56 000 euro
  Patron 1 budget = 2 500 euro
  Patron 2 budget = 1 500 euro

Section I   Participation in previous Open Calls of the Fed4FIRE+ project.
This section provides information on previous participation in Open Calls of the Fed4FIRE+ project:

- Parties who have submitted proposals in previous calls which were NOT selected for funding should indicate the exact dates and details of the previous submissions.

- Parties who have submitted proposals in previous calls which were selected for funding should indicate the difference between the current proposal and the previously submitted proposal.

- Parties belonging to a legal entity of which other groups have submitted proposals in previous calls also need to indicate the difference between the current proposal and the previously submitted proposals.

Section J   Data Management
This section begins with the question: "Will you provide a complete, publicly-accessible dataset of your experiment results and supporting data, uploaded in Fed4FIRE+'s chosen repository?"
For the Answer "NO": The experimenter needs to provide reasons why they will not make their experiment data open as part of the proposal. Guidance on opt out reasons can be found in Section 8.1.
For the Answer "YES": The experimenter needs to fill in the table provided in the template, and this becomes the initial Data Management Plan, to be submitted with the experiment proposal. Guidance notes are provided in the table.

Section K   Survey.
This survey contains a list of specific requirements which you expect your experiment

has for our federated testbeds. This survey will be done through a specific template which will become available on-line. This survey is an integral part of your proposal. Proposing parties who do not complete this survey by the set deadline are not eligible for evaluation.

The survey responses will remain within the Fed4FIRE+ consortium and will be used for reports and evaluation of the Fed4FIRE+ tools, testbeds and concept. The results will not be forwarded to the reviewers and will consequently not influence the scoring of your proposal during the evaluation process.

10 Support during experiment and the role of the Patron

Experimenters in this open call category have access to basic and advanced support:

A. Basic support

- Guaranteeing that the facility is up and running (e.g. answering/solving "could it be that server X is down?")
- Providing pointers to documentation on how the facility can be used (e.g. "how to use the virtual wall testbed" => answer: check out our tutorial online at page x")
- Providing pointers to technical questions as far as relevant (e.g. answering "do you know how I could change the WiFi channel" => answer: yes, it is described on following page: y"; irrelevant questions are for example "how to copy a directory under Linux")
- This support will be handled through the support forum detailed at
  http://doc.fed4fire.eu/support.html

B. Dedicated (advanced) support includes all of the following supporting activities by the patron:

- Deeper study of the problem of the experimenter: invest effort to fully understand what their goals are, suggest (alternative) ways to reach their goals. To put it more concretely (again using the example of the Virtual Wall testbed), these experimenters do not need to know the details on the Virtual Wall or how it should be used, they will be told what is relevant to them and can focus on their problem, not on how to solve it.
- Help with setting up the experiments (e.g. "how to use the virtual wall" => answer: the tutorial is there, but let me show you how what is relevant for you, let me sit together with you while going through this example and let us then also make (together) an experiment description that matches what you are trying to do.
- (Joint) solving of practical technical problems (e.g. "do you know how I could change the WiFi channel" => yes, it is described on page y, in your case you could implement this as following: ..., perhaps we should quickly make a script that helps you to do it more easily, ...)
- Custom modifications if needed: e.g. adding third-party hardware and preparing an API for this.
- Technical consultancy during/after the experiments (e.g. "I do get result x but would have expected y, what could be the problem?")

It is essential that you get in contact with the Fed4FIRE+ partner in charge of the testbed(s) you will use for your experiment to discuss your experiment and the specific requirements. Each proposing party must therefore contact the Fed4FIRE+ consortium regarding its submission to identify a possible Patron. The proposing party must submit its draft proposal to this Patron. The feedback by the Patron is provided in section D of the proposal.

The role and support by the Patron will be reflected in the budget (see section G of the proposal). At least one Patron is needed per experiment, but more are possible.

11 Budget & Payment scheme

As the experimenter will be linked to the Fed4FIRE+ consortium as 3rd Party receiving financial support, specific arrangements exist with respect to financial costs and payment schemes:

11.1 Compliance rules

- As a 3rd Party, the proposing party needs to include an overview of the estimated costs in its proposal at the time of submission. Costs consist of personnel costs, direct costs (such as travel, consumables, etc.) and indirect costs. The costs of a 3rd Party have to comply with the rules and the principles mentioned in Section I, Article 6 (Eligible and ineligible costs) of the H2020 AGA — Annotated Model Grant Agreement (see http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf), in the same way as the beneficiaries, and must be recorded in the accounts of the 3rd Party. In other words, the rules relating to eligibility of costs, identification of direct and indirect costs and upper funding limits apply. Equally those concerning controls and audits of Section I, Article 22 of the H2020 AGA.

11.2 Acceptable costs:

- The budget for the experimenter covers the costs for:
    - getting acquainted with the testbed
    - executing the experiment
    - reporting feedback about the federation framework
    - submitting the required documents
    - attending the required meetings (travel)

- The budget for the Fed4FIRE+ partner(s) acting as Patron(s) covers the costs for:
    - supporting the proposer during the preparation and execution of the experiment
    - specific adaptation of the testbed to run the experiment
    - providing feedback and quality-check on the submitted reports and materials by the experimenter.

11.3 Budget

The maximum requested funding for each experiment in this Call is set at:
- 12.5k euro for Stage 1 and
- 60 k euro for Stage 2

The budgeted costs and the requested funding should include:
- personnel costs
- other direct costs (travel, consumables,..) and
- indirect costs (see below).

The budget can be split in a flexible way between the experimenter and the Patron but the split needs to be provided and argumented in the proposal. It is thus possible to have:

For Stage 1:

- example 1:   Experiment budget = 55 000 euro
  Patron budget = 5 000 euro

- example 2:   Experiment budget = 57 000 euro
  patron budget = 3 000 euro

- example 3: Experiment budget = 56 000 euro
  Patron 1 budget = 2 500 euro
  Patron 2 budget = 1 500 euro

For Stage 2

- example 1:   Experiment budget = 55 000 euro
  Patron budget = 5 000 euro

- example 2:   Experiment budget = 57 000 euro
  patron budget = 3 000 euro

- example 3: Experiment budget = 56 000 euro
  Patron 1 budget = 2 500 euro
  Patron 2 budget = 1 500 euro

11.4 Indirect costs:

For the Experimenter all numbers must include indirect costs, for the Patron, indirect costs follow the H2020 guidelines and are defined as 25%.

11.5 Submission of invoices

- The proposer will need, if its experiment is selected for funding:
- To submit an invoice for 75% of the budget allocated to the 3rd Party which will be paid by imec as coordinator upon an approval of the report by the Fed4FIRE+ consortium.
- To submit an invoice for 25% of the budget allocated to the 3rd Party which will be paid by imec as coordinator upon receiving a positive evaluation report by the EU appointed reviewers following a formal review by the EU representatives.
- Payments to the Fed4FIRE+ partner acting as Patron will be made internally within the consortium.

12 Access to Foreground information from the project

As indicated by the EC Guidelines, a 3rd Party is paid in full for its contribution made to a project by the Coordinator. As a consequence, 3rd Parties do not have any IPR rights on the foreground of the project.

Version 16-03-2021

13 Reporting

As the experimenter will be linked to the Fed4FIRE+ consortium as 3rd Party receiving financial support, no input will be required for any of the regular project reports which the Fed4FIRE+ consortium needs to submit to the EU.

A final report needs to be submitted after conclusion of the experiment. A specific template needs to be used (can be found as download on the Fed4FIRE+ website together with this Call information) and will include:

13.1 Stage 1 Reporting

13.1.1 Stage 2 proposal submitted as follow-up of Stage 1 experiment:

If a Stage 2 proposal is being prepared as a follow-up of the Stage 1 experiment, the proposal for the Stage 2 submission will serve as a report of the Stage 1 experiment. No separate report needs to be submitted.

13.1.2 No stage 2 proposal submitted as follow-up of Stage 1 experiment:

In case no follow-up experiment in Stage 2 is submitted, a report on the Stage 1 experiment needs to be submitted similar to the report following the Stage 2 experiment (see next section).

13.2 Stage 2 Reporting (template provided)

Part A.   Summary

Part B.   Detailed description
This section describes the details on the experiment and provides information as you have been collecting this from your point of view and from your business. It includes:
B.1   Concept, Objectives, Set-up and Background
B.2   Technical Results & Lessons learned
B.3   Business impact

Part C.   Feedback to Fed4FIRE+
This section contains valuable information for the Fed4FIRE+ consortium and describes your experiences by running your experiment on the available testbeds. Note that the production of this feedback is one of the key motivations for the existence of the Fed4FIRE+ open calls. It includes:
C.1   Resources & tools used
C.2   Feedback based on design/set-up/running your experiment on Fed4FIRE+
C.3   Why Fed4FIRE+ was useful to you

This report will not only serve as an evaluation tool to judge payment of the experimenter, but will mainly serve as input to the Fed4FIRE+ sustainability plans, evaluation of the user-friendliness of the Fed4FIRE+ tools and identification of missing gaps in both testbeds and tools.

Part of this report may be used by the Fed4FIRE+ consortium for inclusion in their reporting documents to the EU and in public presentations. Inclusion of confidential information should therefore be indicated and discussed with the Fed4FIRE+ consortium.

This report will also be used for the formal review by the European Commission.

14 Criteria for evaluation and ranking of experiments

Proposals can only be submitted by eligible parties (cfr section 4):

Evaluation and ranking will be carried out by an external review panel. Selection will mainly be based upon:

14.1 Proposals for experiments in Stage 1

Proposals for experiments have to demonstrate:

Criteria I. A degree of **industrial and/or scientific innovation & relevance** including a motivation for the experiment. (Section B of the Proposal Template)
The score given here should reflect:
- the degree of innovation: if an experiment is pushing the boundaries of its domain, then it should get a higher score here then experiments testing trivial things. In order to demonstrate these criteria, the proposer may opt to indicate the State of the Art in the appropriate field
- and / or the industrial relevance including the expected and projected impact on the experimenter through product development or the scientific relevance and the projected impact on the organisation

Criteria II. **Relevance for Fed4FIRE**+: This criterion provides a score taking into account several possible issues:
Use of Fed4FIRE+ facilities and tools (Sections B & C of the Proposal Template): The use of the proposed testbeds and tools will be evaluated on the basis of the relevance and the required complexity. Proposals will not be penalized for using only single testbeds or single tools, but use of multiple testbeds is stimulated, as Fed4FIRE+ is a federation of testbeds. No distinction is made between achieving this by running the same experiment in sequence on multiple testbeds (e.g. to evaluate different wireless environments), or by running a single experiment that relies on resources from different testbeds at the same time. If however proposals have made their design artificially more complex than needed just in order to use multiple testbeds, then the score will be lower. Similarly, if proposals have made their designs too trivial while you can easily identify opportunities for involving other testbeds that would have made the experiment stronger, then the score will also be lower. In order to optimise the design of the experiment, the proposer should seek information on the available testbeds.

Criteria III. **Indication on possible future follow-up experiments and how this can support the sustainability of the federated testbed facilities**. (Section F of the Proposal Template).
The proposer may indicate possible follow-up projects and experiments which

can contribute to the sustainability of the Fed4FIRE+ facilities. The quality, the size and the expected feasibility to carry out these future experiments will be reflected by the score in this criterion.

These future plans can be new experiment with Fed4FIRE+, a new research project, internal projects, product commercialization…. As the objective of Fed4FIRE+ is to provide an incentive, seed budget or initial assistance in your business or research, any new initiative triggered by this experiment is acceptable to be listed. The future plans do not have to exclusively impact the future of Fed4FIRE+!

Criteria IV. The proposer should exhibit **technological expertise and quality**. This information must be included in Section E of the Proposal Template.

Criteria V. Preference is given to proposals **originating from new players in the field**. Therefore, the following restrictions will be implemented:

– parties who have submitted a proposal in previous calls of Fed4FIRE+ and which were selected for funding are allowed to submit a new proposal only when clear distinction can be made with previous submitted proposals.

– Parties who have not submitted or been participating in previous calls of the Fed4FIRE+ project but are belonging to same legal entity as proposers which have submitted proposals in previous calls, are eligible in case they can clearly identify the difference with previous submitted proposals by the other groups.

– This information must be included in Section G of the Stage 1 Proposal Template.

Amongst all above listed criteria, Criteria I and II will be weighted higher.

The proposed experiment must be executed on the available Fed4FIRE+ testbeds. This competitive call allows for both experiments using multiple testbeds (in parallel and/or in sequence) and experiments using a single testbed. Information about the current Fed4FIRE+ testbeds is available at the dedicated pages[1]. The proposed experiment must use the experimentation tools provided by Fed4FIRE+ in order to provide feedback to the project about their usefulness and maturity in a final report. In justified cases additional external tools may be used.

14.2 Proposals for experiments in Stage 2

Proposals for experiments have to demonstrate:

Criteria I. A degree of **industrial and/or scientific innovation** including a motivation for the experiment. (Section B of the Proposal Template)
The score given here should reflect the degree of innovation: if an experiment is pushing the boundaries of its domain, then it should get a higher score here then experiments testing trivial things. In order to demonstrate these criteria, the proposer may opt to indicate the State of the Art in the appropriate field.

Criteria II. A degree of **industrial and/or scientific relevance** (Sections B of the Proposal Template)

This score should reflect the industrial relevance including the expected and projected impact on the experimenter through product development or the scientific relevance and the projected impact on the organisation

Criteria III. **Clarity and methodology** (Section B of the Proposal Template)
The experiment should be scientifically and/or technically sound. There should be a clear problem statement, a solid experiment design, a good methodology, etc.

Criteria IV. **Use of Fed4FIRE+ facilities and tools** (Sections B & C of the Proposal Template)
The use of the proposed testbeds and tools will be evaluated on the basis of the relevance and the required complexity. Proposals will not be penalized for using only single testbeds or single tools, but use of multiple testbeds is stimulated, as Fed4FIRE+ is a federation of testbeds. No distinction is made between achieving this by running the same experiment in sequence on multiple testbeds (e.g. to evaluate different wireless environments), or by running a single experiment that relies on resources from different testbeds at the same time. If, however proposals have made their design artificially more complex than needed just in order to use multiple testbeds, then the score will be lower. Similarly, if proposals have made their designs too trivial while you can easily identify opportunities for involving other testbeds that would have made the experiment stronger, then the score will also be lower. In order to optimise the design of the experiment, the proposer should seek information on the available testbeds.

Criteria V. **Relevance for Fed4FIRE+ framework** in terms of potential feedback to the project on the planned facility and tools utilization (Section F of the Proposal Template)
The Fed4FIRE+ consortium is seeking feedback regarding the available tools, procedures and testbeds. Proposals which can indicate that more information and feedback on the use of these tools and procedures will be provided will get a higher score. So the more of the Fed4FIRE+ tools and APIs that an experiment can provide feedback on, the better. If they need to use additional non-Fed4FIRE+ tools, that is not a problem as long as they clearly indicate the added value of these additional tools.

Criteria VI. Indication on **possible future follow-up experiments** and how this can support the sustainability of the federated testbed facilities. (Section G of the Proposal Template).
The proposer may indicate possible follow-up projects and experiments which can contribute to the sustainability of the Fed4FIRE+ facilities. The quality, the size and the expected feasibility to carry out these future experiments will be reflected by the score in this criterion.
These future plans can be new experiment with Fed4FIRE+, a new research project, internal projects, product commercialization…. As the objective of Fed4FIRE+ is to provide an incentive, seed budget or initial assistance in your business or research, any new initiative triggered by this experiment is acceptable to be listed. The future plans do not have to exclusively impact the future of Fed4FIRE+!

Amongst all above listed criteria, Criteria I, II and V will be weighted higher.

- Criteria I   0 to 5 points (threshold 3 points)   weight = 2
- Criteria II   0 to 5 points (threshold 3 points)   weight = 2
- Criteria III   0 to 5 points (threshold 3 points)   weight = 1
- Criteria IV   0 to 5 points (threshold 3 points)   weight = 1
- Criteria V   0 to 5 points (threshold 3 points)   weight = 2
- Criteria VI   0 to 5 points (threshold 3 points)   weight = 1
- **Total score:**   **0 to 45 points (threshold 40 points)**

The proposed experiment must be executed on the available Fed4FIRE+ testbeds. This competitive call allows for both experiments using multiple testbeds (in parallel and/or in sequence) and experiments using a single testbed. Information about the current Fed4FIRE+ testbeds is available at the dedicated pages[1]. The proposed experiment must use the experimentation tools provided by Fed4FIRE+ in order to provide feedback to the project about their usefulness and maturity in a final report. In justified cases additional external tools may be used.