



## D5.3: Third report on implementation of the Open Calls

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Abstract	<p>This deliverable summarizes activities of the Fed4FIRE+ projects and its Work Package 5 (WP5) related to implementation of the competitive Open Calls during the period January 2020 – December 2021. In order to implement the planned Open Calls, the Fed4FIRE+ project established all necessary processes for their implementation; call definition, promotion, templates, submission, and evaluation. During the period, the Fed4FIRE+ project organized three standard competitive Open Calls for innovative experiments, three calls for 2<sup>nd</sup> stage SME proposals, and continuous Open Call for SMEs with 32 cut-off-dates.</p> <p>The document also summarizes the feedback from both the experimenters as well as the testbed owners on the experiments carried out.</p>
Keywords	Open Calls, Submission and Evaluation process, 3 <sup>rd</sup> parties interaction

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\* 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.

### EXECUTIVE SUMMARY

This deliverable summarizes activities of the Fed4FIRE+ projects and its Work Package 5 (WP5) related to implementation of the competitive Open Calls (OCs) during the period January 2020 – December 2021. The overall WP5 goal is to prepare and implement the Open Calls and to establish and follow-up formal agreements and reporting with the successful third parties – accepted after the Open Call evaluations.

Following earlier recommendations from the Periodic Review, the individual reports from the experiments are available but not attached to this document in view of the size of these reports. The individual responses from the testbeds on how they have evaluated the experiment and dealt with the feedback are included in the periodic report and are, for completeness duplicated in this deliverable as annex.

The main purposes of the performed Fed4FIRE+ Open Calls are to enable external experiments using Fed4FIRE+ facilities and gather feedback from experimenters on usage of the Fed4FIRE+ facilities and achieve concrete results from the performed experimentation. The Open Calls are organized for various types of experiments: Extra small, Small, Medium, and Large. In addition, a continuous Open Calls, having submission deadlines every second week, was dedicated to SME experimenters. From 1 June 2021 onwards, this continuous Open Call was also opened to other parties who have successfully completed an experiment or project in the framework of one of the Open calls of any of the other NGI-projects.

In order to implement the planned Open Calls, the Fed4FIRE+ project established all necessary processes for their implementation; call definition, promotion, templates, submission, and evaluation. By applying the Open Call process, the Fed4FIRE+ project organized all together four competitive Open Calls for innovative experiments and the continuous Open Call for SMEs. The open calls 1-6 have been summarized in the Fed4FIRE+ deliverables D5.1 and D5.2 and in this deliverable, we present results of the open calls 7, 8, and 9, three 2<sup>nd</sup> stage open calls for SMEs run in parallel with the two standard calls, and the continuous Open Call (status until December 2021):

- ⇒ 7<sup>th</sup> OC – 24 proposals received (Large experiments), two accepted, success ratio of 8%,
- ⇒ 8<sup>th</sup> OC – 33 proposals received (Medium experiments), four accepted, success ratio 12%,
- ⇒ 9<sup>th</sup> OC – 34 proposals received (Medium experiments), four accepted, success ratio 12%.

32 cut-off-dates for submission of the proposals to the Continuous Open Call for SMEs (Stage 1) have been offered to the community, resulting with 53 received proposals, whereas 49 of them have been accepted – success ratio of 92%.

For Stage 2, 40 proposals have been received and 14 were accepted – success ratio: 35%.

In this report some more analysis will be done on the submissions and accepted experiments which clearly show the improved and increased impact.

Within the remaining time of the project, no further Open Calls for experiments are planned. At the time of writing, an Open Call for inclusion of new Testbeds is open and will be reported upon in the final report of the project.



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# 1 INTRODUCTION

This deliverable is made up of 3 major parts:

- Section 2 & 3: the process of setting up & running the Open calls
- Section 4: analysis of the participation by experimenters in the Open Calls
- Section 5: the feedback on how the testbeds felt the impact of the experiments

Each of these sections is explained in detail and summarized here.

Sections 2 and 3 of this deliverable summarize activities of the Fed4FIRE+ projects and its Work Package 5 (WP5) related to implementation of the competitive Open Calls during the period January 2020 – December 2021.

The main purposes of the competitive Fed4FIRE+ Open Calls are:

- To enable external experiments using Fed4FIRE+ facilities.
- To gather feedback from experimenters and concrete results.
- To include new experimental infrastructures in Fed4FIRE+.

Accordingly, the overall WP5 goal is to prepare and implement the Open Calls and to establish and follow-up formal agreements and reporting with the successful third parties – accepted after the Open Call evaluations.

The Open Calls are organized for various types of experiments. The original scheme as presented in the proposal was tentative and was to be subject to changes during the course of the project following suggestions from the experimenters, the members of the consortium as well as other stakeholders.

This section includes information on both the entire process of implementation of the Open Calls is presented as well as the details about completed and ongoing Open Calls.

In section 4 an analysis is made of the participation of experimenters in the calls. Each of the experiments is required to provide a report (following a specific template) at the end of the experiment as well as a poster and a presentation which is used as the basis of the formal review. These reports for all experiments are available but are not included in this document in view of the size, but all available posters providing a short overview of the experiment as well as the impact on the experimenter are included. These posters are also made available through the website for dissemination in the upcoming weeks.

In section 5, the feedback collected from the testbed owners on the way they have been dealing with the experiments and their comments and experiences is presented. This part is copied from the 3<sup>rd</sup> Periodic Progress Report.



## 2 IMPLEMENTATION OF THE OPEN CALLS

### 2.1 DEFINITION OF OPEN CALLS

The technical scope of the Open Calls – applying to all Fed4FIRE+ Open Calls – has been defined through collaboration with other Work Packages (WPs) and with the members of the project consortium, in particular WP2 and WP4. This consultation is carried out to identify the most relevant topics for each of the Open Calls. Outcomes of these discussions have been used to define each of the Open Calls in details.

Furthermore, formal requirements and eligibility criteria have been defined for the Open Calls along the following principles:

- ➔ Proposals will only be accepted from a single party eligible for participation in EC H2020-projects.
- ➔ 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 in per Call.
- ➔ Proposers who have submitted proposals in previous calls of the Fed4FIRE+ - project are allowed to re-submit.
- ➔ Note, for some calls there are specific requirements on possible resubmissions and participation in different stages of the Open Calls.

For each of the calls, a full definition of the Open Call has been created and published within the corresponding public Open Call information (e.g. project website). Short versions of the Open Calls definitions are also provided in short versions, as is presented in Section 3 for all completed and ongoing Fed4FIRE+ Open Calls within the reporting period.

To support the potential proposers and make the proposal phase as efficient as possible, for both proposers and evaluators, proposal templates have been created for each of the calls, as already reported in the deliverable D5.1, and published on the Open Call web page within the project website.

### 2.2 SUBMISSION PHASE

In order to receive proposals for the Open Calls, Eurescom established and maintained a submission tool (Figure 1), enabling updates of the submitted proposals until a set deadline, collecting all necessary information from the proposers (proposal title and short names, contact persons, organizations, countries, etc.), and allowing a proper documentation on all relevant proposal and submission processes.

#### Submission Calls

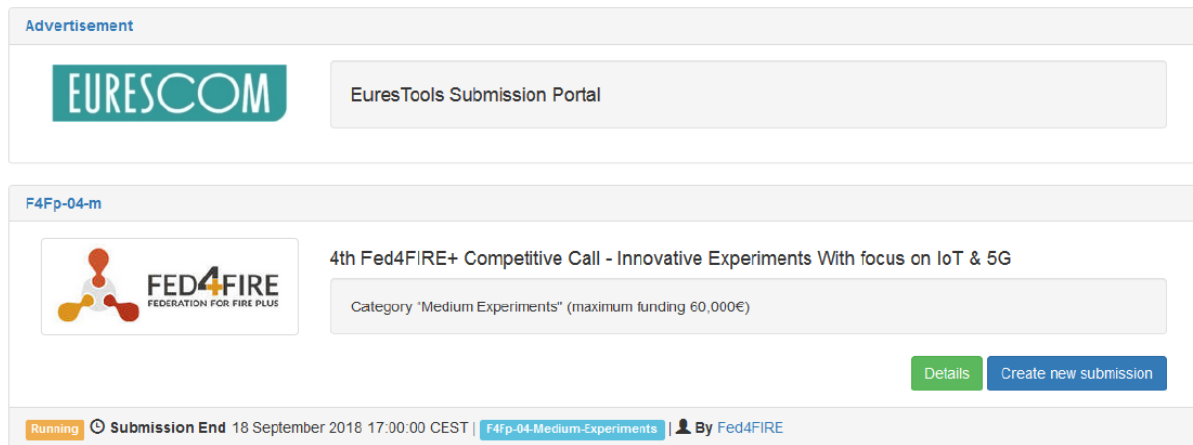


Figure 1: Fed4FIRE submission portal – example for the 4<sup>th</sup> Open Call

Another important activity during the submission phase, starting immediately after an Open Call has been published, is a wide promotion of the Open Calls through various channels. For this purpose, the short definitions of the calls are used to create corresponding promotional messages (e-mail information, web and twitter posts, videos, presentation slides, ads campaigns, etc.), which are executed in collaboration with WP6 (International Collaboration, Outreach & Dissemination).

During the submission phase, it is necessary to ensure permanent support to the proposers and answer questions on the Open Call objectives, formal requirements, submission issues etc. Furthermore, the proposers have to perform a so-called feasibility check before submitting the proposal to find out if the proposed approach is compatible with the testbeds envisaged, they. This brings them in contact with the Patron and Fed4FIRE+ partners which will support them if the experiment is accepted. Therefore, the support process also involves all Fed4FIRE testbeds, which are able to answer corresponding questions and confirm feasibility of the proposals.

The support for the experimenters is ensured by interaction through the Fed4FIRE+ contact e-mail address (contact@fed4fire.eu) where all relevant project representatives are included as recipients) and by providing and updating FAQ entries on the project website.

### 2.3 EVALUATIONS

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Definitions of the Open Calls also include clear criteria for evaluation and ranking of the proposals in accordance with the specific objectives of the calls. To ensure that the criteria are properly followed up by the independent experts / evaluators, corresponding evaluation forms are defined, as reported in the deliverable D5.1.

To perform the evaluations of the received proposals by independent evaluators, Fed4FIRE+ uses a group of 50 recognized experts in the area of future internet experimentation. For each of the Open Calls, a number of needed experts is selected for evaluations in accordance with the best possible match of their expertise to the scopes of the received proposals. A rule implemented by the project also ensures that as many different experts as possible are involved in the evaluation process along the Fed4FIRE+ Open Calls, avoiding relying on the same evaluators all the time. Care is also taken to avoid any possible conflict of interest and the project also avoids appointing evaluators for experiments originating from the same country.

After each Open Call deadline, the proposals are evaluated remotely by the selected independent experts, by using the individual evaluation form mentioned above and in accordance with the following criteria, which have been updated in accordance with recognized needs as follows:

- Industrial and/or scientific innovation & motivation (Threshold 3/5; Weight 2).
- Industrial / scientific relevance (Threshold 3/5; Weight 2).
- Clarity and methodology (Threshold 3/5; Weight 1).
- Use of Fed4FIRE+ facilities and tools (Threshold 3/5; Weight 1).
- Relevance for Fed4FIRE (Threshold 3/5; Weight 2).
- Possible future follow-up experiments (Threshold 3/5; Weight 1).
- Technological expertise and quality (Threshold 3/5; Weight 1).
- Preference is given to proposals originating from new players in the field (Threshold 3/5; Weight 1)
- Preference is given to proposals in the scope of the particular Open Call (No threshold; Weight 1).

Each criterion is scored on a scale from 0 to 5, as follows:

- 0 – The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information.
- 1 – Poor. The criterion is addressed in an inadequate manner, or there are serious inherent weaknesses.
- 2 – Fair. While the proposal broadly addresses the criterion, there are significant weaknesses.
- 3 – Good. The proposal addresses the criterion well, although improvements would be necessary.
- 4 – Very good. The proposal addresses the criterion very well, although certain improvements are still possible.
- 5 – Excellent. The proposal successfully addresses all relevant aspects of the criterion in question.

When scores of different experiment proposals are equal, any further prioritization will be based on other appropriate characteristics and/or specific call requirements,

If the scores for proposals set by experts during the remote evaluations are significantly distinguishing among individual evaluations per criteria and/or in total), consensus meetings (via video calls) are organized for the affected proposals among the involved experts, to build up a common opinion and adapt the scores accordingly. If in some cases the consensus is not possible to achieve, additional independent experts are involved to make final decisions.

At the end of the evaluation process, the proposals are ranked in accordance with total scores received and specific call objectives (if any), so that selection of successful proposals is done according to this list and available funding for the Open Calls.

Immediately after end of the evaluations, information about the Open Call outcome, including corresponding evaluation forms with scores and comments from the experts, is sent to the proposers. Winners are publicly announced on the Fed4FIRE+ website and on the social channels

### 2.4 INTERACTION WITH EXPERIMENTERS

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Once the final selection of proposals is made, the notification of acceptance is accompanied with an invitation to complete and sign an “Experiment Agreement” between the experimenter and the project coordinator (in this case imec). This agreement (of which a copy is attached as Annex in Sec. 7.3) is a standard document which is also available in the overall call information. The document defines responsibilities, access rights and IP-issues and also includes targeted starting and finalisation dates for the experiment as well as the maximum budget. The agreement refers to the proposal as a technical description of the work to be carried out.

The announcement of the acceptance of the proposals is immediately following the outcome of the review. In the past, this was timed in such a way that the accepted experimenters could attend, before the start of their experiment, one of the Fed4FIRE+ Engineering Conferences (FECs) to get more acquainted with the testbeds, but this was due to the pandemic made impossible.

During the course of the experiment, the project coordinator remains available to respond to any issue raised during the running of the experiment in addition to the support provided by the Patron. The project coordinator regularly checks the status of the experiments with both the experimenters as well as the Patrons.

At the end of the experiment, the 3<sup>rd</sup> party carrying out the experiment is requested to submit:

- ➔ A report using a template which allows to describe the technical results, but also collects information on the motivation for the experimenter to submit a proposal for an experiment to Fed4FIRE+ as well as feedback on the use of the testbeds and tools. The report also tries to collect feedback on the impact of the experiment and the Fed4FIRE+ -related work on the business and/or product development of the proposer.
- ➔ Based on a first check of the report by the coordinator and the Patron, the experimenter is asked to provide an invoice the project coordinator for 75% of the budget.
- ➔ At the occasion of the Fed4FIRE+ Engineering Conference (FEC) organised in a virtual way and grouped in sessions two times per year, the proposer is requested to present its result and experiment for a formal review in a Zoom session open to everybody.
- ➔ For this presentation, the experimenter is requested to provide a presentation, a poster and a flyer (using templates) to showcase the results and the impact on its business.
- ➔ After a successful formal review, the proposer is asked to invoice the project coordinator for the remaining 25% of the budget.
- ➔ After the review, a virtual interview is arranged with each of the experimenters to collect feedback and to build a collection of user-stories to be consulted by other interested parties.

### 3 IMPLEMENTED AND ONGOING OPEN CALLS

Since July 2017, four standard Fed4FIRE+ Open Calls (starting from OC-4, OC 1-3 were reported in the D5.1) and a continuous Open Call for SMEs has been organized. Since January 2020 three more standard Open Calls were organized as well as the continuous Open Call for SME's until the end of December 2021. Details are described below.

#### 3.1 7<sup>TH</sup> OPEN CALL

##### 3.1.1 Call definition

The 7<sup>th</sup> Fed4FIRE+ Open Call - Call identifier: F4Fp-07 targeted Innovative Experiments in category "Large Experiments" with focus on "Cloud, big data and machine learning". Submission deadline was on 25 February 2020.

Total available funding for this call was: 200,000€.

Maximum requested funding per experiment was set to 100,000€ (duration of max. 10 months).

The amounts mentioned above include the budget for the Fed4FIRE+ partner(s) acting as Patron for the experiment (max. 5,000€ per experiment/patron).

Formal requirements for participation / eligibility:

- Proposals will only be accepted from a single party eligible for participation in the EC H2020-projects.
- Proposers can be industry, SME or research/academic organisations.
- Can only be selected for funding for one proposal (even if the proposer submitted multiple proposals that are ranked high enough to be selected for funding).

##### 3.1.2 Call objectives

The major objective of this Call is to make Fed4FIRE+'s federated infrastructure directly available for execution of innovative experiments by experimenters at both industrial (including SMEs) and research organisations. Examples of such experiments may include but are not limited to testing of new protocols or algorithms, performance measurements or scalability testing. These Calls envisage experiments by which existing products or services are tested, implemented or optimized on the Fed4FIRE+ testbeds rather than proposing or developing new ideas from scratch. This call focusses on proposals of experiments in the area of "Cloud, big data and machine learning". More information on the specific objectives can be found further in the call document.

This 7<sup>th</sup> Open Call targets one specific category for experiments:

- "Large Experiments" with a maximum budget (including the financial support to the Fed4FIRE+ partner(s) acting as a Patron) of € 100 000 and a maximum duration of 10 months.

### 3.1.3 Call outcome

In this open call, 24 proposals have been received. After evaluation of the received proposals by independent experts, two experiment proposals have been accepted – success rate of 8%.

The Figure 2 below presents number of submissions received from different types of organizations as well as number of proposals accepted per type of organizations; Academia 13 proposals submitted – two accepted (15% success rate), Research institutions three submissions, and SMEs 8 submissions – none accepted for last two types of organizations.

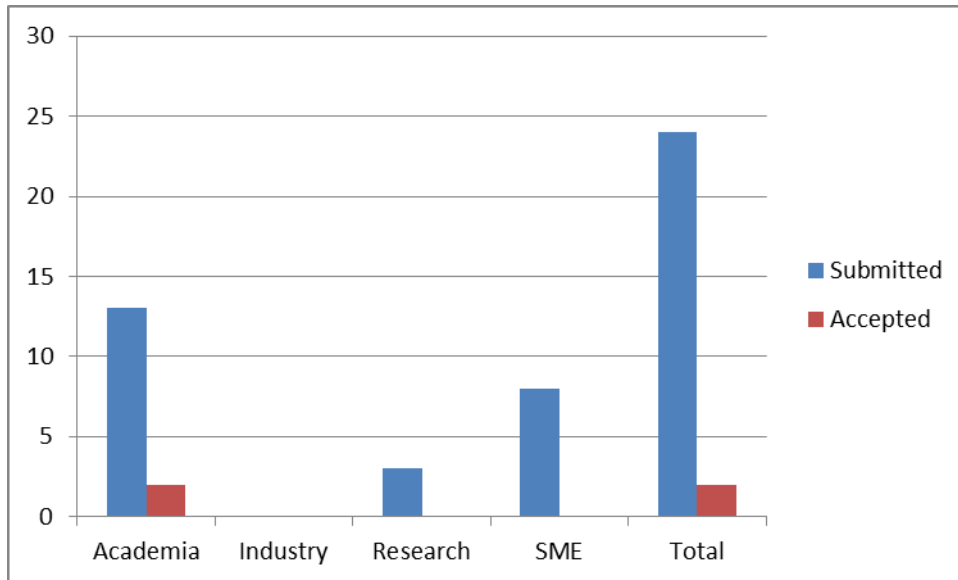


Figure 2: Outcome of the 7<sup>th</sup> Open Call per type of organizations

Number of submitted and accepted experiments per country of origin of the proposing organizations is presented in the Figure 3 below.

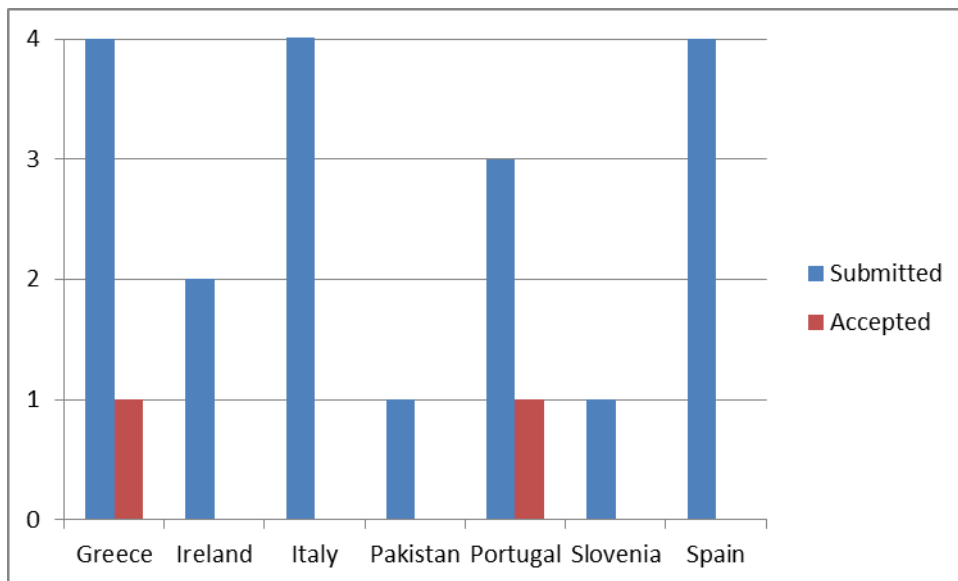


Figure 3: Outcome of the 7<sup>th</sup> Open Call per country of origin

## 3.2 8<sup>TH</sup> OPEN CALL

### 3.2.1 Call definition and objectives

The 8<sup>th</sup> Open Call - Call identifier: F4Fp-08 – was organized for Innovative Experiments in category “Medium Experiments” with the submission deadline on 22 September 2020.

Total available funding for this call was: 240,000€.

Maximum requested funding per experiment was set to 60 000€ (duration of max. 5 months).

The amounts mentioned above include the budget for the Fed4FIRE+ partner(s) acting as Patron for the experiment (max. 5,000€ per experiment/patron).

Formal requirements for participation / eligibility remained the same as for the 7<sup>th</sup> Open Call.

The major objective of this Call was to make Fed4FIRE+’s federated infrastructure directly available for execution of innovative experiments by experimenters at both industrial (including SMEs) and research organisations. Examples of such experiments may include but are not limited to testing of new protocols or algorithms, performance measurements or scalability testing. These Calls envisage experiments by which existing products or services are tested, implemented or optimized on the Fed4FIRE+ testbeds rather than proposing or developing new ideas from scratch.

This call had no specific focus or theme, but we would like to call for experiments which exploit the specific features of Fed4FIRE+ as a federation and technologies covered.

### 3.2.2 Call outcome

The Figure 4 below presents number of submissions received from different types of organizations as well as number of proposals accepted per type of organizations. A total of 33 submissions have been received, whereas four proposals have been accepted – acceptance ratio: 12%.

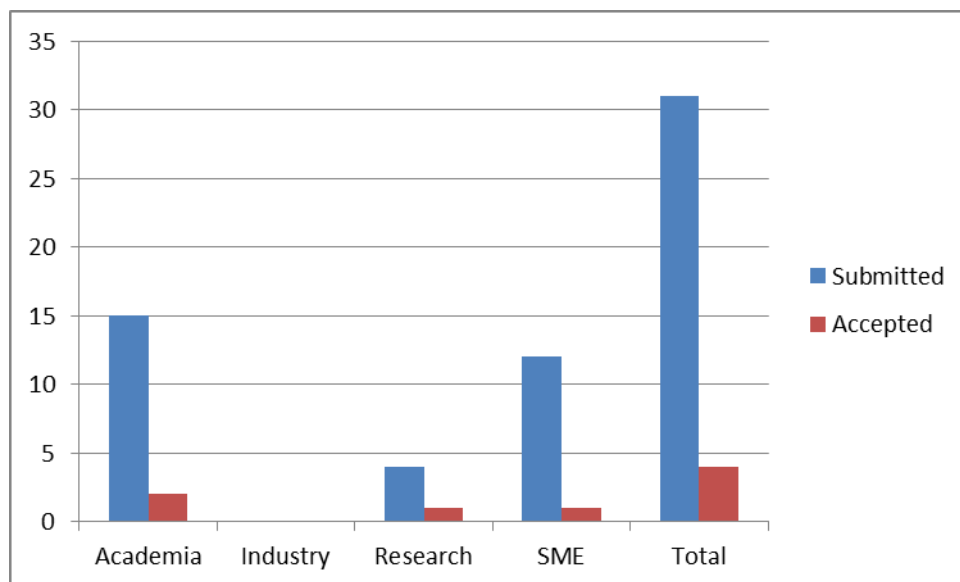


Figure 4: Outcome of the 8<sup>th</sup> Open Call per type of organizations

Number of submitted and accepted experiments per country of origin of the proposing organizations is presented in the Figure 5 below.

D5.3: Third report on implementation of the Open Calls

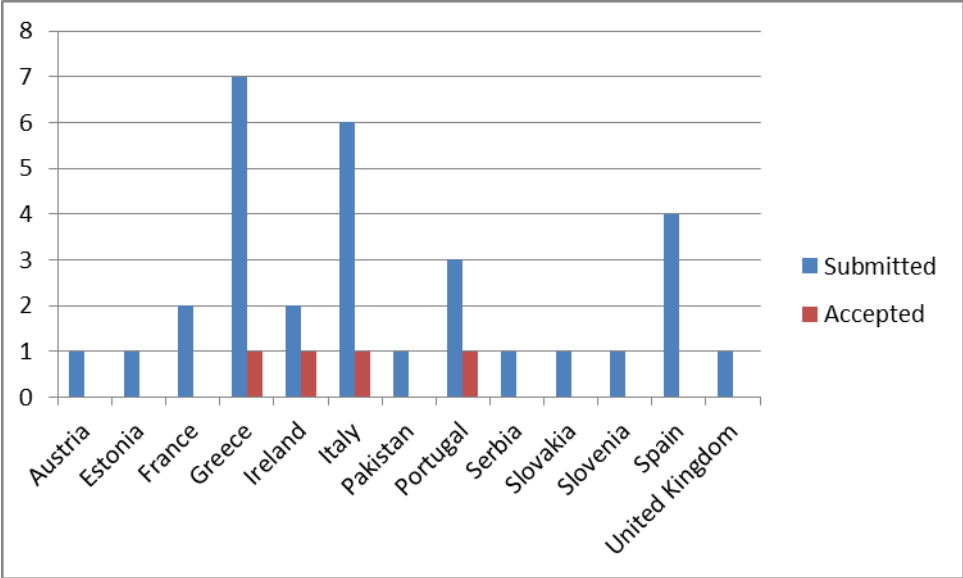


Figure 5: Outcome of the 8th Open Call per country of origin



### 3.3 9<sup>TH</sup> OPEN CALL

#### 3.3.1 Call definition and objectives

The 9<sup>th</sup> Open Call - Call identifier: F4Fp-09 – was organized for Innovative Experiments in category “Medium Experiments” with the submission deadline on 7 September 2021.

Total available funding for this call was: 240,000€.

Maximum requested funding per experiment was set to 60,000€ (duration of max. 5 months).

The amounts mentioned above include the budget for the Fed4FIRE+ partner(s) acting as Patron for the experiment (max. 5,000€ per experiment/patron).

Formal requirements for participation / eligibility remained the same as for the open calls presented above.

The major objective of this Call was to make Fed4FIRE+’s federated infrastructure directly available for execution of innovative experiments by experimenters at both industrial (including SMEs) and research organisations. Examples of such experiments may include but are not limited to testing of new protocols or algorithms, performance measurements or scalability testing. These Calls envisage experiments by which existing products or services are tested, implemented or optimized on the Fed4FIRE+ testbeds rather than proposing or developing new ideas from scratch.

This call had no specific focus or theme, but we would like to call for experiments which exploit the specific features of Fed4FIRE+ as a federation and technologies covered.

#### 3.3.2 Call outcome

The Figure 6 below presents number of submissions received from different types of organizations as well as number of proposals accepted per type of organizations. A total of 30 eligible submissions have been received, whereas four proposals have been accepted – acceptance ratio: 12%.

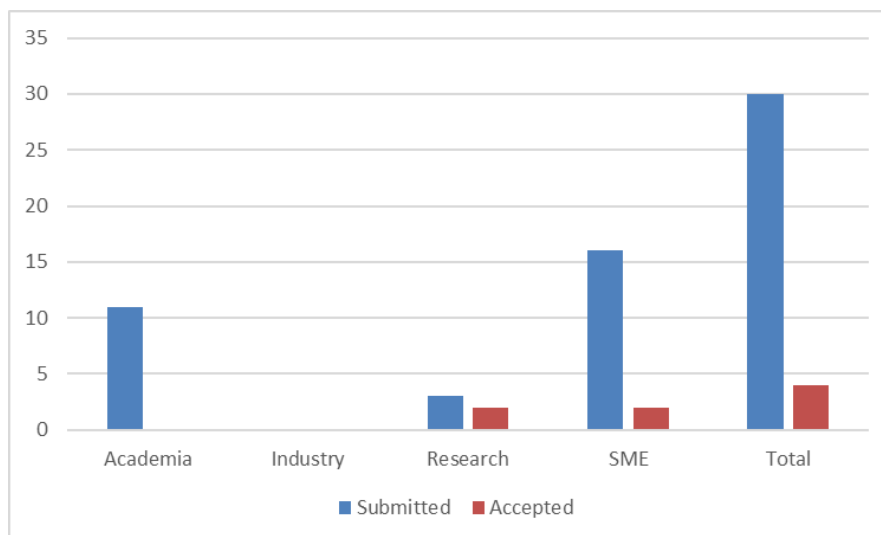


Figure 6: Outcome of the 9th Open Call per type of organizations

Number of submitted and accepted experiments per country of origin of the proposing organizations is presented in the Figure 7 below.

D5.3: Third report on implementation of the Open Calls

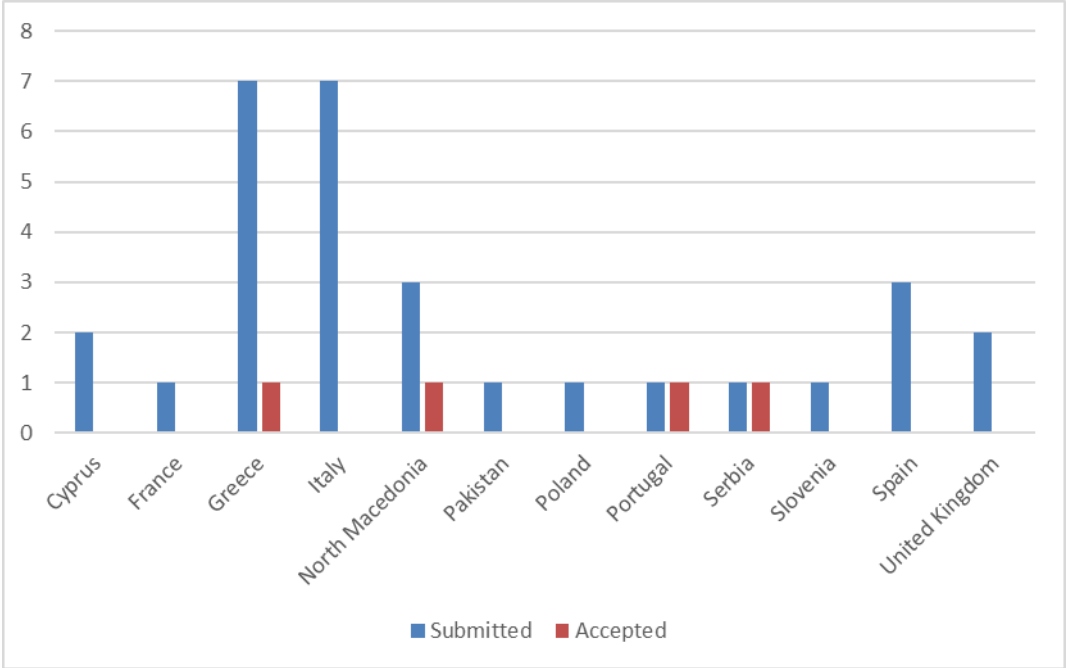


Figure 7: Outcome of the 9th Open Call per country of origin

### 3.4 CONTINUOUS OPEN CALL FOR SME

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The Fed4FIRE+ project continuously builds on this experience and organizes series of Open Calls for experiments and testbeds and by using the Cascade Granting mechanism. During its lifetime of five years, the Fed4FIRE+ project organizes bi-annual open calls for various types of experimentation (large, medium, small) and experimental infrastructures. In addition, a continuous call with cut-off submission dates (starting on 6 November 2018) every two weeks for Stage 1 of the experiment proposals have been organized.

The Continuous Open Call means that SMEs can submit a proposal for Stage 1 all the time and the review process will start after each cut-off dates. Notification of selection is done fast i.e. targeting in 2 weeks after each cut-off dates for submitted proposals, but in practice the notifications have been done within one week.

#### 3.4.1 Call definition

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The Continuous Fed4FIRE+ Open Call for SMEs - Call identifier: F4Fp-SME is targeting the Innovative Experiments to be performed by SMEs. The continuous open calls will be organized until the related planned budget is used (500,000€ for 40 proposals to accept).

Maximum requested funding per experiment is set to 12,500€ (incl. a max of 2,500€ for patron).

Corresponding stage 2 proposals/experiments are typical medium size Fed4FIRE+ experiments. The overall planned budget for the 2<sup>nd</sup> stage is 480,000€ (for eight proposals to accept).

Eligibility and resubmissions:

- ➔ 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
- ➔ 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

#### 3.4.2 Objectives and benefits

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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 2<sup>nd</sup> 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:

- ➔ A 1st stage submission requires the submission of a very limited-sized proposal for a short-duration experiment after consultation with the required testbeds.
- ➔ Bi-monthly, all submitted proposals are collected and submitted to an external panel of reviewers for a fast review.
- ➔ 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.
- ➔ 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.

## D5.3: Third report on implementation of the Open Calls



- Once accepted, the experiment runs for 3 months
- 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
- At the end of the experiment a report is produced by the experimenter to Fed4FIRE+.
- 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)
- 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.
- Once accepted the 2nd stage experiment runs for 5 months
- 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
- At the end of the experiment, a report is produced by the experimenter to Fed4FIRE+.
- If a proposal is not accepted in the 1st stage, re-submission is only allowed after 6 months.
- 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, etc. to prepare for the 2<sup>nd</sup> stage. The experiments submitted in the 2<sup>nd</sup> stage are proposals for more extensive innovative experiments which are built upon the proposals and experiments run after selection in the 1<sup>st</sup> 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.

An extra benefit which is offered in this call to the SMEs 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.

### 3.4.3 Results for 1<sup>st</sup> Stage

During the reporting period January 2020 – December 2021, 32 cut-off-dates for submission of proposals to the Continuous Open Call for SMEs – Stage 1, have been organized, resulting with 53 received proposals in total, whereas 49 of them have been accepted – success ratio of 92%.

Numbers of submitted and accepted experiments per country of origin of the proposing organizations are presented in the Figure 8 below.

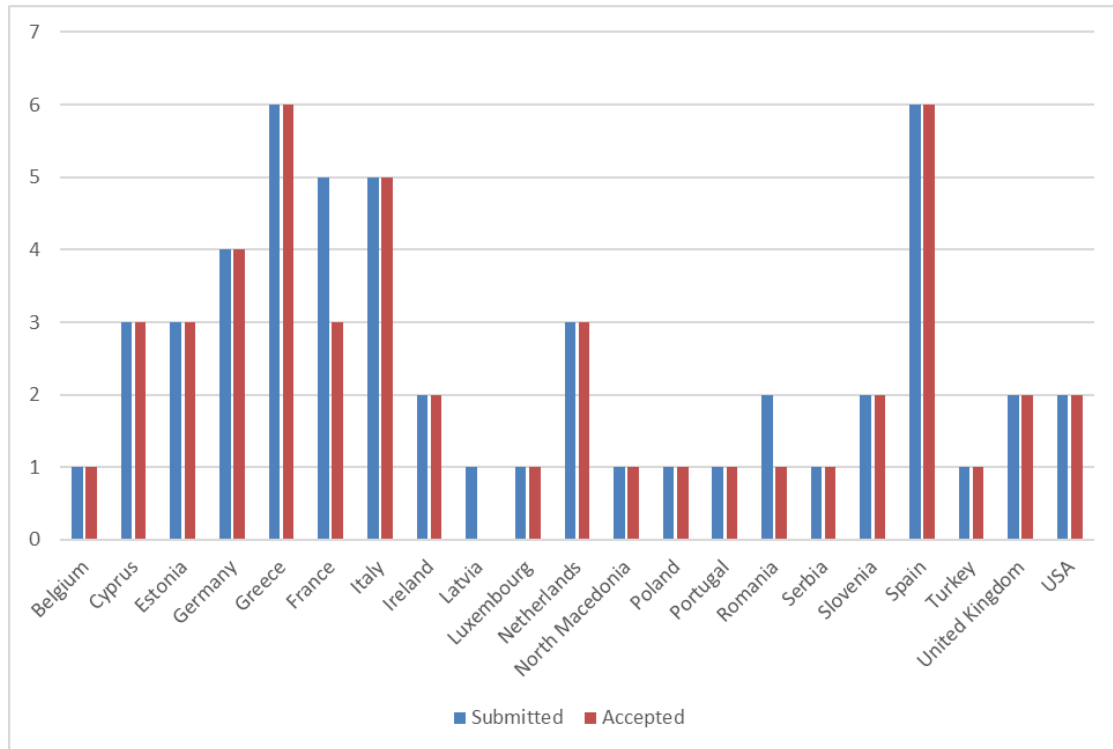


Figure 8: Outcome of the Continuous Open Call for SMEs (Stage 1, in 2020/21) per country of origin

### 3.4.4 Results for 2<sup>nd</sup> Stage

For Stage 2, the proposals have been received in parallel with the OC-7 and OC-8 as well as with the dedicated 2<sup>nd</sup> Stage call with the submission deadline on 13 April 2021, where in total 40 proposals have been received and 14 accepted. Numbers of submitted and accepted experiments per country of origin of the proposing organizations are presented in the Figure 9 below.

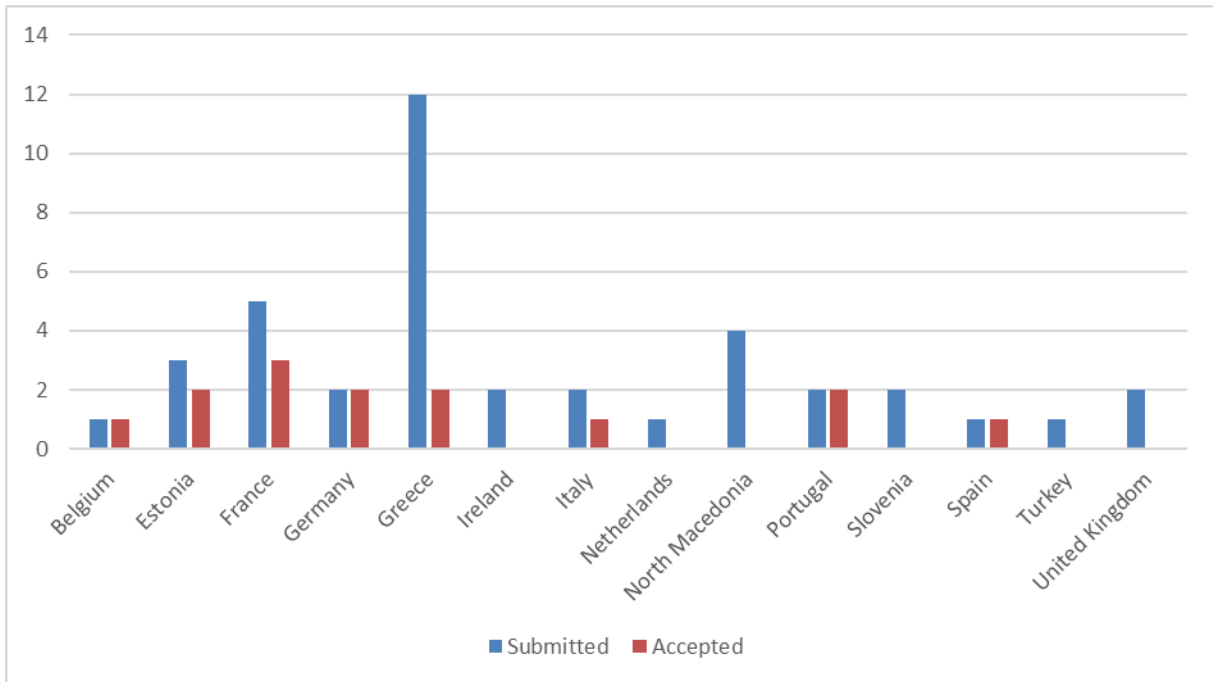


Figure 9: Outcome of the Continuous Open Call for SMEs (Stage 2, in 2020/21) per country of origin



### D5.3: Third report on implementation of the Open Calls



coverage. This implies that Level7 can now serve customers on a nationwide basis via two main layer 2 networks wholesalers (STRATUM, Level7)

- ➔ We have considered the teleoperation of our robots before but I seemed too risky for the company to develop such technology for the Elfin robot due to reasonable doubts about its feasibility. So, for Canonical Robots counting through Fed4FIRE+ with the facilities of the testbed at Malaga University and the technical aid of its team It's a key contribution to make the development of this product possible. The knowledge acquired in these fields during this project allows us to think of new ideas, and also start to put into practice some of them, especially exploring the possibilities of robotic teleoperation. In this regard besides the Physiobot5G product that we have already mentioned as Elfin robot distributors in China we plan to increase the appealing of this robot to our customers by offering teleoperation capabilities through the further development of an Elfin robot teleoperation software whose key features and feasibility has been already undertaken thanks to this Fed4FIRE+ experiment. This value-added approach for the boosting our sales of the Elfin robot is key due to the differentiation value in the Collaborative Robot very competitive market and the greater margins that software usually has over hardware that as is well known tends to decrease over time. (Physiobot5G, Canonical Robots)
- ➔ Conduct a large-scale experiment under realistic conditions with real equipment, resulting in new business opportunities. Optimize current precision agriculture applications and get acquainted with Fed4FIRE+ for future R&D experiments. (PAWL, Pangaesa)



## 4.2 PARTICIPATION VERSUS COMPANY PROFILE

Running an analysis on the participation in the Open Calls provides some interesting results. A second point to consider is the type of organization trying to access the Fed4FIRE+ testbeds facilities through the Open Calls. One of the major objectives of Fed4FIRE+ is to lower the threshold for SMEs to access these top-quality facilities and to assist the proposing SMEs in setting up and running their experiments. From the split shown below (Figure 10), it is clear that by far the largest majority of proposing bodies are SMEs, fulfilling our objective. This is, of course, due to the continuous Open Call for SMEs, but even through the standard Open calls, the participation from SMEs is significant (Figure 11).

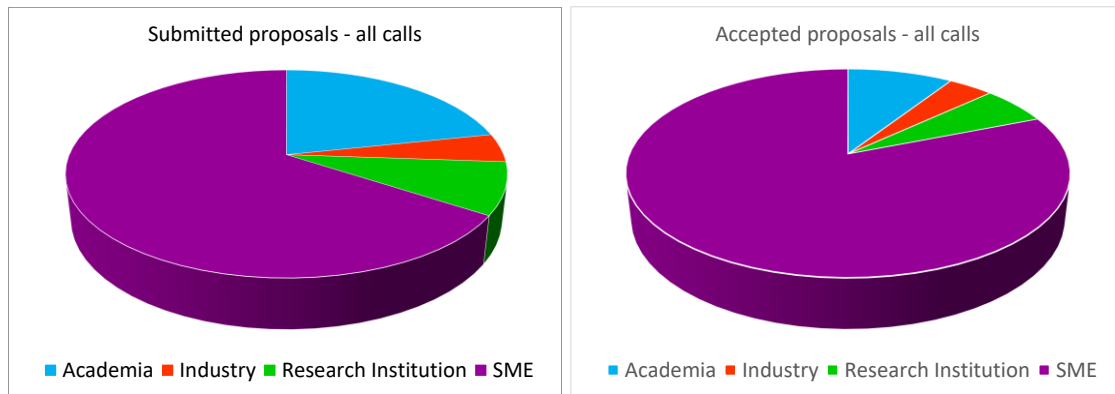


Figure 10: Total number of submitted (left) / accepted (right) proposals per category for all Open Calls, incl. the continuous Open Call for SME's

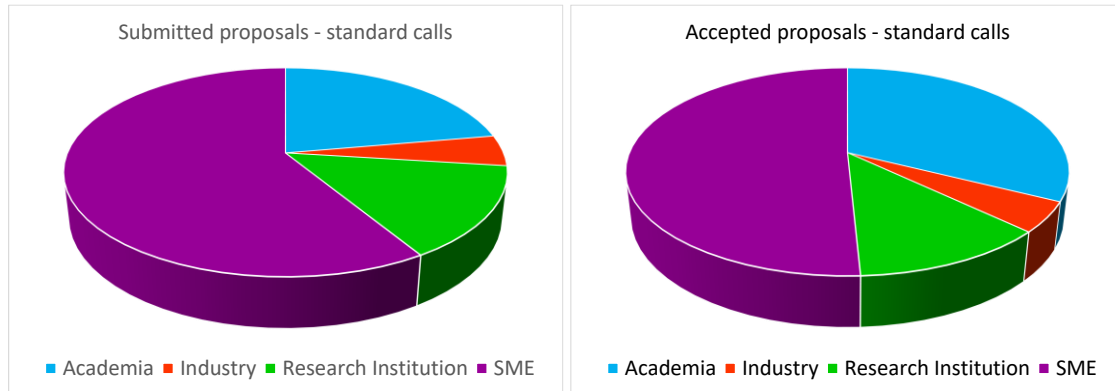


Figure 11: Total number of submitted (left) / accepted (right) proposals per category for all standard Open Calls, (so excluding the continuous Open Call for SME's)

It is also interesting to check the success ratio per type of organization. First let's look at the acceptance rate per Open Call, grouped per size of the experiments. This is illustrated in Figure 12. The limit of the accepted proposals is set for each Open Call and was 10 for Small-sized experiments, 5 for Medium-sized experiments (due to budget limitations this was reduced to 4 for the Open Calls 8 & 9) and 2 experiments for the Large-sized Open Calls (with an exception for Open Call 3, where 3 experiments were selected in view of the very close scores after evaluation).

Figure 13 shows the acceptance rate is shown per type of organization, and also as a function of the size of the experiment. In the standard Open Calls ("S", "M" and "L"-calls, it is clear that SME's have a significant lower acceptance rate for Medium and Large-sized Open Calls: the larger the experiment, the more competition an SME gets from Academia, RI's or large industry and the lower the acceptance rates become. Based on these results it was decided to launch the continuous Open Call for SMEs as an initiative to support SMEs participating in the Open Calls. This process allowed the SMEs to come with a small proposal (the 1<sup>st</sup> stage) with very limited experience and with very limited effort to the Fed4FIRE+ testbeds. This 1<sup>st</sup> stage permitted the SMEs to get

### D5.3: Third report on implementation of the Open Calls



familiar with the testbeds and with the way experiments were run. The 2<sup>nd</sup> stage allowed them, in a privileged way to run for a larger sized experiment (Medium-sized), consequently with a higher acceptance rate. This process clearly stimulated SMEs to participate in the Open Calls, to make use of the Testbeds and also run more complex and larger experiments and tests.

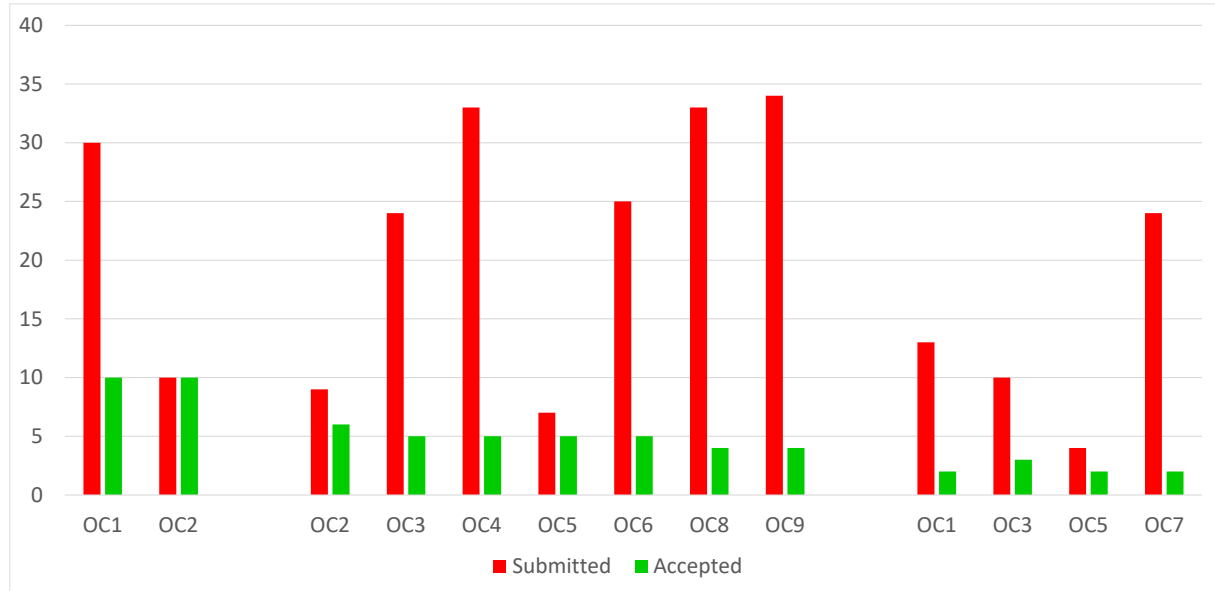


Figure 12: Overall acceptance rate per Open Call

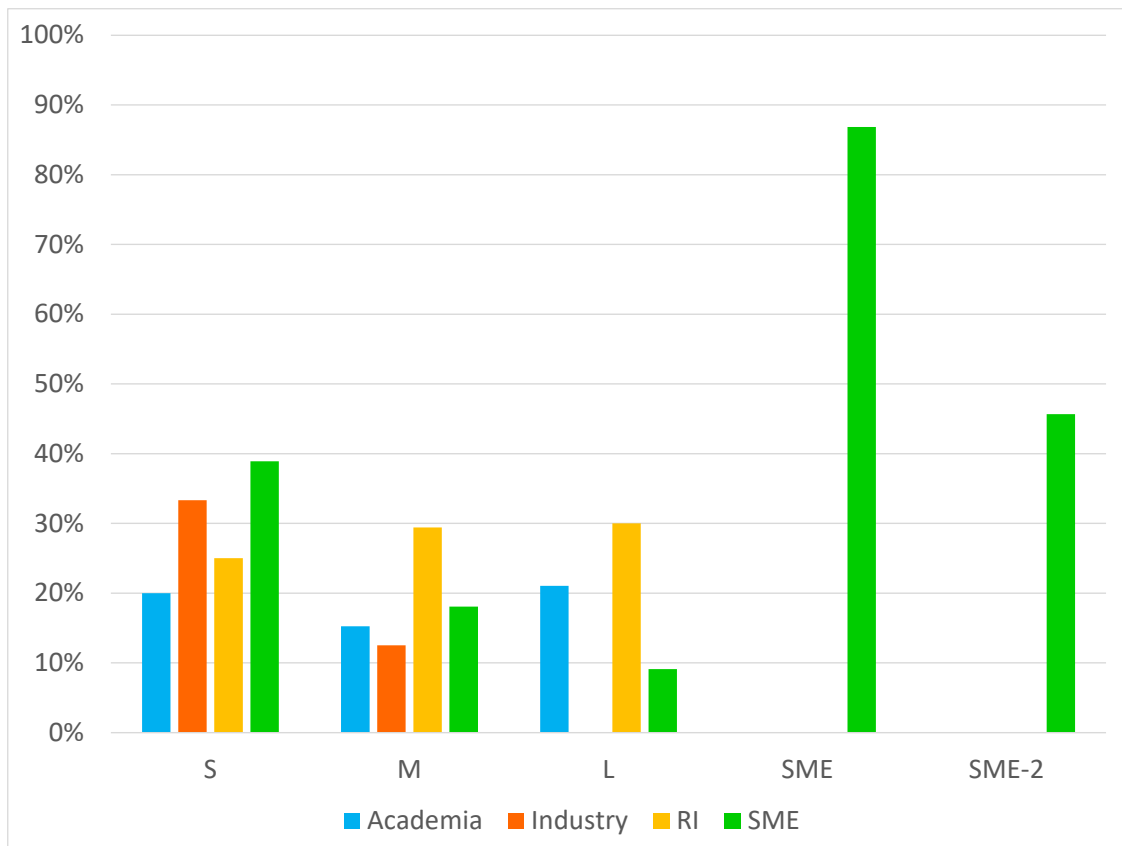


Figure 13: Acceptance ratio of submitted proposals per type of organization and per size of the Open Call.

### 4.3 MAJOR ADVANTAGES IN PARTICIPATING IN FED4FIRE+

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In our previous report, several statements were included which came out of the survey held amongst all experimenters and on which reporting is done in deliverable D2.10. This survey will be repeated when all experiments are finalized, but also from the reports of the recently concluded and reviewed experiments, some quotes illustrate the impact Fed4FIRE+ has on business and product development:

- ➔ Testing atheoretical solution to verify performances
- ➔ Allowing anybody to reproduce the results
- ➔ Shorter development cycle
- ➔ Reliable software / equipment
- ➔ Diversity of available resources
- ➔ High valuable components offered
- ➔ Easy and remote uninterrupted access
- ➔ Tutorials and documentation
- ➔ Increased scientific impact by introducing new findings and technologies in the curriculum
- ➔ Fed4FIRE+ enabled us to think about our experiment rather than worry about how to implement it.
- ➔ Conduct a large-scale experiment under realistic conditions
- ➔ Fed4FIRE+ allows for multilevel access to the computing infrastructure & multilevel experimentation
- ➔ Fed4FIRE+ is cloud provider neutral
- ➔ Fed4FIRE+ reflects positive on our industry partners
- ➔ Ease of use from day 1

## 4.4 IS THE FEDERATION AN ADVANTAGE FOR EXPERIMENTERS?

The fact that Fed4FIRE+ federates several testbeds, and consequently allows experimenters to use different testbeds within the framework of a single experiment, is one of the most obvious reasons for having the federation. In Figure 14 the number of testbeds included in a single experiment is shown. It is clear that for all the experiments which use more than 1 testbed (the reddish-colored parts in the graph), the federation has this unique asset.

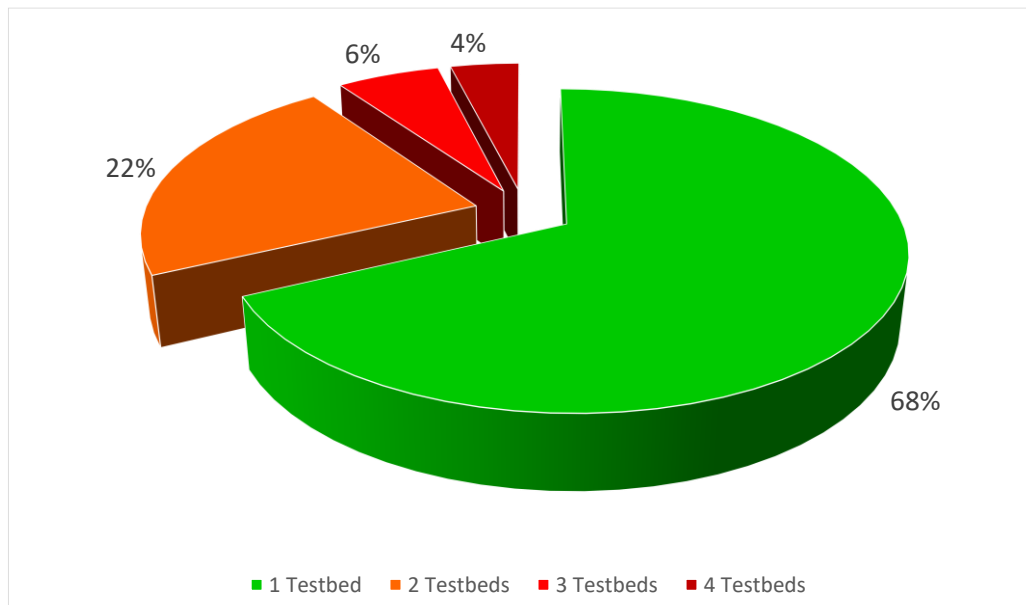


Figure 14: Number of testbeds used in the experiments

However, also for experiments using a single testbed, the federation has some advantages:

- Use of alternative testbeds in case of lack of proper licenses or lack of equipment
- Unified access and registration with support through a one-stop shop
- Participation in the Open Calls with financial support available

Again, a closer look at these data yields some remarkable information. Figure 15 shows the number of experiments used per experiment dependent on the size of the Open Call. As it can be expected, the more complex experiments in the sense of making use of more testbeds (the reddish colors) occur more frequently with the Medium- and Large-sized Open Calls. On the other hand, by far most of the experiments in the 1<sup>st</sup> stage of the SME Open Call use only 1 Testbed, however even 20% of these SME-Stage 1 experiments still use more than 1 testbed. This is a clear indication that the federation has an added value “as a federation of multiple testbeds” also for these small SME experiments.

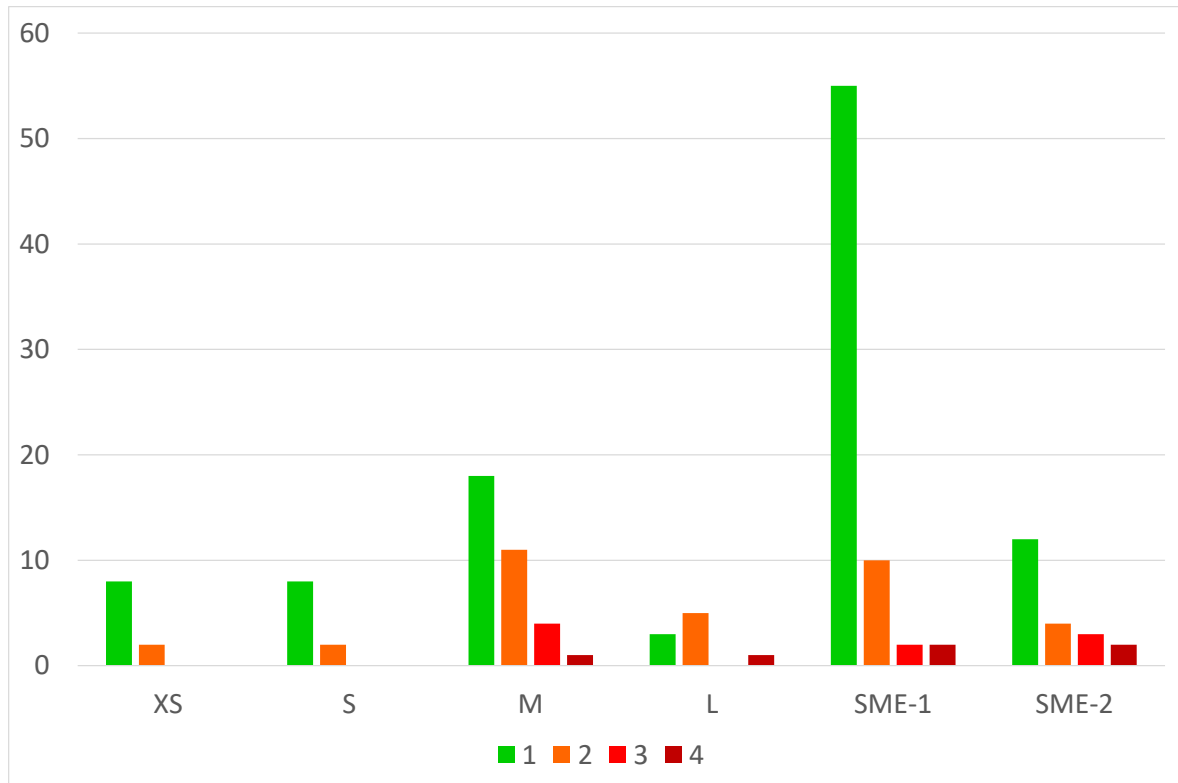


Figure 15: Number of testbeds used in the experiments, categorized per size of the Open Call.

Looking at the testbeds themselves, the Virtual Wall (imec) plays a very specific role within the federation which becomes clear from the graph below showing the number of experiments categorized according to the number of testbeds used. For each category the total number of experiments is shown (in blue) as well as the number of experiments of this total makes use of the Virtual Wall (in orange). It is clear that for the experiments involving more testbeds, the Virtual Wall is very frequently involved and plays a central role.

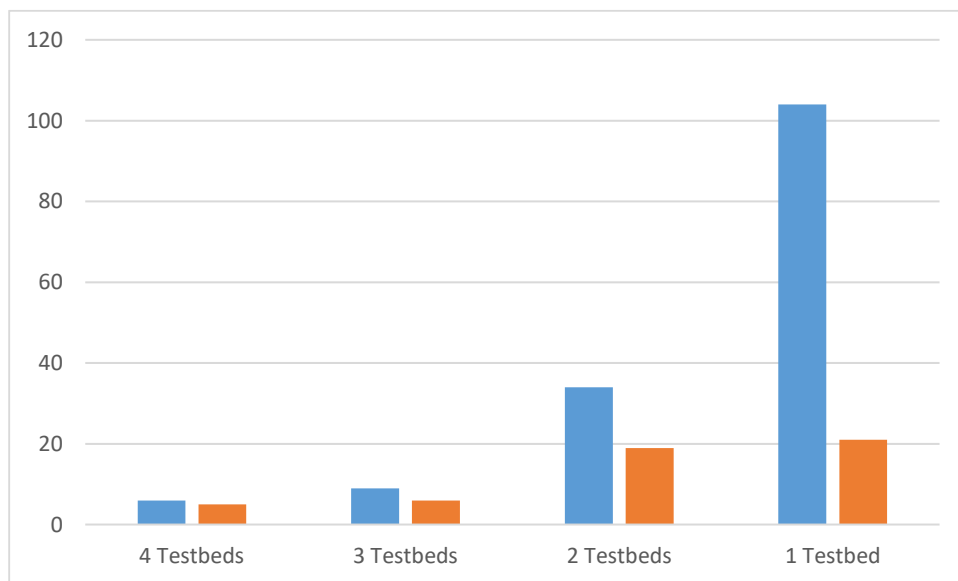


Figure 16: Involvement of the Virtual Wall in Open Call experiments. The number of experiments is shown categorized according to the number of testbeds used. The total number of experiments is shown in blue, the number of experiments involving the Virtual Wall is shown in orange.

## 5 FEEDBACK FROM AND ACTIONS TAKEN BY THE TESTBED OPERATORS.

Running the experiments also provides very useful information for the testbed owners. The support provided by the Patron to the experimenter directly brings the testbed in contact with the experimenter and results in direct feedback on the use of the testbed and the implementation of the experiment. This kind of interaction, as well as the continued contacts after the experiment has finished as well as the impression on how the testbed owner profits from the experiment was already grabbed in the past through 2 on-line surveys ran amongst all testbeds after completion of the experiment. The results of these surveys were presented in previous versions of this deliverable (D5.01 and D5.02) and will not be repeated here.

### 5.1 USE OF THE TESTBEDS

First it should be noted that, as was illustrated in previous deliverables, nearly all of the Fed4FIRE+ testbeds are not solely used in Fed4FIRE+ and this is of course also of benefit for the project itself. Details are provided in the Periodic Progress Report PPR3. Figure 17 shows the number of projects created on the new Fed4FIRE+ authority (from 2020 onwards). The portal is run by imec and a clear distinction is made for imec users and projects and external Fed4FIRE+ projects. The graph in the lower part shows the number of new users created per day.

This should be compared to the number of Open Call experiments which since 2020, is about 60, illustrating the large number of projects created outside the Open Calls.

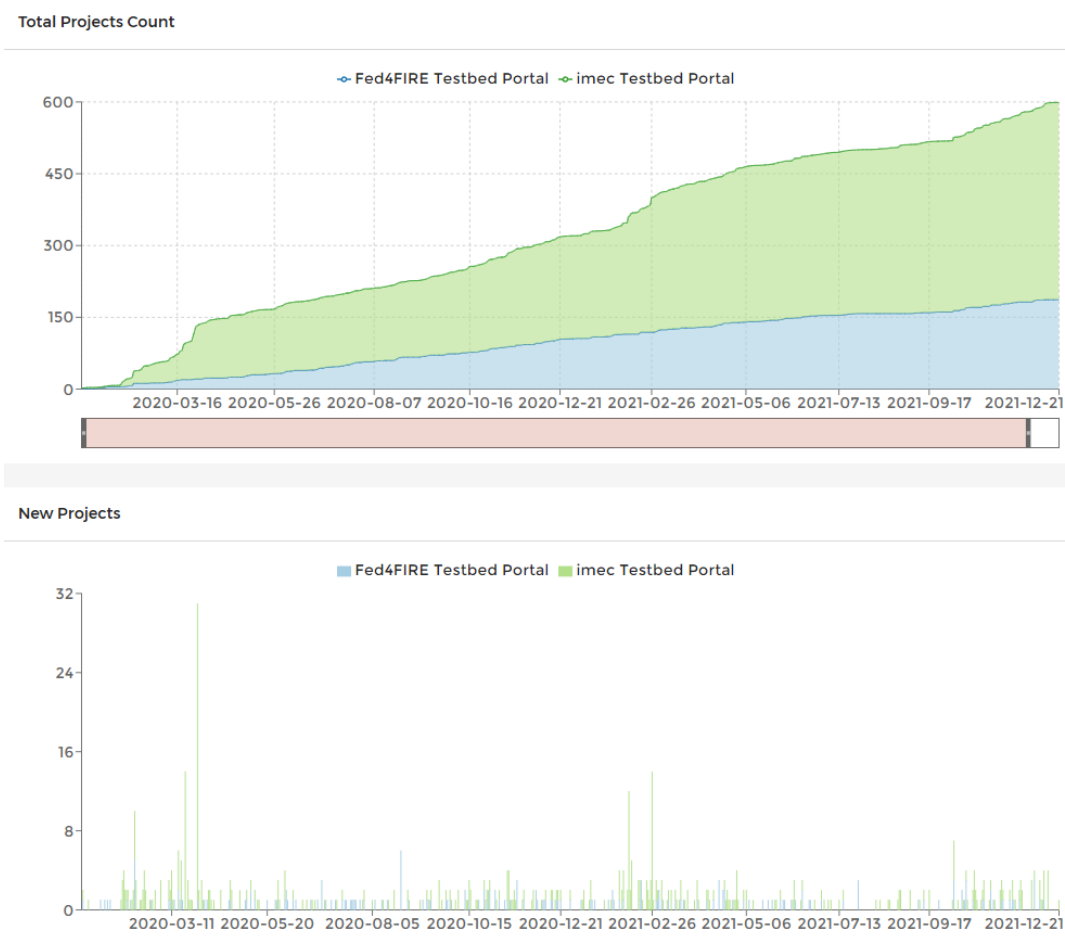


Figure 17: Number of projects created on the new Fed4FIRE authority (from 2020 onwards). The portal is run by imec and a clear distinction is made for imec users and projects and external Fed4FIRE projects. The graph in the lower part shows the number of new projects created per day.

### 5.2 PERCEIVED ADDED VALUE FOR TESTBED PROVIDERS

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For each of the testbeds, a short overview is presented in the Periodic Progress Report PPR3 on what is perceived as added value by the testbed owner on the participation of the testbed in the Fed4FIRE+ programme. Details are provided in the PPR3, some are listed here:

- Improved meeting the demand of the users
- Discover new use cases
- Better management of hardware usage
- Development of more standardized technologies deployed in the testbed.
- Larger variety of experiments and application domains
- Triggering of new extensions of features and services, also of benefit for internal users
- Trigger to keep documentation up to date
- Increasing credibility and visibility, attracting new experimenters.
- Being an active member of the federation, it enables us to follow the latest technology trends in testbeds and federation tools and services
- Feedback received by the opencall experimenters allowed us to improve specific aspects of our testbed, which we had overlooked
- Access for (old) users to new and other testbeds
- Building scientific and technical collaborations within the European testbeds' community
- Fed4FIRE+ also forces us (in a good way) to reconsider our design choices and compare them with those made by other infrastructures, leading to building better technology overall
- adoption of procedures regarding the data processing operations and the compliance with GDPR
- Fed4FIRE+ increases the visibility of our testbed on domains which are not usually targeted by us. This contributes to a higher interest and usage of our platform, hence to a better sustainability on the international research ecosystem
- Validation of our infrastructure and workflow, while identifying possible improvements

The main issues are clearly:

- Increased visibility attracting new users and new application domains
- Increased reliability and management of the tools and testbeds
- Increased incentive to improve and upgrade the facilities
- Increased interaction with the community (researchers, users, industry)

### 5.3 OPEN CALL EXPERIMENTS DRIVE THE TESTBEDS TO IMPROVEMENTS

All the Open Call experiments are requested to provide, after completion of their experiment a report detailing besides the scientific results, also some feedback towards Fed4FIRE+ on possible improvements and shortfalls.

Details on this feedback are listed in the Periodic Progress Report PPR3 and are in many cases quite technical. What is important for this deliverable is to see that testbeds pick these comments and act on them.

In the period 01/01/2020 – 31/12/2021 in total 85 Open call experiments have finished and provided a report and feedback. The testbeds have listed a direct response and actions form this feedback for 36 out of these. Some of the modifications are of course minor, but it illustrates that the testbeds operators clearly consider these reports and Open Call experiments a very valuable feedback (Figure 18).

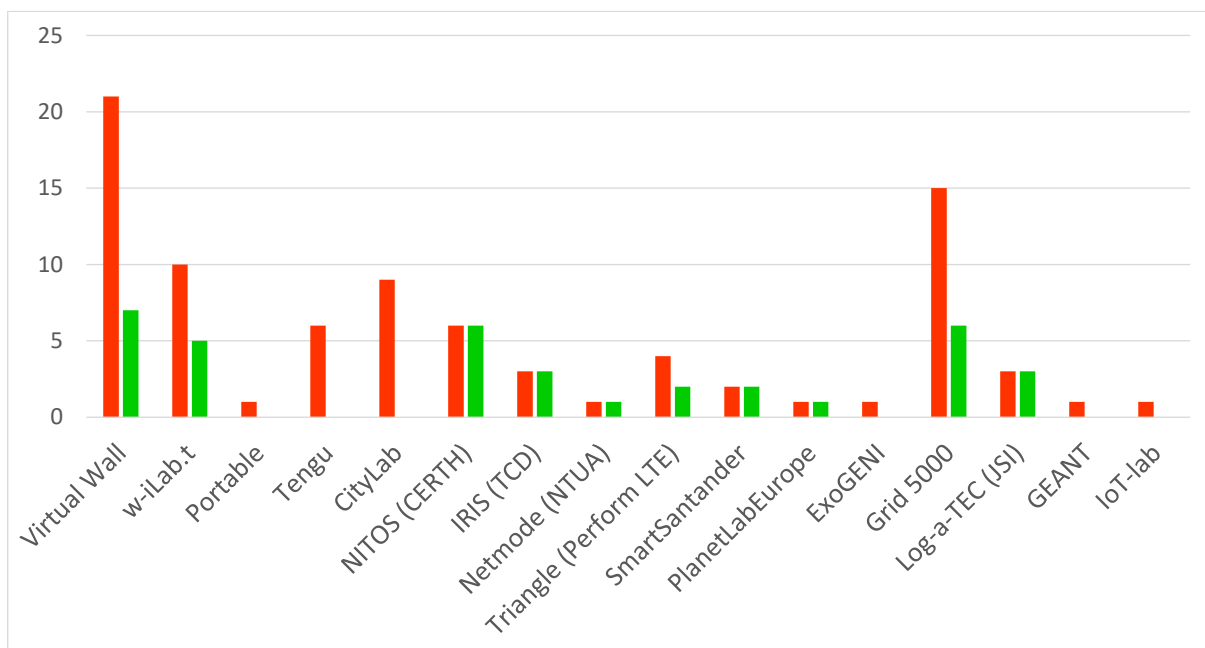


Figure 18: The number of Open Call experiments which made use of the individual testbeds are shown in red, the number of direct responses and actions taken by the testbed operators are shown in green.



# 6 CONCLUSIONS AND OUTLOOK

During its operation, the Fed4FIRE+ project established all necessary processes for implementation of competitive Open Calls, planned in the scope of the project, as listed below:

- Process for technical and formal definition of the Open Calls.
- Templates for Open Call proposals.
- Wide promotion of the Open Calls.
- Submission tool.
- Permanent support for potential proposers.
- Evaluation criteria and needed evaluation forms.
- Group of independent experts for evaluation of Open Call proposals.
- Evaluation process consisting of remote evaluations and consensus meetings.

By applying the Open Call process, during the reporting period (January 2020 – December 2021), the Fed4FIRE+ project organized three standard competitive Open Calls for innovative experiments, three calls for 2<sup>nd</sup> stage SME proposals, and continuous Open Call for SMEs with 32 cut-off-dates.

Details about number of submitted proposals from various categories of the proposers' organizations, countries of origins, and type of experiments are presented along the document. Below, the key-figures for the Open Calls implemented during the reporting period:

- 7<sup>th</sup> OC – 24 proposals received (Large experiments), two accepted, success ratio of 8%,
- 8<sup>th</sup> OC – 33 proposals received (Medium experiments), four accepted, success ratio 12%,
- 9<sup>th</sup> OC – 34 proposals received (Medium experiments), four accepted, success ratio 12%.

32 cut-off-dates for submission of the proposals to the Continuous Open Call for SMEs (Stage 1) have been offered to the community, resulting with 53 received proposals, whereas 49 of them have been accepted – success ratio of 92%.

For Stage 2, 40 proposals have been received through three open calls and 14 were accepted – success ratio: 35%.

For the time being, the Fed4FIRE+ project completed all planned Open Calls for Innovative Experiments, including the focused continuous Open Call mechanism for SMEs. For Spring 2022, a dedicated Open Call (the 10<sup>th</sup>) for Innovative Testbeds has been published with the submission deadline on 15 March 2022. The outcomes of the 10<sup>th</sup> Open Call will be reported in the deliverable D5.4.

No Open Calls are scheduled for the remainder of the project, but an Open Call for new Testbeds is currently open. The timing of this Open Call for testbeds was set up taken into account the requirement to have a very stable operation within the Fed4FIRE+ federation prior to opening it to new testbeds.

New testbeds which will be selected are required to stay within the federation until the end of 2023 and are required to provide access to their testbed in an Open Access mode.

The Open Calls and the experiments which have run on the testbeds in Fed4FIRE+ have also learned much about the use of the testbeds, the accessibility and the value for both the experimenters as well as the testbed owners. Evaluation of the experiments and how they ran on the testbeds has shown that the testbeds are very keen in upgrading their software and hardware to adapt the needs of the experiments and keeping their testbeds up-to-date.

The evaluation of the feedback clearly shows the added value of the Open Calls and the impact of the experiments and of the Fed4FIRE+ facilities on the business of the experimenters and the testbed owners.

Experimentation has also clearly been identified as a keystone in the whole NGI initiative by the parties participating in these Open Calls.

# 7 ANNEXES

## 7.1 STRUCTURE OF PROPOSAL TEMPLATE – 9TH OPEN CALL

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”.

- Section A** Information page and Summary (300 words 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 6 pages)  
describing the details on the planned experiment (what do you hope to obtain, how, why is it relevant,...). This section should 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). To be able to complete this form, the Patron needs to be informed about the proposal itself. Therefore, a “feasibility-check” deadline is set, by which the Patron needs to have received the draft proposal to be able to complete this form.
- Section E** Background and qualifications (target length 1-2 pages)  
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 F** Expected feedback to the Fed4FIRE+ Consortium (target length 1-2 pages)  
This section contains valuable information for the Fed4FIRE+ consortium and should indicate the expected feedback the Fed4FIRE+ consortium can expect from the use of its federated facilities after carrying out your experiment (e.g. comparing to experimenting you did before). 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. standard form).  
This section provides an overview of the budgeted costs and the requested funding. A split is made in personnel costs, other direct costs (travel, consumables,..) and indirect costs. 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. €5 000 in total for the patron(s)). It is thus possible to have e.g. one patron providing specific testbed resources and setup for €3 500 and another patron offering consulting help for €1 500 for the same experiment.

### 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 the info document supporting this call.

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.



**7.2 EVALUATION FORM USED IN 3<sup>RD</sup> OPEN CALL**

# 9<sup>th</sup> Fed4FIRE+ Competitive Call

Call identifier: F4Fp-08

## INDIVIDUAL EVALUATION FORM

<b>Proposal Acronym:</b>	
<p><b>1. A degree of industrial and/or scientific innovation including a motivation for the experiment. (Section B of the Proposal Template).</b></p> <p><i>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 than 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.</i></p>	<p><b>Score:</b> <i>(Threshold 3/5; Weight 2)</i></p>
<p><b>2. A degree of industrial and/or scientific relevance (Section B of the Proposal Template)</b></p> <p><i>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.</i></p>	<p><b>Score:</b> <i>(Threshold 3/5; Weight 2)</i></p>
<p><b>3. Clarity and methodology (Section B of the Proposal Template)</b></p> <p><i>The experiment should be scientifically and/or technically sound. There should be a clear problem statement, a solid experiment design, a good methodology, etc.</i></p>	<p><b>Score:</b> <i>(Threshold 3/5; Weight 1)</i></p>
<p><b>4. Use of Fed4FIRE+ facilities and tools (Sections B &amp; C of the Proposal Template)</b></p> <p><i>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</i></p>	<p><b>Score:</b> <i>(Threshold 3/5; Weight 1)</i></p>

<p><i>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.</i></p>	
<p><b>5. 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)</b>  <i>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.</i></p>	<p><b>Score:</b>  <i>(Threshold 3/5; Weight 2)</i></p>
<p><b>6. 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)</b>  <i>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.</i>  <i>These future plans can be new experiment with Fed4FIRE, a new research project, internal projects, product commercialization....</i>  <i>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.</i>  <i>The future plans do not have to exclusively impact the future of Fed4FIRE!</i>  <b>Guidelines:</b> <ul style="list-style-type: none"> <li>• 0 points: No information provided on future plans</li> <li>• 3 points: Information provided on future plans, but vague</li> <li>• 5 points: More detailed information provided on future plans (clear intention to continue to exploit the outcome of the experiment)</li> </ul> </p>	<p><b>Score:</b>  <i>(Threshold 3/5; Weight 1)</i></p>
<p><b>7. Technological expertise and quality</b>  <i>The proposer should exhibit technological expertise and quality. This information must be included in Section E of the Proposal Template.</i></p>	<p><b>Score:</b>  <i>(Threshold 3/5; Weight 1)</i></p>
<p><b>8. Preference is given to proposals originating from new players in the field</b>  <i>Therefore the following restrictions will be implemented:</i>  <i>– 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.</i></p>	<p><b>Score:</b>  <i>(No threshold; Weight 1)</i></p> <p><b>To be rated by</b></p>

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<p>– 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.</p> <p>– This information must be included in Section I of the Proposal Template.</p> <p><b>To be rated by Fed4FIRE+ consortium – not for experts</b></p>	<p><b>Fed4FIRE+ consortium</b></p>
<p><b>9. Preference is given to proposals with in the specific topic area as set out in the information document. This call has no specific focus or theme, but we would like to call for experiments which exploit the specific features of Fed4FIRE+ as a federation and technologies covered.</b></p> <p><i>Therefore, proposals which, based on the description in Section B of the proposal can show that the experiment proposed cannot be carried out on own resources or on commercial platforms like Amazon Web Services, Microsoft Azure, ... will be given an extra 5 points on their total score.</i></p> <p><i>Guidelines:</i></p> <ul style="list-style-type: none"> <li>• 0 points: No information provided or it is clear that this can be done on commercial platforms</li> <li>• 3 points: Limited information provided or experiment can be carried out on commercial platforms however with less interesting results</li> <li>• 5 points: The experiment can only be carried out on one or more Fed4FIRE+ testbeds</li> </ul>	<p><b>Score:</b> <i>(No threshold; Weight 1)</i></p>
<p><b>Remarks</b></p> <p><i>Note: General remarks can be made here, including remarks regarding the proposed budget. The budget will NOT be scored in this evaluation, however any comments can be made.</i></p>	<p><b>Overall score:</b> <i>(Threshold 40/60)</i></p>
<p>Does this proposal contain ethical issues that may need further attention?</p>	<p><b>NO / YES</b></p>

**I declare that, to the best of my knowledge, I have no direct or indirect conflict of interest in the valuation of this proposal.**

<b>Name</b>	
<b>Signature</b>	
<b>Date</b>	

## 7.3 FORMAL AGREEMENT WITH EXPERIMENTERS – TEMPLATE

### Agreement for the Use of the Fed4FIRE<sup>+</sup> Testbed for Experimentation

**Experiment title: F4Fp – SME – Acronym of your experiment**

This Agreement for the Use of the Fed4FIRE<sup>+</sup> Testbed for Experimentation (hereinafter referred to as the “Agreement”) is executed by and between:

1. Experimenter:

[FULL NAME + LEGAL FORM], with its registered office situated at [ADDRESS] and hereby duly represented by [NAME+TITLE]

2. Coordinator:

**Interuniversitair Micro-Electronica Centrum vzw (IMEC)**, a non-profit organisation duly organized under the laws of Belgium, Register of Legal Entities Leuven VAT BE 0425.260.668, with its registered office situated at Kapeldreef 75, 3001 Leuven, Belgium and hereby duly represented by Luc Van den hove, President and CEO

relating to the research project under the Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020), Call: H2020-ICT-2016-2017, Topic: ICT-13-2016 for the implementation of the project entitled “Federation for FIRE Plus” (hereinafter referred to as “Fed4FIRE<sup>+</sup>” or “the Project”)

Hereinafter individually referred to as the “Party” and jointly as the “Parties”

- WHEREAS as from January 1<sup>st</sup>, 2017, the Coordinator participates in the Project together with Université Pierre et Marie Curie – Paris 6 (“UPMC”), Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V (“Fraunhofer”), Technische Universität Berlin (“TUB”), Ethniko Kentro Erevnas Kai Technologikis Anaptyxis (“CERTH”), Mandat International alias Fondation pour la Cooperation Internationale (“MI”), EURESCOM – European Institute for Research and Strategic Studies in Telecommunications GmbH (“EURESCOM”), MARTEL GmbH (“MARTEL”), ATOS Spain S.A.U (“ATOS”), National Technical University of Athens (“NTUA”), Institut National de Recherche en Informatique et Automatique (“INRIA”), University of Southampton (“IT Innovation”), GEANT Limited (“GEANT”), Fundacio Privada I2CAT, Internet i Innovacio Digital a Catalunya (“I2CAT”), Instytut Chemii Bioorganicznej Polskiej Akademii Nauk (“PSNC”), Universidad de Cantabria (“UC”), Universidad de Malaga (“UMA”), Universiteit van Amsterdam (“UVA”), Institut Jozef Stefan (“JSI”), The Provost, Fellows, Foundation Scholars & The Other Members of Board of the College of the Holy & Undivided Trinity of Queen (“TCD) and NORDUNET A/S (“NORDUNET”) (hereinafter collectively referred to as the “Fed4Fire<sup>+</sup> Partners” or “Beneficiaries”;
- WHEREAS the Fed4FIRE<sup>+</sup> Partners have amongst themselves entered into a written agreement detailing their respective rights and obligations under the Project;
- WHEREAS the purpose of Fed4Fire<sup>+</sup> is to provide, run and further improve Fed4FIRE<sup>+</sup>’s “best-in-town” federation of experimentation facilities covering technologies ranging from wireless, wired, cloud services and open flow for the Future Internet Research and Experimentation initiative;
- WHEREAS the Fed4FIRE<sup>+</sup> platform consists of individual testbeds and tools put at the disposal by different resource providers;
- WHEREAS the Experimenter through the execution of the submitted proposal (hereinafter referred to as the “Proposal”) under an Open Call (in accordance with the rules detailed in the Open Call documents) has applied to use the Testbed to be provided by the Fed4FIRE<sup>+</sup> Partner(s) identified in the Proposal;
- WHEREAS on the basis hereof the Experimenter will be entitled to use the Testbed subject to the terms and conditions described hereunder;

NOW, THEREFORE, the Parties agree as follows:

### Article 1 - Definitions

When used herein, unless the context requires otherwise, the following words and expressions shall have the meaning as stated hereunder:

- 1.1. “Experiment(s)” means the experimentation activity(ies) undertaken by the Experimenter, alone or (if applicable) with the patron, for testing new ideas and technologies in the area of computer networking. Details of the Experiment can be found in the Proposal submitted by the Experimenter.
- 1.2. “Experiment Results” means any tangible and intangible outputs of the Experiments that are generated by or on behalf of the Experimenter (e.g. involvement of patron) as well as any rights attached to them.
- 1.3. “Maximum Budget” means the maximum amount of funding to be made available by the Coordinator to the Experimenter by way of financial support as further detailed in Appendix 1 hereto.
- 1.4. “Platform” means the Fed4FIRE+ testbed resources and tools in the Fed4FIRE+ federation. The Platform has been constructed for experiment-driven research activities, where experiment-driven research is defined as any activity that furthers the Experimenters’ knowledge and/or understanding of concepts, algorithms, protocols of wireless solutions, provided that this activity is legal.
- 1.5. “Testbed” means the specific Platform components that are to be made available to the Experimenter for the performance of Experiment(s) in accordance with the terms and conditions of the Agreement.

### Article 2 – Scope of the Agreement - Responsibilities

- 2.1. Subject to the terms and conditions set forth in the Agreement, the Experimenter is hereby granted the non-exclusive, non-sub licensable, non-transferable right to use the Testbed for the performance of Experiments. Any other use of the Testbed by the Experimenter than the use expressly described in the Experiments is not permitted.
- 2.2. Responsibilities of the Experimenter
  - 2.2.1. The Experimenter shall perform its tasks in accordance with the conditions of the Agreement and the Proposal towards the implementation of the Experiment to the best of its ability and in accordance with any guidelines issued by the Coordinator.
  - 2.2.2. The Experimenter shall not, directly or indirectly:
    - rent, lease, transfer or sub-license the Testbed, nor permit any third party to do so;
    - use the Testbed to host commercial activities or in a way that limits the rights of others to use the Testbed;
    - remove, alter, cover or obscure any copyright notices or other proprietary rights notices placed or embedded on or in Testbed;
    - reverse engineer, decompile, disassemble, re-engineer, translate, integrate, adapt, create derivative works or updates of the Testbed or any part thereof nor permit, allow, or assist any third party to do so.
  - 2.2.3. The Experimenter acknowledges and agrees that besides the terms and conditions detailed in the Agreement, specific regulations of the party providing the Testbed (the “Provider”) may apply. It is the Experimenter’s responsibility to remain aware of all applicable regulations and of any changes made to them.

If there is evidence that the actions of the Experimenter are adversely impacting the quality offered by the Platform, the Coordinator is empowered to take reasonable measures to terminate or reprioritize usage in order to protect the overall operation of the Platform.

- 2.2.4. Should the Experimenter’s usage imply giving access to the Testbed to third parties, the Experimenter understands it will need to gather explicit consent from the Coordinator and agrees to enforce any restrictions imposed by the Coordinator and accepts to fulfill its legal obligations as a service provider regarding data protection and retention laws.



- 2.2.5. The Experimenter is responsible and liable for any and all actions performed by using the Testbed. The Experimenter undertake that it shall:
- comply with all instructions and regulations relating to the use of the Testbed;
  - not use the Testbed in a manner which is or is likely to adversely affect the Testbed or which may disturb the working of, interfere or damage the Testbed or any other system. In case of misuse, the Experimenter is responsible for restoring all damages to the Testbed and is responsible for any loss and damages incurred;
  - not interfere with others' work or attempt to invade their privacy;
  - not use the Testbed in a manner that may damage the Fed4Fire+ Partner'(s) t's good name and reputation or may infringe the intellectual or industrial property rights of a Party or any other third party. Copyright, other intellectual property right and data protection legislation must be observed by the Experimenter.
- 2.2.6. The Experimenter shall, in a timely manner, provide all information reasonably required by the Coordinator such as but not limited to the information required for the Coordinator to comply with its obligations under the Agreement, the Grant Agreement with the European Commission and the Consortium Agreement.
- 2.2.7. The Experimenter shall ensure that neither the Experimenter nor anyone of its behalf or with its consent causes any damage to the Testbed.
- 2.2.8. The use of the Testbed is at Experimenter's own risk and responsibility. The Coordinator does not assume any liability in regards to interruption, corruption, loss or disclosure of services, processes and data hosted on the Platform. The Experimenter acknowledges and agrees that the uninterrupted availability and use of the Testbed cannot be ensured ("reasonable efforts"). The Experimenter shall take appropriate measures to protect its credentials and prevent their use by third parties. The information the Experimenter provides when requesting an account should be correct. The Experimenter is responsible for all and any loss or damages incurred by the Coordinator, the Provider and/or the Beneficiaries as a result of any unauthorized transfer by them of their password.
- 2.3. The Testbed will be put at the disposal of the Experimenter free of charge for the Experiments detailed in the Proposal and on a reasonable effort basis.
- 2.4. The Coordinator shall give the Financial Support for the Experiment in accordance with the conditions detailed in article 3 of the Agreement.

### **Article 3 – Financial support**

- 3.1. For the performance of the Experiment in accordance with the terms and conditions of the Agreement, the Coordinator agrees to provide within the Maximum Budget financial support to the Experimenter. Details can be found in Appendix 1.
- 3.2. Invoicing of the financial support will effectuated by the Coordinator for the Experimenter as detailed in the Open Call document. Payment is subject to receipt of the funding from the European Commission, acceptance by the Beneficiaries of the reports and the attendance of the meetings as detailed in the Open Call documents.
- 3.3. The Experimenter hereby agrees to be bound by the obligations as set forth in the articles 22, 23, 35, 36, 38 and 46 of the Grant Agreement. These articles can be found [http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/amga/h2020-amga\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf)

### **Article 4 – Intellectual property – Consent to use data**

The Results achieved by the Experimenter using the Testbed will be owned by the Experimenter.

The Experimenter will deliver a final report describing the Results of the Experiment and the experience gained in using the Testbed. This final report can be made public to the European Commission and all Beneficiaries including their Affiliated Entities.

Publications and demonstrations made based on the Results of the Experiment should clearly mention the usage of the Testbed and the provider and refer to the Project even if the publication or demonstration takes place after the end of the Experiment.

The Experimenter agrees the Coordinator and the other relevant Fed4Fire+ Partner(s) may monitor the Testbed and traffic for vulnerabilities and conformance to authorized use and may collect and use data and information, including but not limited to the information about Experimenter's use of the Testbed. This information, provided it is anonymized, can be used by to improve the Testbed.

### Article 5 - Liability – Warranty

- 5.1. The Experimenter shall fully and exclusively bear the risks in connection with the Experiment, including without limitation to any risk arising from the use of the Testbed. The Experimenter shall hold harmless and indemnify the Coordinator and/or the Fed4Fire<sup>+</sup> Partners harmless against all losses, repayments, liabilities, claims or damages which the Fed4Fire<sup>+</sup> Partners and/or the Coordinator as a result thereof would incur or suffer or have to pay to the European Commission or any third parties. In addition, should the European Commission have a right of recovery against the Coordinator or any other Beneficiary regarding any or all of the Financial Support granted under the Agreement, the Experimenter shall repay the sums in question in the terms and on the dates stipulated by the Coordinator.
- 5.2. No warranty whatsoever is given with respect to the Testbed, support and all information provided hereunder including, but not limited to, any express or implied warranty for use, availability, reliability, quality, fitness for a particular purpose or non-infringement of third party intellectual property rights. They are provided “AS IS”.
- 5.3. To the extent authorized under mandatory law, in no event shall the Coordinator or any of the other Beneficiaries be liable to the Experimenter or any person or entity connection with any of them for costs of procurement of substitute goods, property damage, personal injury, profit loss, business interruption, or for any other special, indirect, consequential or incidental damages, however caused, whether for breach of warranty, contract, tort or negligence, strict liability or otherwise.  
  
The Coordinator’s liability in aggregate, arising out of or in connection with the Experiment and/or the Agreement, however caused, whether for breach of warranty, contract, tort or negligence, strict liability or otherwise, shall not exceed the Maximum Grant.
- 5.4. The Coordinator is not liable for any failure due to the direct or indirect use, loss of use, or delay in delivery of the Testbed or the services provided herein, unless the Experimenter can show willful misconduct, fraud or deceit by the Coordinator.

### Article 6 – Term and termination of the Agreement

The Agreement enters into force on the date detailed in Appendix 1 for the period provided in Appendix 1, unless sooner terminated in accordance with article 6. The Experimenter acknowledges and agrees that its authorized use of the Testbed is only effective during the term of the Agreement.

The Experimenter’s right to use the Testbed and the Agreement are automatically and without notice from the Coordinator terminated if the Experimenter fails to comply with any of the obligations detailed in the Agreement. Upon termination of the Agreement, the Experimenter shall immediately discontinue all use of the Testbed.

### Article 7 - Applicable law

The Agreement is governed by the laws of Belgium without reference to its conflict of law principles. Any dispute arising out of the Agreement shall be settled by the competent courts located in Brussels (Belgium).

### Article 8 - Miscellaneous

- 8.1. The Experimenter represent and warrant that the Testbed shall not be evaluated or employed for the purpose of use in the design, development, production, stockpiling or use of weapons of mass destruction, such as nuclear, chemical or biological weapons or in any manner for a military end use or with a military end-user. The Experimenter shall comply with applicable laws and regulations controlling the export of technical data, computer software and all other export controlled commodities and ensures that it will not include the participation of persons on any restricted party listing in accordance with applicable national and international regulations. The Experimenter agree to indemnify, defend and hold harmless the Coordinator and the other Fed4Fire<sup>+</sup> Partners from any and all claims, damages and other liabilities resulting from the Experimenter’s violation of any applicable export regulations.
- 8.2. The Parties may sign and deliver this Agreement by electronic transmission. Each Party agrees that the delivery of this Agreement by electronic transmission shall have the same force and effect as delivery of original signatures and that each Party may use such electronic or facsimile signatures as evidence of the execution and delivery of this Agreement by the Parties to the same extent that an original signature could be used.

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AS WITNESS, the Parties have caused the Agreement to be duly signed by the undersigned authorised representatives in separate signature pages.

For Experimenter,

Name:  
Title:  
Date:

## D5.3: Third report on implementation of the Open Calls



For IMEC,

Luc Van den hove  
President & CEO  
Date:

## D5.3: Third report on implementation of the Open Calls



Appendix 1:

Experiment – financial information

Duration of the Experiment:

Start date:  
End date:

Budget of the experiment € xx xxx

Payment conditions (subject to payment conditions detailed in article 3.3): (timing of the payment, unless this is included in the Open Call document)