

# Open Call announcement

## Announcement of the 3<sup>rd</sup> RAWFIE Open Call for recipients of financial support



**Project acronym:** RAWFIE

**Project grant agreement number:** 645220

**Project full name:** Road-, Air-, Water-based Future Internet Experimentation

Project RAWFIE ([www.rawfie.eu](http://www.rawfie.eu)), co-funded from the European Union's Horizon 2020 research and innovation programme under grant agreement No 645220, foresees as an eligible activity the provision of financial support to third parties, as a means to achieve its own objectives.

The types of activities that qualify for receiving financial support are the following:

- Experimentation (software)
  - Scientific Excellence (RAWFIE-OC3-SCI) – **feasibility check is needed**
  - Innovation by SMEs (RAWFIE-OC3-SME) – **feasibility check is needed**

**Feasibility check deadline:** 27 November, at 17:00 CEST (Brussels local time)

**Final submission deadline:** 27 December 2017, at 17:00 CET (Brussels local time)

**Expected duration of participation:** 10 months (starting from March, 2018 to December, 2018)

**Maximum amount of financial support for each proposal:** € 100 000 for RAWFIE-OC3-SCI, € 75 000 for RAWFIE-OC3-SME

**Call identifier:** RAWFIE-OC3 call

**Language in which proposal should be submitted:** English

**Web link for further information (full call text/proposal guidelines/call results):**

<http://www.rawfie.eu/content/open-call-no-3>

**Email address for further information:** [rawfie-contact@cni.di.uoa.gr](mailto:rawfie-contact@cni.di.uoa.gr)

*[Please use the respective call identifier in the subject of your email (RAWFIE-OC3-SCI, RAWFIE-OC3-SME)]*

Tel: (+30) 2107275148, (+30) 2107275127

**Eligibility of proposers and evaluation conditions:**

- Proposals will only be accepted from a single party eligible for participation in the EC H2020-projects.
- Evaluation and ranking will be carried out by an external jury of individual experts.
- Multiple proposals may be submitted by the same party. In case that multiple proposals coming from the same party pass the funding limits, RAWFIE Consortium has the right to decide which one of them will be accepted for funding.
- Successful applicants of the 1<sup>st</sup> and 2<sup>nd</sup> RAWFIE Open Calls are not eligible to participate.

**Other conditions:**

- Proposals must follow the provided **template**.
- Proposals must be submitted through the **EasyChair** system.
- Once a proposal is positively evaluated for funding, the respective proposer will be contracted by the project coordinator (UoA) as **Third Party**.

## Call Objectives

RAWFIE (Road-, Air- and Water- based Future Internet Experimentation) is a project funded by the European Commission (Horizon H2020 programme) under the FIRE initiative aiming to provide research and experimentation facilities through the growing domain of unmanned networked devices. The [FIRE initiative](#) (Future Internet Research and Experimentation) creates an **open research environment** which facilitates strategic research and development of new Future Internet concepts, giving researchers the tools they need **to conduct large-scale experiments** on new paradigms.

The purpose of the RAWFIE project is to create a federation of different testbeds that will work together to make their resources available under a common framework. Specifically, it aims at delivering a unique, mixed experimentation environment across the space and technology dimensions. RAWFIE integrates numerous testbeds for experimenting in vehicular (road), aerial and maritime environments. Vehicular Testbeds (VT) will deal with Unmanned Ground Vehicles (UGVs) while Aerial Testbeds (AT) and Maritime Testbeds (MT) will deal with Unmanned Aerial Vehicles (UAVs) and Unmanned Surface Vehicles (USVs), respectively. The RAWFIE Consortium includes all the possible actors of this highly challenging experimentation domain, from technology creators to integrators and facility owners. The basic idea behind the RAWFIE effort is the automated, remote operation of a large number of robotic devices (UGVs, UAVs, USVs) for the purpose of assessing the performance of different technologies in the networking, sensing and mobile/autonomic application domains. RAWFIE features a significant number of UxV nodes for exposing the experimenter to an extensive test infrastructure. All these items are managed by a central controlling entity, which will be programmed per case and fully overview/drive the operation of the respective mechanisms (e.g., auto-pilots, remote controlled ground vehicles). Internet connectivity will be extended to the mobile units to enable the remote programming (over-the-air), control and data collection. Supportive software for experiment management, data collection and post-analysis will be virtualized to enable experimentation from anywhere in the world. The vision of

Experimentation-as-a-Service (EaaS) is promoted through RAWFIE. The IoT paradigm is fully adopted and further refined for supporting highly dynamic node architectures.

The objective of the *3rd RAWFIE Open Call* is to support cross-domain or domain-specific real-world applications and experiments (RAWFIE-OC3-SCI, RAWFIE-OC3-SME). Each proposal should target at **exactly one** of the two types of activities (we call them directions of enhancement) as stated in the next paragraphs. All the proposals should fully comply with the public Deliverables (can be found [here](#)) that have been produced so far by the RAWFIE Consortium and provide system requirements as well as technical description and implementation details for the RAWFIE architecture and specific components.

The submission phase of the experimentation proposals will take place in two stages. In the first stage, the proposing party has to submit a draft, but fully completed, proposal describing the experiment by 27 November using the online submission system. In this stage, all parts of the proposal should be completed and the RAWFIE consortium will check the feasibility of the proposed experiment (i.e., if the experiment can be supported sufficiently by the existing infrastructure, proposed devices and testbeds or further extensions are needed). RAWFIE consortium will provide feedback on the feasibility check to the proposer before December, 22nd. The feedback of the feasibility check has to be included in the respective part of the proposal template by the proposer during the final submission step. The proposer should perform only minor revisions on the proposal during the final submission stage (i.e., the core parts of the experiment should remain unchanged). During the feasibility check, no evaluation of the experiment will be performed. The independent experts that will perform the actual evaluation of the proposals will be advised to reject proposals with significant differences between the two stages.

The actual testbeds that will host the successfully evaluated experiments will be decided by the RAWFIE Consortium taking into account the needs of the experiments and the availability of RAWFIE testbeds and resources. Hence, the testbed indicated by the proposer in the proposal is only an indication and it is not restrictive for the RAWFIE consortium.

	Identifier	Category	Call Budget	Max budget per proposal	Expected type of applicant	Expected proposal
EXPERIMENTATION	RAWFIE-OC3-SCI	Scientific Excellence	€ 500.000	€ 100.000	Academia, research institute, industry (not SME), public body	Extensive cross-domain / horizontal or domain-specific experiments and supportive software

	RAWFIE-OC3-SME	Innovation by SMEs	€ 400.000	€ 75.000	Small and Medium Enterprises	Extensive cross-domain / horizontal or domain-specific experiments and supportive software
		<b>Total funding</b>	€ 900.000			

- **Activity / Direction of enhancement 1: Scientific Excellence.**

RAWFIE comprises software architectures and developments for experimentation management, data collection and post-analysis. Virtualization is used to enable remote experimentation from everywhere in the world. The infrastructure has been enriched with additional equipment and testbed facilities via the first two Open Calls. In this 3<sup>rd</sup> Open Call, the project solicits for proposals that design and deploy extensive horizontal or domain-specific experimentation (experiment design & implementation, supportive software, data analysis, data visualization, etc.) that will leverage data and resources from RAWFIE testbeds and devices in the context of mobile IoT paradigm. **The experiments should come with a concrete plan on their scientific added value and the novelties that the experiment will bring in the scientific and research community (i.e., the new technologies and methodologies validated through the experiment, the new datasets it creates, etc.).**

All types of experimental applications should be based on RAWFIE tools and should come with additional features (e.g., post analysis of data, visualization tools) or software needed for further data processing. Horizontal experiments may refer to cross-domain applications and software (e.g., experimentation over a novel network protocol, information dissemination schemes, distributed architectures, data analysis methodologies, trust and reputation algorithms, security features, etc.). Supportive software should be connected with RAWFIE architecture to become available, if needed, for other types of applications and experiments. In all categories, the adoption of open technologies, specifications and standards (including open source software and Semantic Web technologies) that will enable the openness of the RAWFIE platform towards possible future expansion is strongly recommended.

Proposals should describe **experiments and applications** that validate novel technologies connected with the mobile IoT concept and its integration with Cloud and Robotics paradigms that clearly advance the current state-of-the-art and create added value at technology and research level. Based on the RAWFIE application creation tools, the experiments will design, implement and validate a number of proof-of-concept scenarios that could potentially be applied across several or specific application domains.

This software and the experiments should be of a short duration (a maximum of 10 months) starting from March 2018. Per proposal a budget can be requested for **up to a maximum of €100K**. The applicant should be **academia, industry (not SME) or a public body**.

- **Activity / Direction of enhancement 2: Innovation by SMEs.**

RAWFIE comprises software architectures and developments for experimentation management, data collection and post-analysis. Virtualization is used to enable remote experimentation from everywhere in the world. The infrastructure has been enriched with additional equipment and testbed facilities via the first two Open Calls. In this 3<sup>rd</sup> Open Call, the project solicits for proposals that design and deploy extensive horizontal or domain-specific experimentation (experiment design & implementation, supportive software, data analysis, data visualization, etc.) that will leverage data and resources from RAWFIE testbeds and devices in the context of mobile IoT paradigm. **The experiments should come with a concrete business model (i.e., how the results of the experiment may be transformed into profits for the company) and what kind of new markets the experiment may open.**

All types of experimental applications should be based on RAWFIE tools and should come with additional features (e.g., post analysis of data, visualization tools) or software needed for further data processing. Horizontal experiments may refer to cross-domain applications and software (e.g., experimentation over a novel network protocol, information dissemination schemes, distributed architectures, data analysis methodologies, trust and reputation algorithms, security features, etc.). Supportive software should be connected with RAWFIE architecture to become available, if needed, for other types of applications and experiments. In all categories, the adoption of open technologies, specifications and standards (including open source software and Semantic Web technologies) that will enable the openness of the RAWFIE platform towards possible future expansion is strongly recommended.

Proposals should describe **experiments and applications** that validate novel technologies connected with the mobile IoT concept and its integration with Cloud and Robotics paradigms that clearly advance the current state-of-the-art and create added value at technology and research level. Based on the RAWFIE application creation tools, the experiments will design, implement and validate a number of proof-of-concept scenarios that could potentially be applied across several or specific application domains.

This software and the experiments should be of a short duration (a maximum of 10 months) starting from March 2018. Per proposal a budget can be requested for **up to a maximum of €75K**. The applicant should be an **SME**.

### **Expected Timeplan**

The following table provides an indicative timeplan for the two types of activity expected to be targeted by the proposals of the present open call.

Type of Activity	Expected Timeplan	Stage Description
Experimentation	<p><b>First prototype stage:</b> Months 1 - 5.</p> <p><b>Final delivery stage:</b> Months 6 - 9.</p> <p><b>Full demonstration stage:</b> Month 10.</p>	<p>A first prototype of the experiment will be provided to the RAWFIE Consortium and an initial integration with RAWFIE platform will be demonstrated.</p> <p>The finalized version of the software completely integrated and tested with RAWFIE infrastructure is delivered.</p> <p>Full demonstration to dissemination events. Minor modifications are expected according to the feedback of the consortium.</p>

The proposals are expected to propose their own plan of documentation and deliverables that will be provided to the RAWFIE Consortium. The implementation plan will be subject to the evaluation criterion C3 (“Ability to implement”). The successful beneficiaries will be invited to refine and implement the final plan with the project coordinator and the other collaborators.

## Practical Information

**Total budget:** up to € 900,000

**Expected number of proposals to be funded:** up to 10 (estimated)

**Maximum Commission funding per proposal:** € 100 000 for RAWFIE-OC3-SCI, € 75 000 for RAWFIE-OC3-SME

**Number of partners per proposal:** Proposals should be submitted by single parties only. Consortia consisting of two or more partners will not be accepted.

**Type of participants:** The profile of participants targeting Activity 1 could be academics or industries with RTD department (not SMEs), and all kinds of private or public bodies active in the domains of IoT , Robotics, Autonomous Systems, Networking or Cloud Computing. The participants targeting Activity 2 should be SMEs. The rules of participation are the same as those applied to any H2020 project.

**Duration of the contract:** 10 months (starting from March, 2018 to December, 2018)

**Language of the proposal:** English

**Proposal page limits and layout:** According to the provided template, each proposal should consist of two distinct sections; Part A and Part B. Part A provides administrative information for the proposing party, while Part B provides information about costs, proposed plan and methodology, implementation and impact. Part B of each submitted proposal should not exceed 30 pages length including cover page, abstract, table of contents, and sections B0, B1, B2, B3 of the provided template. There is no automatic

check in the system. Experts will be instructed to disregard any excess pages in each section in which the maximum number of pages is indicated. The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers). Ensure that the font type chosen is clearly readable (e.g., Arial or Times New Roman). There is no page limitation for Part A since it consists of administrative forms. A single document containing both parts A and B should be submitted.

**Feasibility check deadline:** 27 November, at 17:00 CEST (Brussels local time)

**Final submission deadline:** 27 December 2017, at 17:00 CET (Brussels local time)

**Contact for information on this call:** Prof. Stathes Hadjiefthymiades (UoA)

**email:** [rawfie-contact@cnl.di.uoa.gr](mailto:rawfie-contact@cnl.di.uoa.gr)

## Eligibility

Proposals may only be submitted by:

- Parties eligible for participation in the EC Horizon 2020 Framework Programme. Rules for eligibility can be found at: [http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014\\_2015/annexes/h2020-wp1415-annex-a-countries-rules\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/annexes/h2020-wp1415-annex-a-countries-rules_en.pdf)
- Single parties only.

A party may participate and submit multiple proposals. In case that multiple proposals coming from the same party pass the funding limits, RAWFIE Consortium has the right to decide which one of them will be accepted for funding.

## Evaluation Criteria

Evaluation and ranking will be carried out by an external jury of individual experts. Proposals for third party funding will be evaluated against the following criteria:

### **C1. Relevance to the project architecture and technological excellence**

All the contributions of third parties are intended either to enhance the current RAWFIE architecture or bring new value to it through novel experimentation. Therefore, the proposals should adhere to the requirements of the platform, and build on top of the existing framework. This criterion assesses the compliance of each proposal with RAWFIE technologies and adopted approaches. The technological excellence of the proposed solution and the level of integration with RAWFIE tools and platform are also

evaluated. The quality of the proposed solutions will also be evaluated (e.g., scientific quality, technological excellence, complexity and innovation of the experiment, etc.).

## **C2. Impact**

The funded proposals' impact (both on the project and in general) is evaluated. The open call seeks proposals which provide high added value. Proposals should enable possible future follow-up experiments and support the sustainability of the federated architecture. Market potential of the proposals as well as their ability to provide significant value to the end-users will be taken into consideration. The funded third parties will also have to integrate their proposals outcome into the current RAWFIE infrastructure and maintain a connection to the RAWFIE Consortium until the end of the project. Further integration into a future RAWFIE federation is a major target for the project. In this context, this call also searches for participants that will stay active beyond the project lifetime. Hence, proposals with high levels of engagement with RAWFIE and the FIRE community will be promoted. The same stands with proposals that foresee and enable possible synergies with other H2020 projects and/or nationally funded activities. In the context of supported experiments, RAWFIE will promote innovation and excellence both in terms of horizontal cross-domain experiments and real-world domain-specific applications.

## **C3. Ability to implement**

The proposers will be evaluated on their ability to implement the tasks. The experience and the technical capacity of the applicant(s) are of high importance. The proposed implementation plan should be clear and methodically sound, with a clear task statement, a solid design, a good methodology and of high quality. Participants are expected to propose a concrete plan that enables them to achieve the project goals during the given time-frame. The successful beneficiaries will be invited to refine and implement the final plan with the project coordinator and the other collaborators.

Each of the criteria is evaluated in a scale of 0-5. The threshold for each of the criteria is 3. The threshold for the total evaluation is 10.

In case of possible ties in ranking, the above criteria will be considered as listed in order of importance, i.e., criterion 1 is ranked higher than criterion 2, etc.

## **Redress**

A third party (or consortium of 2 parties) may submit a redress request to the project coordinator within 7 days of the announcement of the evaluation and funding results. The redress request may involve only the procedural aspects of the evaluation. The request will be evaluated by the project Quality Control Board, a committee of 5 representatives of different project partners, and responded to within 10 days of its reception.