



# SOFTFIRE

## Software Defined Networks and Network Function Virtualization Testbed within FIRE+

Grant Agreement N° 687860

### SoftFIRE Innovation Hackathon (Guidelines and Rules for Participation)



## Contents

1	About SoftFIRE .....	3
2	Innovation Hackathon Objectives .....	3
3	Innovation Hackathon Information.....	4
4	How to attend the Hackathon.....	5
4.1	Registration Form.....	5
4.2	Eligibility criteria.....	6
4.3	Learning how to use the platform.....	6
5	Acceptance Process.....	7
6	Prizes and rewards .....	7
6.1	Guidelines for the Hackathon and judgement criteria .....	8
6.2	IPR.....	9
7	Support to Experimenters .....	10
7.1	Hackathon Helpdesk .....	10
7.2	Useful Documents .....	10
7.3	Federated Testbed Availability.....	10
8	Constraints and Limitations during the Hackathon .....	11



## 1 About SoftFIRE

---

SoftFIRE integrates European independent testbeds that are made available with a set of basic functionalities related to Network Function Virtualization and Software Defined Networking. The project is aiming at assessing three major characteristics that an NFV/SDN platform should support: interoperability with various functional elements, programmability of the offered functions and security of the entire framework, all of them bringing also a business perspective. The federated infrastructure is devoted to experimentation / development of services and applications. Services and applications are chosen in a competitive way by means of Open Calls. The SoftFIRE Project will support three waves of Open Calls. The different waves will benefit from the incremental empowerment and consolidation of the single testbeds and the federated one. At the end of each wave, there will be an open and public event, a Hackathon, during which experimenters and a wide audience of practitioners and interested people can experiment on the platform.

More information about SoftFIRE can be found here: [www.softfire.eu](http://www.softfire.eu)

## 2 Innovation Hackathon Objectives

---

SoftFIRE Consortium in conjunction with Ericsson invites interested parties in participating to the Innovation Hackathon that will give participants the possibility to put hands on the SoftFIRE Federated Testbed for two days.

The Hackathon event is addressed to all the entities working in 5G and Internet fields such as universities, research centres, innovation companies, startups and companies involved with industrialized solutions.

**Objectives of the Hackathon:** The combination of Network Function Virtualization and Software Defined Networking is considered as an important step towards the implementation of software architecture for the future 5G network.

In this context, the SoftFIRE project has put together a programmable infrastructure operating over several interworking testbeds. In addition, the project has enriched this infrastructure with powerful virtualization and distributed processing functionalities offered by OpenStack and Open Baton. To these functions, the SoftFIRE infrastructure has added basic SDN functions and some security feature that can ease the programming of compelling services and applications on top of the platform.

The objective of the Hackathon is to use the SoftFIRE platform either to extend its NFV and SDN functions or to create advanced and innovative applications by exploiting the available features. The participants to the Hackathon can choose one (or both) objectives in order to develop and demonstrate new functions, services, and/or applications.

While new functions will refer to the extensions to the platform itself, services and applications should demonstrate the possibility to develop new concepts and related business opportunities within one of the many 5G applications domains. SoftFIRE will be particularly interested in applications and services addressing, automotive, Internet of Things, gaming, big data, e-health, multimedia media streaming or any other application domain relevant for 5G. The teams should



focus on functions, services and applications that could demonstrate the ability of the NFV/SDN platform to provide new services and application within future networks and in particular 5G.

To summarize, the theme of the Hackathon is: **development of compelling applications, services, functions for the new 5G environment through a secure NFV/SDN platform and/or porting of the existing advanced innovative products on the federated platform.**

Before the event, the SoftFIRE project will organize an Open Day during which interested participants will have access to the platform and can familiarize themselves with it, understanding its current functionalities. More detailed information can be found in section 4.3.

For further communication please check the [website](#).

Participants are suggested to read this document carefully and to also read the [Handbook](#) provided at the SoftFIRE website. Applicants can send an email to [event@softfire.eu](mailto:event@softfire.eu) in case they need to clarify any issues with the Open Call/SoftFIRE team.

Participants are requested to register and submit a simple form with personal information and to explain why they are interested in the SoftFIRE Hackathon. Selected participants will be granted access to the SoftFIRE federated testbed, during the timeframe stated in section 3, and will receive support from the SoftFIRE team according to the rules and constraints specified in the [Handbook](#) or latest release as published in website.

### 3 Innovation Hackathon Information

---

The Innovation Hackathon will be held in Ericsson premises in Rome, Italy, on April 18<sup>th</sup>-19<sup>th</sup> 2018. The Hackathon event is taking place in conjunction with Ericsson to allow participants who are interested to attend.

During the Hackathon, all participants will have access to the platform during the same timeframe. For this reason – due to the technical nature of the platform – the number of participants who can be accepted may be limited by the SoftFIRE project. Participants are encouraged to register in advance. Every team is composed of 2-4 people including the Team Leader. The SoftFIRE project invites all possible participants to be acquainted with the platform by means of the Open Day on 26<sup>th</sup> March 2018 and/or by setting up a local test version of the platform. SoftFIRE platform will be opened and publicly available for practicing the environment starting from same Open Day event.

**Duration of the event:** to all accepted participants, access to the platform will be granted for two days: from 10:00 CET (local time) to the end of the first business day (about 18.00 CET), and from 9:00 to 13:00 (i.e. end of the Hackathon development activities). Starting from 13.00, each participating team will have around 20 minutes to demonstrate their results to the jury by means of a running demo and optionally some slides and presentation. The platform will be completely closed outside these hours.

The SoftFIRE team reserves the right to restrict (or close) access any moment (see chapter 8) to individual participants.

**Type of participants:** all active teams and individuals in the domain of NFV/SDN and 5G research who want to familiarize with the SoftFIRE federated testbed, such as start up and Small Medium Enterprises SMEs, as well as universities, research centres, innovation companies, and companies involved with industrialized solutions.



**Registration deadline:** participants have to register no later than **April 06<sup>th</sup>, 2018 at 17.00 CET (Brussels time)**.

**Notification of Acceptance:** the SoftFIRE team will send a Notification of Acceptance to the participant within two days after its registration. The acceptance process is described in more detail in chapter 5. A notification of receipt of the application will be sent immediately.

**Hackathon venue:**

Location	Address
Rome, Italy	Ericsson premises Via Anagnina 203; 00118 Roma

People interested in participating to the Hackathon that are not able to physically come to Rome can remotely access the event and the contest. Remote participation is allowed, however and in order to foster experience exchange local participation is recommended.

## 4 How to attend the Hackathon

Participants need to fill in the registration form at [https://www.softfire.eu/events/innovation\\_hackathon/](https://www.softfire.eu/events/innovation_hackathon/) before the deadline stated in section 3.

At the end of the registration period, Team Leaders of the selected teams will receive instructions on how to access to the SoftFIRE Federated Platform (as well as logistic information).

If a participant receives a notification of acceptance, your participation of the Hackathon is mandatory.

### 4.1 Registration Form

Participants are solely responsible for completing all required fields in the registration form according to the following instructions. The Team Leader will be the contact point between the SoftFIRE team organising the Hackathon and his team:

Field name	Field description
First Name / Last Name	Name and surname of the Team Leader
Company/Organization	Company/ Organization of the Team Leader
E-mail	E-mail address of the Team Leader
Phone no.	Mobile phone number of the Team Leader
Number of participants	Number of people in the team (including the Team Leader)



First Name /Last Name	Name and Surname of every person in the team
Company/Organization	Company/ Organization of every person in the team other than the Team Leader
Reason of interest in participating	The team has to specify the reason why they are interested in the SoftFIRE project and in participating to the Hackathon.
Brief description of the team background and references	Components of the team have to write useful information in order to specify their roles inside their company/organization. They can also write here names of their responsible (e.g. their referent Professor, if students/researchers)
Local Participation	Yes or No
Comments	In this field the team can write any information that they consider useful for the organization of the event or if special requirements are needed.

## 4.2 Eligibility criteria

Participants must be eligible for participation in the EC H2020 projects: [https://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016-2017/annexes/h2020-wp1617-annex-a-countries-rules\\_en.pdf](https://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016-2017/annexes/h2020-wp1617-annex-a-countries-rules_en.pdf)

SoftFIRE consortium members cannot participate in the Hackathon.

Financial funding for Third Parties during the whole duration of a project is limited to 60k according to the rules in H2020 that apply also in case of the SoftFIRE project: [http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016\\_2017/annexes/h2020-wp1617-annex-k-fs3p\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016_2017/annexes/h2020-wp1617-annex-k-fs3p_en.pdf)

The SoftFIRE team reserves the right to refuse participants at its discretion (e.g. unverifiable companies/organizations).

## 4.3 Learning how to use the platform

SoftFIRE consortium would like to underline the necessity for each team to be ready to work on our platform in the very short timeframe available for this Hackathon.

For this reason, the SoftFIRE project will organise – three weeks before the Hackathon event, on 26<sup>th</sup> March 2018 – an Open Day: we suggest to attend remotely this event to begin to explore the whole platform and all functionalities offered.



During the Open Day, the attendees will have the opportunity to work – in a dedicated environment – on the latest release of the SoftFIRE platform with all available functionalities, supported by our technical team, gaining free access to the platform.

Also, to better support all interested participants who want to explore the platform on their own, SoftFIRE consortium will share Tutorials, videos to explain how to use the several managers that shape the basis of the SoftFIRE architecture.

In addition, we also suggest to go through all our available [documentation \(or latest release as published in website\)](#) and [how-to](#) guide and free tutorial on [SoftFIRE YouTube channel](#) to set-up locally on your machine / environment the latest release of the [OpenBaton](#) to get familiar with.

SoftFIRE platform will be opened and publicly available for practicing the environment starting from same Open Day event

More info on this hackathon and previous events can be found here on the [SoftFIRE website](#).

## 5 Acceptance Process

---

The admittance to the Hackathon is on a “First Come First Serve” basis.

An email will be sent to the Team Leader confirming the acceptance or non-acceptance to the Hackathon. Not selected but eligible teams will be put on a waiting list and receive a related notification. In case a selected team withdraws its planned participation, the team leader of the first team on the waiting list will be notified by email.

A registered team can cancel its registration sending an email to [event@softfire.eu](mailto:event@softfire.eu).

## 6 Prizes and rewards

---

A first prize of € 7.000 will be given to the Winner team(s) of the Hackathon.

A second prize of € 3.000 will be given to second placed teams of the Hackathon.

A third prize of € 1000 will be given to third placed teams of the Hackathon

A Jury composed by the SoftFIRE partners and external juror(s) with industrial sectors representative (such as telecom providers) will judge the work produced by the participants. Criteria for judgement are explained in section 6.1.

The winner(s) of the Hackathon, first, second and third places, will be announced at the end of the event held in Ericsson premises in Rome, Italy, on April 18<sup>th</sup>-19<sup>th</sup> 2018.

For the winner(s) of the Hackathon following articles of the H2020 Model Grant Agreement [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) apply:

No. 22, 23, 35, 36, 38 and 46.



## 6.1 Guidelines for the Hackathon and judgement criteria

A set of guidelines will be given to the participants before the event. These guidelines must be observed. Non-compliance will result in cancellation of participation at the Hackathon.

According to the theme of the Hackathon, participants will be requested to implement and demo applications, services or functionalities using as many as possible functionalities and APIs offered by the SoftFIRE platform. In order to be eligible to win the prizes, each team should make use of two or more of the SoftFIRE Middleware Managers in order to show how Virtualization, Connectivity, Security or Monitoring functions are used. It is suggested to use at least one NFV resource for testing the solution.

Participant can decide to implement on the platform:

- Applications, i.e., software programs designed to perform a set of coordinated functions, tasks, or activities for the benefit of the users. It is recommended to use virtualized functionalities possible distributed nodes;
- Services, i.e., software programs designed to provide reusable functions for the benefits of users or the SoftFIRE system itself.
- Functions, i.e., software programs that extend the set of functionalities offered by the platform itself and make it more interoperable, more programmable or more secure.

or:

- Products integration on the federated platform

The usage of distributed and virtualized functionalities is strongly encouraged in order to demonstrate the usefulness of the SoftFIRE federated platform.

Applications, Services, Functions or Products Integration should be implemented in such a way to be demoed. Demos need to clearly show the core intended functionalities and they should be proved by means of a running instance to the Jury.

Every team will be asked to briefly present and demonstrate the effectiveness of their solution in a way that will be explained in the guidelines distributed at the beginning of the Hackathon.

Each proposed solution will be judged on an individual level by the different judges using the criteria indicated in the following figure:





Criteria	Creativity and Innovation	Integration in SoftFIRE	Technical Difficulty
Evaluation Meter	0 - 10	0 - 10	0 - 10
Weight	0,35	0,30	0,35
P r o p e r t i e s	Clarity and quality of the demo	Minimal requirement to use at least two SoftFIRE Middleware Managers	Overall technical difficulty of the addressed functionalities
	Appropriateness of technical and methodological approach (interoperability, programmability and security)	Potential integration / inclusion in SoftFire as a built-in functionalities	Implementability on the SoftFIRE infrastructure
	Originality and innovative value of the proposed demo	Business Value	
	Appealing Solutions for 5G Networks		

Figure – Hackathon evaluation criteria

For each demo, jurors will assess the value of the Demo by means of votes in the range between 0 and 10 for each criterion. Each vote will be multiplied for its relative weight. The overall score achieved by the team will be the sum of the individual scores given by the judges for each of the criteria.

The team with the highest score will be the winner of the Hackathon.

In case two (or more) teams will obtain the same score, the prize will be equally divided into all the winning teams for that specific prize.

## 6.2 IPR

All intellectual property created at the event is owned solely by the participants and their team. Further plans may be discussed between the partners and the teams after the Hackathon.

The participants grant the SoftFIRE consortium partners access to the results, for the pursuance of the objectives of the Project and the exploitation of the Project results in accordance with the GA.

Participants shall respect the intellectual property rights, including copyright, and abide by data protection legislation, that apply to software and data available or part of the Federated Testbed.



## 7 Support to Experimenters

---

### 7.1 Hackathon Helpdesk

---

For further information on the Hackathon, contact: [event@softfire.eu](mailto:event@softfire.eu)

For more general information, please refer to [info@softfire.eu](mailto:info@softfire.eu).

### 7.2 Useful Documents

---

- SoftFIRE Innovation Hackathon (this document).
- Handbook: Deliverable D2.4 SoftFIRE (v3) usage manual for NFV/SDN/MEC and 5G experimenters

Please refer to [https://www.softfire.eu/events/innovation\\_hackathon/](https://www.softfire.eu/events/innovation_hackathon/) for the complete documentation.

### 7.3 Federated Testbed Availability

---

Access to the testbed will be granted exclusively to participants to the Hackathon on April 18<sup>th</sup>-19<sup>th</sup> 2018 during this timeframe:

**Working hours:** 10:00 to 18:00. CET on Day1  
9:00 to 13:00 on Day2 plus demos and presentations in the afternoon of Day2. After Demos, the Jury will discuss the results and the winner will be announced

Outside this timeframe during the Hackathon, access to the platform will not be allowed.

Please check your local time correspondence (<http://www.worldtimebuddy.com/>).

Technical support for UoS testbed will be granted from 10:00 to 18:00 CET.



## 8 Constraints and Limitations during the Hackathon

The SoftFIRE infrastructure is composed by loosely integrated platforms under different administrative domains. In addition, the different platforms are running for experimental purposes and they are not yet considered a mass production tool. This means that bugs and issues in the platform behaviour can and will occur. Actually, the scope of this Hackathon is also to support the tune up and the assessment of the platform as a whole.

The SoftFIRE platform is continuously evolving and it has a set of functionalities that is constantly growing and updated by the project. Changes are described and documented in SoftFIRE software wiki (<https://docs.softfire.eu>). Nevertheless, SoftFIRE is, by no means, to be considered a production platform, however the SoftFIRE developer team is always available to help participants and is ready to fix any kind of issues reported by the users.

Service level agreement (SLA) agreements do not apply during the Hackathon. The event is focused on testing and exploring SoftFIRE and participants to the Hackathon are not asked to run production applications on the infrastructure Platform during the trial.

The SoftFIRE project reserves the right to discontinue at any time the service or stop the activities of a team in the Hackathon activities if the use is not consistent with the purpose of SDN/NFV and/or violates any aspects of infrastructure security or shall maliciously conflict with any on-going activities of other Hackathon participants.

During the Hackathon, the SoftFIRE project will put in place a team that will support participants in their work on the platform. It is not offered as a professional service and its operations will be on the basis of best effort. The entire infrastructure is  $\alpha$ -test platform. Possible downtime could occur without notice or due to overload caused by parallel experiments.

Depending on the number of participants, the project will also issue limits and constraints on the allocation of available resources. These limitations depend on the total capabilities of the federated platform as well as the number of participants. Typical limitations could be related to the max number of VMs to be instantiated, the number of physical resources usable or the max memory usable per participant team. Other limitations could apply, or be notified during the course of the Hackathon.

Additional information for the Hackathon participants will be updated in the SoftFIRE portal at <http://www.softfire.eu>



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 687860.