

HORIZON 2020 Information and Communication Technologies Integrating experiments and facilities in FIRE+

Deliverable D5.2 Open Call Performance Report

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Project acronym: F-Interop

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support emerging technologies from research to

standardization and market launch

The standards and innovations accelerating tool

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Abstract

This public deliverable summarises the outcome of the F-Interop open call, by providing details on the open call timeline, the received proposals, the appointed assessors and the final selection of successful applicants for each project Category. It also identifies the factors influencing the limited number of submissions received for Category C and D, and mitigation strategies implemented to address the lack of such associated Industrial Experiments, including plans for a second open call.

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List of Acronyms

CA Consortium Agreement

DESCA Development of a Simplified Consortium Agreement

DPA Data Protection Authorities
DPO Data Protection Officer
EC European Commission
EU European Union

FP7 Seventh Framework Programme

GA Grand Agreement GA General Assembly

ICT Information and Communication Technologies
IERC European Research Cluster on the Internet of Things

IPCIntellectual Property CommitteeIPRIntellectual Property RightsLPWANLow Power Wide Area Network

PC Project Coordinator
PM Person Month
PO Project Officer

1 Introduction

1.1 About F-Interop

F-Interop is a Horizon 2020 European Research project, which proposes to extend the European research infrastructure (FIRE+) with online and remote interoperability and performance test tools supporting emerging technologies from research to standardization and to market launch. The outcome will be a set of tools enabling:

- Standardization communities to save time and resources, to be more inclusive to partners who cannot afford to travel, and to accelerate standardization processes;
- SMEs and companies to develop standards-based interoperable products with a shorter time-to-market and significantly lowered engineering and financial overhead.

F-Interop intends to position FIRE+ as an accelerator for new standards and innovations.

1.2 Deliverable Objectives

1.2.1 Work package Objectives

WP5 (Open Call Experiments and Validation) is designed to cover the activities required to involve and manage third parties and new entrants applying to the project. The aim of the Open Call is to extend the existing tools and platform capabilities with development of innovative new tools and test suites. In addition, third parties' involvement is also expected to validate developed functionalities, and to promote engagement, through dedicated plugtest events. Through these events F-Interop expects to target SMEs, device developers and standardization bodies with the aim to foster early adoption of the final F-Interop platform.

WP5 is structured around six main layers (*Figure 1: WP structure*). It makes use of the web portal developed in WP6 (Dissemination & Exploitation) to promote the Open Call and disseminate the application material; it receives inputs from WP1 (Requirements & Architecture Design) to better scope the requirements for prospective applicants. During the open call promotion and engagement phase, WP5 also collected and shared feedback and lessons learned from engaging with potential applicants, thus serving to fine-tune the development made by WP2, WP3 and WP4, in order to build a core platform that allows for easy integration with additional tools. WP5 also received and made available technical information from development work packages (WP2, WP3, WP4), in order to support the development of new proposals' ideas.

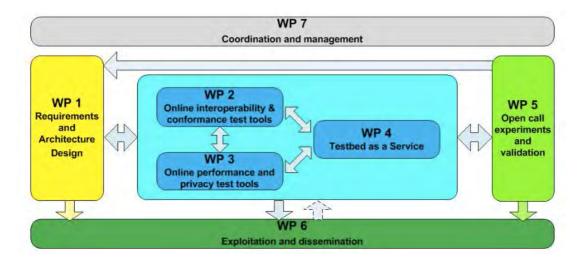


Figure 1: WP structure

In addition to promoting the Open Call and aligning it with the project's requirements and needs, the role of WP5 is to select the winning proposals, by evaluating them using clearly defined and transparent criteria, in line with the evaluation criteria procedures used by the European Commission for H2020 proposals.

WP5 ultimately maintains relations with selected proposals and third parties during the project delivery phase, by facilitating liaison with other project partners, monitoring the project's' achievements and helping to successfully deliver the expected outcomes.

1.2.2 Task Objectives

WP5 is composed of three Tasks, respectively Task T5.1 Open Call preparation, T5.2 Open Call performance and support, T5.3 End-user validation and impact assessment. T5.2 is dedicated to managing the submission process and selection of winning proposals, while task T5.3 is responsible for assessing the progress and impact of selected proposals. With Task T5.1 completed, Tasks T5.2 and T5.3 are currently in progress.

1.2.3 Deliverable Objectives and Methodology

The objective of Deliverable D5.2, Open call performance report, is to summarise the outcome of the first F-Interop open call, by providing details on open call timeline, the received proposals, the appointed assessors and the final selection of successful applicants for each project Category. This deliverable will also identify the factors influencing the limited number of Category C and D submissions, and mitigation strategies implemented to address the lack of such associated projects (hereafter referred as Industrial Experiments), including a second open call for Category C and D proposals.

2 Open call launch and promotion

During the submission period, the first F-Interop open call aimed to receive application for funding by third parties contributing proposals across four different categories:

- Category A New testing tools: The aim of Category A projects is to extend the F-Interop platform. F-Interop could select up to three (3) projects to develop new testing tools that extend the F-Interop capabilities, with funding up to €100K to the third parties and an additional €10K to an existing consortium partner supporting integration with the F-Interop platform. Requested funding covers SW development and HW/SW integration and provisioning of access to F-Interop testbeds. The outcome of this kind of projects will be new integrated testing tools available on the F-Interop platform.
- Category B New tests design: The aim of Category B projects is to extend the library of test descriptions and test scripts for protocols already covered by the current F-Interop platform while considering specific protocol functionalities currently not tested. F-Interop will select up to three projects to develop (and subsequently perform) new interoperability tests designs and specifications based on F-Interop's existing framework. The requested budget would cover funding of €60k to selected third parties, and an additional €10K to an existing consortium partner to support integration with the F-Interop platform. This category aimed to target standardization communities including ETSI, IETF, ITU, IEEE and W3C. Funding would cover test design and HW/SW Integration into the F-Interop platform as necessary, in case devices not currently supported are required for testing purposes. The outcome of this kind of experiment is new test designs available on the F-Interop platform for further use by new users.
- Category C SME F-Interop assessment reports: The aim of Category C projects is to generate and provide feedback on usability of the current implementation of F-Interop platform and related tools. F-Interop will allocate ten grants of €10K each to SMEs to test the F-Interop platform and provide a written report on potential improvements. Funding covers testing on the F-Interop platform and preparation of a report. The outcome of this kind of experiments is a report detailing potential improvements to the F-Interop platform. The focus of the feasibility study should include, but is not limited to: understanding the simplicity of use and effectiveness of the proposed tools, while simplifying access to conformance, interoperability and performance online tests, and replicating the experience of physical, face-to-face tests session. A description of the report requirements and expected content, and a set of detailed questions will be agreed with the F-Interop consortium. A close interaction between third parties and project partners is expected in order to share feedback and implement suggested improvements.
- Category D Plugtest Events: The aim of Category D projects is to extend F-Interop platform outreach to a larger number of communities, and to foster initial adoption of the platform. F-Interop will select one or more third parties to conduct up to three remote, online plugtest events. The objective of these events will be to involve relevant communities to adopt and provide feedback on F-Interop tools for technical and/or syntactical Interoperability tests. Up to €10K will be awarded to the selected third parties to run an event, and another €10K allocated to the consortium partner that supports the plugtest event. Funding would cover the planning, promotion and delivery of each event, the follow-up with a survey, and preparation of a report detailing the results of the entire tests phase conducted during the plugtest. The call considers the formal support of SDOs as a key factor of success.

Figure 2 summarises the overall F-Interop open call process.

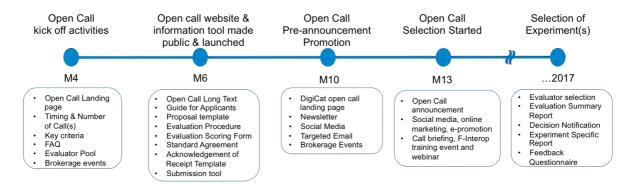


Figure 2: Open Call process

After initiating open call planning from month four, the F-Interop open call was formally launched on July 31st 2016 with the F-Interop portal accepting submission until January 25th 2017. During this time, the open call was publicised at the several physical events throughout 2016, where F-Interop consortium partners personally attended and present the call (see Table 1).

Date Location **Event Name** Net Future Apr (M6) Brussels IoT Week May-Jun (M7-8) Belgrade **EuCNC** Jun (M8) Athens **IETF** Jul (M9) Berlin Senzations Summer School Sep (M11) Warsaw IoT Meet-up Sep (M11) London & Guildford FIRE Forum Bratislava Sep (M11) Inter-IoT Oct (M12) **Paris**

Table 1: Open Call dissemination events

2.1 Online dissemination activities

During the open call submission period, in order to generate awareness a number of online promotion activities were undertaken, following the plan drafted in D5.1 (Open Call preparation report). A summary of such initiative is provided below.

From August 2016 to October 2016, the F-Interop consortium actively promoted the open call online using the following channels.

August, 2016

A link to the open call was promoted in issues of the following technical journals:

- IERC ML
- IEEE IoT TsC
- IEEE 5G TsC
- IEEE SDN-NFV TsC

Discussion were initiated in the following LinkedIn groups:

- IPv6 Forum (3450 members): https://www.linkedin.com/groups/153146
- IoT (76000 members): https://www.linkedin.com/groups/73311

- IPv6 (11000 members): https://www.linkedin.com/groups/91720
- IEEE IoT (4900 members): https://www.linkedin.com/groups/5148323
- Web of Things (2000 members): https://www.linkedin.com/groups/1818463
- Horizon 2020 (113000 members): https://www.linkedin.com/groups/164166
- IPSO (700 members): https://www.linkedin.com/groups/2461176
- UK IPv6 Council (400 members): https://www.linkedin.com/groups/8128401

The following newsletters were also used to disseminate information on the open call:

- IPv6 related lists:
 - o 5g-mwi-comsoc-subtc@ipv6forum.com
 - o comsoc-etc-sub-iot@ipv6forum.com
 - o ISG_IP6@LIST.ETSI.ORG
- AIOTI Interoperability Working Group:
 - o AIOTIWG3@list.etsi.org
- European Projects Clusters on Internet of Things
 - o ierc@internet-of-things-research.eu

October, 2016

A discussion thread titled, "700 K€ Open Call to submit IoT Test Tools, New test designs, SME F-Interop assessment reports and Plugtest Events" was launched in the following LinkedIn groups:

- Information Technology Professionals ★ Cloud ★ Mobile ★ Big Data ★ IoT ★ Agile Scrum Lean ★ IT Jobs – https://www.linkedin.com/groups/3732032 (158344 members)
- Telecoms Professionals: IoT, LTE, M2M, OTT, Internet of Things, Mobile, Telecom https://www.linkedin.com/groups/23013 (534188 members)
- IoT Internet of Things, M2M, Smart Cities, Connected Home, Car & Industry, mHealth and Wearables https://www.linkedin.com/groups/8356116 (50858 members)
- Internet of Things (IoT), Virtual Reality (VR) + Augmented Reality (AR) Innovators Network https://www.linkedin.com/groups/2093378 (29,764 members)
- IEEE Internet of Things https://www.linkedin.com/groups/5148323 (5,439 members)
- Wearable / IoT https://www.linkedin.com/groups/1794802 (27,844 members)
- IoT Security https://www.linkedin.com/groups/4807429 (7,201 members)

According to the number of users registered on the above lists and groups, we estimate that the online promotion of F-Interop Open Call may have reached up to 500K potential interested individuals.

2.2 Open call promotion stats

Figure 3: Interactions per published content shows statistics collected between July 2016 and January 2017 related to social media promotion of the F-Interop open call performed by Digital Catapult. Promotional statistics were measured in terms of reaction to posts in the official project Twitter, LinkedIn and Facebook channels, as well as visits to the F-Interop open call website.

Interactions per published content

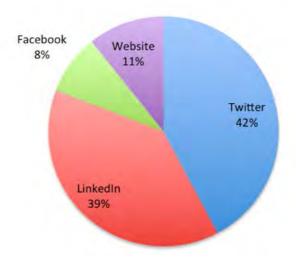


Figure 3: Interactions per published content

As shown in *Figure 3: Interactions per published content*, LinkedIn and Twitter generated the most engagement and interactions, thus confirming that most of the professional interests in the F-Interop project and open call can be leveraged through these channels.

3 Open call evaluation process

On open call application closure, a total number of 33 submissions were received. Duplicates generated from applicants' ability to update their previous submission were identified, and the most recent version of each submission was selected for evaluation. As result, a total of 25 proposals were identified for evaluation.

After an initial check, one submission was found to be empty (CrossWoT), the applicants were contacted to verify their intention, and the submission finally withdrawn from the pool of those evaluated.

3.1 Open call submissions analysis

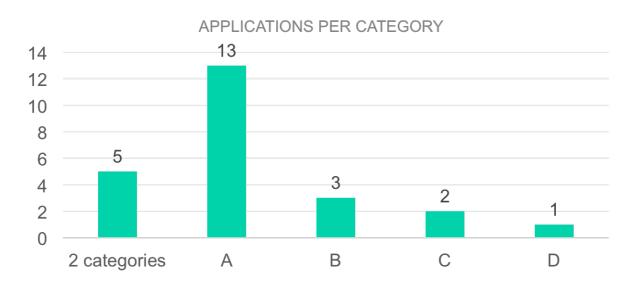


Figure 4: Open call applications breakdown

Figure 4 provides a breakdown of applications received for each Open Call Category (A, B, C and D). Five applications specified two categories for their submission, one primary and one secondary. Of these, two proposals selected Category A and C, two A and B, and one selected C and D.

It worth noticing that the majority of the proposals addressed Category A, most likely due to the larger amount of funding available, perceived as a higher incentive for applicants to develop their ideas and solutions. In addition, Category A was perceived as the most flexible, because based on the F-Interop architecture implemented at the time, creation of additional tools allowed to explore different innovation dimensions. The second most selected Category was B. This is because the published technical deliverables provided enough clarity for applicants on the existing platform development, as well as currently supported tools and protocols, which applicants could leverage for their proposals.

Categories C and D received the least number of submissions. We believe that this was due to the ambiguity around F-Interop platform functionalities that could be tested or leveraged during plugtest events, thus leaving uncertain applicants on the possible outcome of their proposals. In addition, the limited available budget of €10K could have been perceived as an insufficient incentive for SMEs as compared to the project risks and the required work.

Additional details on the received applications are discussed under Section 4, Open call applications breakdown.

3.2 Open call submissions evaluation

Selection of the assessors began after open call closure. An initial list of 42 assessors was created by collecting recommendations from project partners. Subsequently, the different assessors were organized based on their country of residence, EU or non-EU status, current affiliation, Academia or Industry, as well as their existing links with standardization activities and other organizations relevant to F-Interop project ambitions and exploitation plans. Each consortium partner was then requested to vote for its preferred assessors. Assessors with the highest number of votes were contacted to ascertain their availability to undertake the review process. A total of eight potential assessors were contacted to verify their interest and availability to participate to the review process.

A final pool of four open call assessors were identified and formally contacted for appointment on **February 1**st, **2017.**

The following assessors were selected and appointed.

Table 2: List of appointed assessors

Assessor Name	Bio	Country	Contact details
Peter Van der Stock	Expert in Internet based network for building control – IETF ROLL cochair	Netherlands	consultancy@vanderstock.org
Danny Hughes	Prof. at KU Leuven and CTO of VersaSense	Belgium	Danny.Hughes@cs.kuleuven.be
Maria Ines Robles	Guest Researcher at Oy LM Ericsson Ab Finland – Finland Computer Networking and ROLL co-chair at IETF	Finland	mariainesrobles@googlemail.com
Omar Elloumi	Leading IoT standards strategy whitin Nokia's CTO group and oneM2M TP Chair	France	omar.elloumi@nokia.com

Following acceptance by selected assessors to undertake review of F-Interop open call proposals, the following process took place during February 2017:

- We distributed the documentation pack to assessors, including:
 - o F-Interop Open Call Announcement
 - F-Interop Guide for Applicants
 - o F-Interop Do's and Dont's (providing a baseline of what can- and what cannot be done with the platform)
 - o Evaluation Form
 - F-Interop Template for Proposal
 - o F-Interop updated FAQs (with a link to the live version of FAQs, accessible here: http://www.f-interop.eu/index.php/open-call/open-call-faqs)
 - Requested Dissemination Activities
- We arranged briefing- and Q&A sessions over WebEx to explain the overall review process;
- We collected signatures for declaration of confidentiality concerning the contents of the proposals;
- We assigned and distributed electronic versions of the proposals between assessors, trying to match proposals to their expertise and interests as much as possible;
- We then received two evaluation reports signed by Assessors for each proposal;
- We assigned a rapporteur, responsible for producing a final report, to each proposal between the two assigned assessors by using the criteria of fair balancing and the rapporteur's best expertise/fit for the given proposal;
- We organized remote consensus meetings over WebEx on March 1st and 3rd, to let assessors bilaterally discuss and review provided evaluation reports for common proposals. As result, the appointed rapporteurs produced final consensus reports covering the evaluation and the final mark agreed during the consensus meeting;
- We finally collected consensus reports for each proposal, each one signed by two reviewers during the first week of March 2017;
- Evaluation process results were discussed during the F-Interop project meeting held in Paris on March 9th and 10th, where the final ranking and decision on proposals recommended for acceptance was made (see Section 4.2, List of selected proposals, for details);
- Ultimately, we compiled and submitted a report documenting the whole open call process, a list of proposed candidates and their proposals for acceptance to European Commission Project Officer for review on March 31st, for final approval of selected proposals;
- Following Project Officer approval, we communicated the final results and select projects to the respective applicants on **May 18**th **2017**.

Figure 5: Open Call evaluation timeline shows the different milestone dates for the evaluation of the open call.

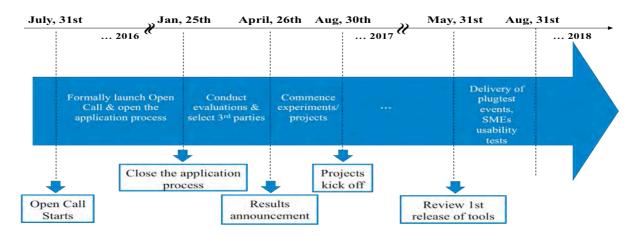


Figure 5: Open Call evaluation timeline

4 Open call applications breakdown

The section below provides details on received proposals, explanations of the selection process and a final list of selected projects.

4.1 List of received proposals

Table 3 provides a list of all proposals received during the open call, including the relevant proposal countries, the category of applications, and the assigned assessors. We assigned assessors to proposals based on assessors' expertise and preferences, while trying to maximise the number of proposal assigned to the same pair of assessors, thus simplifying the subsequent organisation of consensus meetings.

Table 3: List of received proposals

	-	_			
Proposal	Country	Category	Full Title		
Battery United Kingdom		Α	Benchmarking, Analysis and Testing Tools for Energy-efficient Resource- constrained sYstems		
CFF6 Tool	Belgium	А	F-Interop compliant Foren6 tool		
InteRPL	Luxembourg and Serbia	А	Interoperability Tests tool for RPL		
6LoRITT	France	А	6LoWPAN Remote online Interop Testing Tool		
PrivacyAnalyser	PrivacyAnalyser Greece and United Kingdom		A novel context-aware traffic analysis platform for IoT privacy assessment and reporting		
EIFFEL Spain		A	Extending F-Interop for remote real time energy consumption measurements, accurate timing and localization.		
FIFA	FIFA Portugal A		F-Interop Further Action on testing tools		
FIRE4Light France A		A	Remote Interoperability, Conformance, and Performance Tests for IoT Device Management and Data Collection		
		Semantic framEwork for oNline Interoperability and perfORmance Tests			

LIFT	Greece	А	Lora Interoperability F-Interop Testing
MQTT-Interop	Italy	Α	FIRE+ Integrated Testing Tool for MQTT
OMISIT	United Kingdom	А	Open Multi-stakeholder IoT Systems Interoperability Testing
TrustedTest	United Kingdom and Netherlands	А	A resource selection tool for Trusted Testing
SemTest	France	A, B	Semantic compliance and interoperability testing tools
SPOTS	Montenegro	A, B	IETF Security Protocols Test Suites
ACE Test	Spain	В	Privacy-enhanced tokens for authorization in constrained environments protocol test design
F-LoRa	Spain	В	Augmenting F-Interop with support for LoRaWAN
Cogni-IoT	Greece	В	Cognitive Internet of Things Design Test
RCT-FI	Denmark	B, C	Regulatory compliance test design for F-interop
TASTE	United Kingdom	B, C	Testing as a Service – Testcase Extensions
IoT-TRAGITTO	Italy	С	IoT-compliant TRAffic Generation and testIng through F-InTerop Testbeds and toOls
INTEREST	Greece	С	INTERoperability tESTing on F-INTEROP platform assessing Quality of Service (QoS) and Quality of Experience (QoE)
ТЕМВА	Finnland	C, D	Testing SDN mobile backhaul management using OpenFlow
SORT	Luxembourg	D	6TiSCH Online Remote interoperability Tests

CrossWoT	Spain	Empty submission - withdrawn	

Proposals received during the F-Interop open call spanned 13 EU countries:

- United Kingdom
- Belgium
- Luxembourg
- France
- Serbia
- Spain
- Italy
- Greece
- Portugal
- Denmark
- Montenegro
- Finland
- Netherlands

Received applications requested a total amount of funding equal to €1,837,000.00 million, with average proposed project duration of 8.95 months. Proposals requested support from F-Interop partners including INRIA, Digital Catapult and ETSI, predominantly to access expertise and infrastructure deployed at the FIT IoT-Lab testbed.

4.2 List of selected proposals

During the F-Interop project meeting held in March 2017 in Paris, the consortium reviewed all assessed proposals by taking into account final assessors review scores and recommendations, and selected the final proposals to be accepted and recommended for Project Officer approval in each open call category.

For each category, Digital Catapult produced a list of ranked proposals, in order to facilitate discussions among the consortium partners, and to understand if any proposals should not have been selected despite their high mark.

The partners agreed to first accept all the highest ranked proposals for each category, although for one, further clarifications were requested.

As part of the validation of the final ranked list produced by assessors, the F-Interop consortium identified the following Principles to be agreed by applicants of selected proposal:

- 0. Before the starting of the Industrial Experiment Third Parties agree to clearly state the problem their solution will solve, the expected impact and to revise the total budget to comply with the requirements of the assigned project Category;
- 1. Third Parties agree that developed Software will be open source and available for the project Beneficiaries on the F-Interop GitHub;
- 2. Third Parties agree that previously developed Software and Intellectual Property are owned by Third Party but access to new Software using it and developed during the course of the

Industrial Experiment is free for F-Interop Beneficiaries and guaranteed after completion of the Industrial Experiment;

- 3. Third Parties agree that Software and other tools previously developed and integrated with the F-Interop platform during the Industrial Experiment will be made available and maintained as dedicated new instance deployed within the F-Interop platform and Beneficiaries control (e.g. no access as a service will be offered);
- 4. To avoid overlap and increase complementarity of developed Software and tools, all Beneficiaries and Third Parties agree to share and regularly discuss, review and adapt development requirements;
- 5. All Beneficiaries and Third parties agree that any F-Interop users' personal data will be processed according to the existing EU regulations.

The same principles were also amended and embedded in the "Standard Industrial Experiment Contract", which winning applicants were requested to accept and sign.

The consortium also identified additional proposals to be selected, in case any of those selected during the first round should fail to comply with the requested principles or to agree to any other clause present in the requested contract. All second-choice proposals followed the highest score selection criteria.

With exception of Category C, where all proposals fell below threshold and no proposal was selected, the proposals selected in the first round were as follows:

Category A

F-Interop consortium agreed to select with no reservation the three highest scoring proposals Fire4Light (16.5), Privacy Analyser (16) and 6LoRITT (15.5).

All selected Category A proposals agreed to, and signed the Standard Industrial Experiment Agreement.

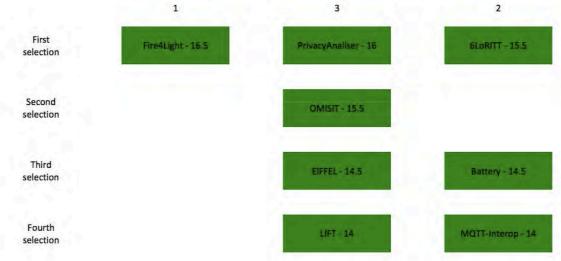


Figure 6: Category A: proposals selection path

Figure 6 reflects the ranking order assigned by the assessors. While the first three highest scoring proposals were clearly identified, additional consideration were made for those on the reserve list. Despite the same score, the F-Interop consortium agreed to give priority to EIFFEL (14.5) over Battery (14.5) in light of the explicit involvement of an SME (with respect to the university-led Battery

proposal) and due to the expected larger impact EIFFEL would create within the 6TiSCH community, for which the applicants had already developed and sold the reference testing hardware. On the other hand, the Battery proposal appeared to have a more academic focus with consequentially more limited exploitation opportunities.

Additionally, the F-Interop partners preferred LIFT to MQTT-Interop due to its expected impact which would target the Low Power Wide Area Network (LPWAN) community currently under growing expansion, and central in many standardization activities. Conversely, they deemed the MQTT community as a more mature, therefore requiring less support in terms of standardization activities.

Category B

Following the assessors' evaluation and ranking, the F-Interop consortium agreed to select the highest scored proposals for Category B: SPOTS (15), and SemTest (14).

Despite assessors' assessment which highly ranked *RCT-FI* (15), after discussions, the F-Interop partners expressed the following concerns about the proposal fits with F-Interop platform and ambition (see **Figure 7**).

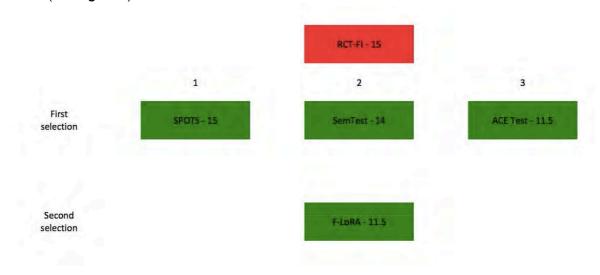


Figure 7: Category B: proposals selection path

The RCT-FI proposal aimed to develop a procedure for running physical tests, thus complementing with interoperability and performance tests. This required providing integration efforts with F-interop platform, handling the execution of the physical tests for one pre-selected device in a testing facility (this includes booking slots in test facilities, etc.), and providing a test analysis and setup document of the whole experience.

The physical tests would have included exposure of the devices to heat, cold and electromagnetic interference while at the same time executing a set of interoperability and performance tests (using tests provided by F-Interop platform). The RCT-FI project would not have provided tools for executing tests in the future, but would have identified a framework on how other testing factories could do the same.

As noticed by the assessors, this proposal would have brought a new positive dimension by providing a *new type of tests which are not yet covered by F-Interop* project. However, the F-Interop partners also identified several weaknesses in the proposal, possibly unclear to the assessors due to their limited involvement in the project. In particular, the following concerns were raised:

 Physical tests are currently out of scope of F-Interop's main objectives (as reported in the Open Call announcement);

- The proposed tests could not be executed online & remotely, which is the main ambition of the F-Interop project;
- Tests would not be executed within the F-Interop platform, and devices would have needed to be shipped to third party facilities to run the specified tests;
- F-Interop users would have been requested to pay for running tests in the external facilities;
- Sustainability of the model was not clear: e.g. would applicants continue providing such tests beyond the end of this project? At which cost?

In sum, even though physical tests are important for products before market launch, these types of tests are out of F-Interop scope, particularly as the proposed testing model required users to pay for tests. In addition, as no development of new software was envisioned in such proposal, the **F-interop partners proposed an exception to the rank created by the assessors and did not accept RCT-FI, despite its high mark.** This was ultimately communicated to RCT-FI proposers, who accepted the decision without dispute.

To replace RCT-FI (marked in red), F-Interop partners recommended selecting the next highest ranked proposal, *ACE Test* (11.5). ACE Test was preferred over the F-LoRA proposal as it addressed security standards, and as it leveraged and extended protocol suites already provided by the F-Interop platform. However, the consortium agreed to put *F-LoRA* (11.5) on the reserve list and to select it if ACE Test was unable to comply and agree to the Standard Industrial Experiment Contract. This was in fact case, as ACE Test proposers found specific Standard Industrial Experiment Agreement clauses too strict for them to sign.

Category C

As all Category C proposals scored under the threshold, the consortium agreed not select any applications for this category at time of evaluation, but instead evaluate the re-opening of a second open call for this category of proposals.

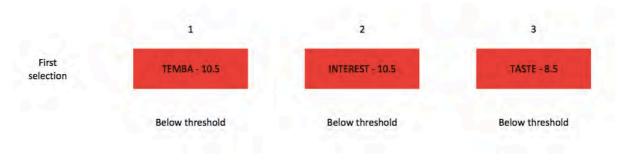


Figure 8: Category C: proposals selection path

Category D

For Category D, F-Interop received two proposals, out of the three for which the open call had available funding. While one of these proposals *TEMBA* (10.5) scored below the threshold, the first *SORT* (16.5) was one of the highest ranked proposals across all categories. The consortium agreed to select SORT, with only one request from the INRIA and ETSI partners to verify suitability of their required support within the €10K available budget.



Figure 9: Category D: proposals selection path

Summary

In summary, the consortium proposed to select three projects each for Category A and B, covering the total number of grants available (three for each category), none for Category C out of the ten available category grants, and one for Category D out of the three available category grants. The projects proposed for selection covered 6 EU countries, and a total of €568K in support. The average expected duration of the selected projects was 9.1 months. The following proposals were recommended to the Project Officer for acceptance:

Table 4: Summary of selected proposals

Category	Proposal	Abstract
A	Fire4Light (16.5) Coordinator: Sensinov, CNRS	While much attention when deploying architectures and protocols for IoT went to data collection and exchange, all major stakeholders are acknowledging device management for IoT could to be a deal maker or breaker for large scale deployments. As several IoT devices are expected to be deployed for several years, one cannot expect those devices to run the same version of firmware, software nor the same applications. Also, security for IoT devices is known to be a <i>moving target</i> , forcing IT departments to keep-up with security threats by upgrading the software for security algorithms on a regular basis.
	Budget: 100K	Security and device management must go hand-in-hand.
	Duration: 10M	With those requirements in mind, the Open Mobile Alliance (OMA) specified a protocol known as Lightweight M2M (LWM2M). Optimized for constrained devices, LWM2M is predicted to provide a great role in IoT because it is the only protocol, to date, that could be used for both device management (software/firmware upgrade, performance/fault management) as well as for data exchange. Several large and small industry players have announced formal support for LWM2M, additionally a LWM2M interworking with oneM2M has been formally specified (link), making LWM2M a perfect complement to F-INTEROP tools. Building on top of stable developments in the IETF such as CoAP and DTLS, LWM2M has the capability to provide convergence for device/gateway protocols where data collection, device management and security are an integral part of the same protocol for both constrained and nonconstrained devices.
		This submission is aiming at extending the capabilities already developed by F-INTEROP by supporting an emerging technology for IoT device management and semantic interoperability, namely OMA LWM2M protocol extended with IPSO (IP for Smart Objects) data model. On the one hand, LWM2M protocol provides an efficient device management and data exchange solution suitable for

		constrained devices. On the other hand, IPSO Smart Object model offers semantic Interoperability.
		Sensinov and LAAS-CNRS propose to develop F-Interop core platform northbound APIs (Testing Tools APIs) and southbound API (Implementation Under Test APIs) for LWM2M and IPSO Smart Object. The F-INTEROP methodology used for CoAP and 6Tisch testing tools will be leveraged and extended as needed.
A	PrivacyAnalyser (16) Coordinator: ModioComputin g, GR Budget: 98,489.00 Duration: 10M	The F-Interop platform offers an advanced service for testing innovative IoT applications and/or services, a large class of which deal with personal data and must be tested for compliance with privacy requirements, before they can successfully penetrate the market. Towards this goal, recent privacy guidance for IoT security testing has been proposed by organisations, including OWASP, the GSM Association, and OneM2M. However, guidance regarding confidential information disclosure, one of the most alarming privacy threats, has not been instantiated nor implemented in real IoT testing environments. That is, existing methods either assume static data, which makes them unsuited for these environments, or focus on the prevention of other privacy threats. Therefore, we propose the design and implementation of PrivacyAnalyser, a framework to help F-Interop users, such as experimenter SMEs, assess the privacy strength of their applications and/or services against confidential information disclosure. PrivacyAnalyser will be integrated with the F-interop testing framework, to enable: (i) automatic detection and classification of confidential data from streaming data collected from experiments, (ii) evaluation of the level of privacy protection offered by encryption, de-identification, and anonymisation, (iii) option for users to express their preferences, regarding information that is deemed as confidential, through privacy policies, and (iv) visualisation of the outcomes of the privacy tests using intuitive and informative User Interfaces (UIs). To offer such functionality, the project will develop methods based on machine learning, Big Data analytics, and web-based visualisation, using a light- weight edition of Qiqbus, our commercial platform for large-scale machine learning and analytics for streaming data. The uniqueness of PrivacyAnalyser will promote its integration into existing commercial products targeting IoT service or application providers.
A	6LoRITT (15.5)	One of the big challenges for Internet of Things market development is to ensure interoperability at all levels: technical, syntactic and semantic. Jari Arkko, chair of the IETF, wrote on his blog not a long time ago: "Without interoperability, lights won't work with the switches, sensors can't be read by your smartphone, and devices cannot use the networks around them." [1].
	Coordinator: KEREVAL, FR Budget: 100K Duration: 10M	Additionally, the evolution of the Internet of Things (IoT) cannot avoid using IPv6. In this way, 6LoWPAN (IPv6 over Low Power Wireless Area Networks) is essential for the IoT devices as it "breaks down the barriers to using IPv6 in Low-Power, processing-limited embedded devices over low-bandwidth wireless networks" [8]. This proposal aims to extend F-Interop with a new testing tool for 6LoWPAN interoperability testing and envisions:(1) Boost RFC adoption and technical interoperability between 6LoWPAN implementations and products;

(2) Provide reassurance to the vendors and implementors using 6LoWPAN when assessing the readiness of their products before being launched to the market; We believe that this proposal will extend F-Interop to one of the key protocols of the IoT wireless communications solutions, and it will have an enormous impact on the adoption of 6LoWPAN among products on the market. More specifically, KEREVAL will: update ETSI's test specification for interoperability used for 6LoWPAN/6lo plugtests [9] develop new test scenarios using IETF working group(WG) new/updated documents, comply to the needs and requirements gathered from the WG and the 6LoWPAN community; develop and provide a new testing tool for 6LoWPAN interoperability testing; use an extensible design for 6LoWPAN testing tool which will allow extension to other underlying technologies; provide full integration to F-Interop platform, enabling remote and online execution of the tests; feedback F-Interop consortium, IETF communities, and other communities about state of the art on 6LoWPAN adoption and interoperability; To achieve this ambitious objective KEREVAL will designate for the associated tasks engineers which have a vast experience in interoperability conformance and testing, participation standardization processes, and development and maintenance of interoperability testing platforms. Security is the key to market adoption of a product and is the focus of В **SPOTS** ongoing standardization efforts around Internet of Things (IoT) within the Internet Engineering Task Force (IETF). With many (15)available standards to choose from, selecting the right ones is not an easy task. Existing standards, such as (Datagram) Transport Layer Security, have been around for a while and implementations were tested in the traditional manner. Novel standards, novel approach to **Coordinator:** testing. The SPOTS project targets a set of three carefully selected, University of now Internet-Drafts, standards by the time project starts: (1) Object Montenegro, ME Security of CoAP (OSCOAP), (2) 6TiSCH join and (3) Elliptic Curve Diffie-Hellman over COSE (EDHOC). Each Internet-Draft solves a **Budget:** 88K different technical challenge and is tailored to constrained IoT devices. Together, they make up a secured network stack, covering **Duration: 10M** message protection, secure enrollment, and key agreement. Developed in the scope of IETF CORE, IETF 6TiSCH and IETF ACE working groups, these standards under development have a large target audience. Generality of CORE and ACE guarantees that they will be used in a wide range of IoT products. For example, IETF 6TiSCH working group has already selected these solutions to make part of its architecture. Judging by the interest that they have raised so far, many will follow. Multiple implementations are well under way

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		and by the time SPOTS kicks off, they will be ready for conformance and interop testing. Traditional plugtest events have not been organized for any of the three standards making the case perfect for integration with the F-Interop platform. SPOTS will add support for conformance and interop testing of the three standards under development by: (1) designing currently unavailable, test descriptions covering the three protocols; (2) developing test execution scripts, as well as the necessary test analysis tools; (3) integrating a reference implementation of EDHOC with the F-Interop platform.
В	SemTest (14) Coordinator: EGM, FR Budget: 100K	Easy Global Market (EGM) a SME, together with Eurecom, a research centre, both involved in on-going standardisation activities in oneM2M and W3C are proposing the integration of new tools form semantic compliance and interoperability testing. This will build upon results obtained in other running FIRE projects (FIESTA, FESTIVAL) thus strengthening the F- Interop positioning in the FIRE ecosystem. Proposed tool will address syntactical and semantical validation and will propose new approaches for the not yet explored field of semantic interoperability testing. Once deployed within the F-Interop testbed, tool will be used in at least one interoperability event targeting oneM2M as well as W3C WoT
	Duration: 10M	interoperating event targeting onerizin as wen as wise wor
В		Network operators are starting to deploy horizontal M2M solutions to
	F-LoRA	cover a wide set of large scale verticals, using Low Power Wide Area
	(11.5)	Networking (LPWAN) technologies. Application domains include smart city, metering, on-street lighting control and precision
	Coordinator: Universitat Oberta de Catalunya Budget: 60K Duration: 12M	agriculture. LPWAN technologies combine low data rates and robust modulation to achieve a multi-km communication range. This enables simple star network topologies. The rise of LPWAN technologies is led by the LoRaWAN open standard, seen as the most simple and open technology. LoRaWAN is being massively adopted by sensor integrators and device manufacturers and exploited by network operators leveraging cellular network infrastructure. In addition, relevant standardization activities are starting around the technology, e.g., enabling IPv6 over LoRaWAN (IETF LPWAN WG) which will require conformance, inter-operability and performance evaluation frameworks to accelerate their development. To this end, we propose F-LoRa, an extension of the F- Interop platform to enable interoperability testing and conformance following the LoRaWAN specification. F-LoRa will augment the F-Interop platform by providing online conformance testing and interoperability capabilities. F-LoRa will implement the state machines and protocol specification to enable LoRaWAN devices to be evaluated against F-Interop or against other vendors/users using the F-Interop platform.
D	SORT	The principal barrier to massive IoT technology adoption is the lack of interoperability and the resulting segmented nature of the IoT market. To cope with this issue, ETSI has promoted the development.
	(16.5)	market. To cope with this issue, ETSI has promoted the development of interoperability events to enforce standard compliance and interoperability between different vendors. In the last years, ETSI has supported the emergence of the 6TiSCH technology, by organizing
	Coordinator:	three Plugtests, two of which were co-located with an IETF meeting,
	LIST, LU	to ease the participation of the IETF community. In fact, cost for travelling and participating to these face-to- face (F2F) events is one of the main issues that often inhibit IoT academic and industrial

Budget: 10K

Duration: 7M

players, especially SMEs to take part. The present proposal is perfectly in line with the F-Interop scope (i.e., to faster the validation of standard specifications and implementations, and cut related cost down). It proposes at organizing, with the support of ETSI and the involvement of Inria, two 6TiSCH Interop events. The first event will be still an on-site Plugtest, co-located with the IETF99 meeting in Prague, to ensure the participation of a large portion of the International community working on 6TiSCH, and it will serve as a high-bandwidth setting for testing the F-Interop platform and receive immediate feedback. Although participants will be sitting in the same room, the Plugtest will be run entire through the F-Interop platform. After the first event, the SORT consortium will gather feedback from the participants and feed this back to the F-interop core development team for fine-tuning the platform. A couple of months later, SORT will then organize a second 6TiSCH Interop event, this time fully remote. This combination of 2 Plugtests will be key in testing the platform at scale, and seeing it run in a real online setup.

4.3 Contract agreement

Based on the final list of selected proposals, initially produced by assessors, reviewed by the F-Interop consortium, and agreed by the Project Officer, applicants were contacted on May 18th, 2017.

Unsuccessful applicants were informed of the decision via email, along with the inclusion of the final assessment report produced by the assessors. Successful applicants were also notified and assessment reports were sent to them, together with copy of the Standard Industrial Experiment Agreement and request to confirm their interest to accept the funding.

All selected projects accepted the funding and agreed to sign the Standard Industrial Experiment Agreement provided. As mentioned above, the only exception involved the ACE Test project, for which applicants were unwilling to accept elements of the contract clauses. Unfortunately, as the Agreement was available to all applicants before application, and all the other successful projects agreed to sign it, it was not possible to accommodate further amendments. As result, the ACE Test proposers withdrew their application.

4.4 Ethical issues

No ethical issues were identified from any of the received proposals.

5 Second open call

5.1 Reasons for a second open call

Based on the above results, the first F-Interop open call can be considered successful for Category A and B proposals, both in terms of received applications and selected projects, and in terms of open call promotional activities working well to deliver a better understanding of expected contributions to applicants.

Because Category A required the development of additional tools, and Category B the extension of existing tools documented in publicly available project deliverables, it was easier for applicants to bid for projects in these categories, as they both offered applicants greater flexibility in their proposals. Additionally, with respect to efforts required to develop an application for these Categories, a larger amount of funding was available to support development of solutions, that are expected to increase the commercial offers of selected participants.

Conversely, Categories C and D received fewer applications despite the number of available grants (13 in total) and the higher chances of being selected. The majority of the received proposals presented below average quality submissions. We assume this could have been due to the early stage of the platform development roadmap at the time of the first open call. No proposals above the threshold were received for Category C, thus confirming a lack of sufficient engagement from applicants who understood what the platform could offer for testing at that stage. Thereby, and despite a lightweight application process, it was difficult for SMEs to propose relevant ideas in their proposals.

Consequently, 10 grants for Category C, and 2 grants for Category D remained unassigned. Of the original cascade funding budget, €120,000 remained available: €100,000 for category C applicants (€10,000 each for ten category C partners), and €20,000 for category D applicants (€10,000 each for two category D partners).

In order to redistribute the unspent budget for Categories C and D, the consortium began consideration of a second open call with a lighter application process for Categories C and D during the Paris plenary meeting on 9-10 March 2017. The second open call would need to be lightweight due to time and cost constraints; the consortium would otherwise need to request re-allocation of funding. During the M18 project review meeting on 4-5 July 2017 in Brussels, the consortium members and project officer agreed in principle to a second open call with lighter application process.

As result a new call for Categories C and D was launched on September, 7th 2017 and will remain open until December, 20th 2017.

To guarantee a good number of applications in Categories C and D, and leveraging the later stage of the project, with a more mature development of the F-Interop platform and its features, F-Interop partners agreed to improve communication around tools and elements available for testing, and available for use during plugtest events. Based on this, we hope to more clearly communicate to potential applicants what can be tested, and help better determine which communities can be engaged.

5.2 Open call planning and timeline

Due to time and cost constraints and to avoid reallocation of funding, F-Interop prepared a second, lighter Open Call. As F-Interop core platform development predominantly ends in M33 (July 2018), it was agreed that third party projects from a Second Call would need to be completed by 30th July 2018. Additionally, they would follow a continuous feedback-development cycle, allowing learnings

and feedback from third-parties to be incorporated into platform development before platform development is finalised on schedule.

The second open call commenced on 7th September 2017 for approximately three months, until 20th December 2017, with third-party project start for the second wave of projects anticipated from 30 March 2018. A summary of key dates for the second open call can be found in **Table 5: Second Call Milestones**, below.

Table 5: Second Call Milestones

Call Open Date	Call Close Date	Call Duration	Target Number of Applicants	Project Start	Project Finish	Project Duration
7 September 2017	20 December 2017	3.5 Months	Category C: 20 applicants Category D: 5 applicants	30 March 2018	30 July 2018	4 months

A full timeline for the second open call is summarised in **Table 6: Second Call Timeline**, below. In the event the second open call does not attract enough proposals by the December closing date, the call will be extended to 31 January 2018.

Table 6: Second Call Timeline

Month	Description	Date
M23	Second Open Call made public on website and launched	7 September 2017
M26	Close the application process for the Second Open Call	20 December 2017
M27	Second Open Call evaluation started	10 January 2018
M27	Second Open Call projects selected	29 January 2018
M29	Second Open Call projects started	30 March 2018
M30	Mid-term report on all selected Open Call projects	30 April 2018
M33	Selected second Open Call proposals implemented	30 July 2018

Proposal guidelines for the second Open Call were streamlined to Category C and Category D applicants respectively. The proposal template for the Second Call can be found in under Annex C: Proposal template for second open call.

Following Call close, two evaluators will be appointed utilising the first open call's assessors pool and evaluator ranking. Evaluators will spend up to three days reviewing proposals, with half a day for consensus building between evaluators. The consortium estimates the external evaluators can process up to 31 applications, based on the rate of review in the first Open Call, and given the streamlined application process. The second call evaluation form can be found under Annex D: Evaluation form for second open call.

5.3 Planned promotion activities

Running a second call requires coordination with partners in WP6. Dissemination of the second call will occur in partnership with the Lead Beneficiary for WP6, Mandat International alias Fondation pour la Cooperation Internationale (MI), and require cooperation from all consortium members to ensure dissemination within relevant partner countries.

Following Digital Catapult's proposal, the consortium agreed to the following dissemination activity for the second open call:

- Amend open call announcement in order to reflect the lightweight process for such submissions;
- Develop a more focused social media campaign targeting small and medium organizations as well as SDOs particularly active in this space;
- Leverage on dedicated mailing lists IETF, W3C, etc.;
- Produce one or more blog post by DigiCat in order to: present new tools developed by 1st Open Call Applicants (before M26, mid-term report); provide success stories from previously funded projects, in order to raise attention from future applicants; explain in more details what the second open call will expect from successful applications in order to better guide applicants.

Moreover, in order to facilitate engagement of possible applicants with F-Interop partners and comprehension of the project, the following activities were also agreed:

- Emphasise promotion events where F-Interop partners will be present to give more details
 on the call, both using our project website: http://www.f-interop.eu/index.php/open-call and
 using social media;
- Update the F-Interop website (tools section, http://www.f-interop.eu/index.php/tools-experiments) with currently available platform functionalities, and provide a summary table of different already integrated (or future) tools (with their expected available date), including those developed by third parties during the first F-Interop open call;
- Organisation of one or more meetups at Digital Catapult (and in supporting partners' premises) to demo current platform tools to SMEs and micro-entrepreneurs.

6 Future work

With all the projects from the first Open Call selected and contracts signed, WP5 activities are now focused on Task 5.3, monitoring and assessing the effective progress of each Industrial Experiment.

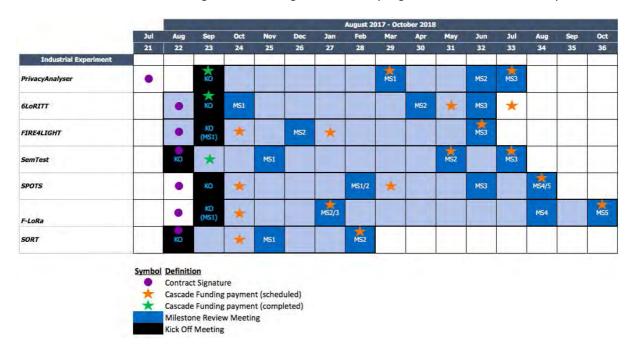


Figure 10: Timeline for selected Industrial Experiments

To initiate the task, individual Kick Off (KO) meetings were held for all selected industrial experiments during August and September 2017. During these, invoices for the first agreed cascade funding payment were requested, and payment was initiated for each project upon receipt.

During the KO meetings, the awarded projects presented their intended work, and the cascade funding partner (Digital Catapult) and supporting partners from the F-Interop consortium were introduced.

Table 7 below provides a summary of the experiments' supporting partner, responsible for assisting with clarification on any F-Interop platform-related use and integration issue, associated to each project.

	Cascade Funding Partner	Supporting Partner
Experiment		
Fire4Light	Digital Catapult	Université de Rennes (UR1)
PrivacyAnalyser	Digital Catapult	University of Luxembourg (UL)
6LoRITT	Digital Catapult	Université de Rennes (UR1)
SPOTS	Digital Catapult	INRIA
SemTest	Digital Catapult	Université de Rennes (UR1)
F-LoRA	Digital Catapult	INRIA
SORT	Digital Catabult	ETSI

Table 7: Summary of support for selected projects

Moreover, as part of the KO meetings, the designed monitoring and assessment process was also explained. Each project agreed to two to three milestone review dates as per the signed contract. Upon acceptance of specific milestones and associated deliverables, further payment(s) will be released. In preparation for each milestone review meeting, each project is required to complete a

progress report, termed 'Periodic Report', stating the progress of their work and any (if any) identified deviation from planned activities or need for additional support (see Annex E: Periodic Report Template). Ahead of the meeting, the progress report and the associated milestone deliverable are reviewed by the Cascade Funding and Supporting partners and discussed further during the meeting along with any additional technical issues.

More details on this process will be provided in D5.3 along with actual progress assessments of all the selected Open Call projects.

7 Conclusion

This deliverable discusses how the first F-Interop open call was organised, managed and successfully completed. It provides an introduction to how the selected projects approached their delivery phases, and begin to build additional functionalities for the F-Interop platform to benefit the community of users that the project is aiming to nurture.

It also identified how some of the envisioned exploitation activities and associated Category C and D proposals failed to be awarded. However, a number of lessons have been derived from the organisation of the first open call, and a number of mitigation strategies have been agreed with the consortium to successfully perform a second call to distribute the grants unassigned in the first stage and to facilitate the promotion and exploitation of the final F-Interop platform. In particular, additional promotion activities have been planned and liaising with other projects and initiatives in order to leverage each other communities will be implemented (e.g., IoT-EPI cluster, IoTTestware project).

The consortium is also confident that not only the identified actions, but also the more advanced project timeline and more mature platform state will facilitate the success of this second call, the timing of which seems to be more adequate now than the one originally planned.

This is in fact clear when Category A and B are considered as a mean to improve platform features and C and D as a vehicle to increase usability and exploitation.

8.1 Annex A – Standard Industrial Experiment Contract Template

F-Interop Standard Industrial Experiment Contract

This F-Interop Standard Industrial Experiment Contract for providing financial support to the Selected Third Party, hereinafter referred to as the "Agreement", is entered into by and between:

DIGITAL CATAPULT ("Cascade Funding Partner"), an organisation under the laws of England, having its registered office at Level 9, 101 Euston Road, London NW1 2RA herein represented by

And

... ("Selected Third Party"), an organisation under the laws of, having its registered office at ..., herein represented by ...

Hereinafter sometimes individually or collectively referred to as "Party" or "Parties".

Whereas UNIVERSITE PIERRE ET MARIE CURIE - PARIS 6 (UPMC), 0751722P, established in Place Jussieu 4, PARIS 75252, France, FR12197517220, IMINDS VZW (iMinds) VZW, 866386380, established in GASTON CROMMENLAAN 8/102, GENT 9050, Belgium, BE0866386380, INSTITUT EUROPEEN DES NORMES DE TELECOMMUNICATION (ETSI) FR3, 348623562, established in ROUTE DES LUCIOLES 650, SOPHIA ANTIPOLIS 06921, France, FR14348623562, EANTC AG (EANTC) AG, HRB73694, established in Salzufer 14, Berlin 10587, Germany, DE812824025, MANDAT INTERNATIONAL ALIAS FONDATION POUR LA COOPERATION INTERNATIONALE (MI) CH10, CH66010170041, established in RUE CHAMP BARON 3, GENEVA 1209, Switzerland, CH630909, as 'beneficiary not receiving EU funding', THE CONNECTED DIGITAL ECONOMY CATAPULT LIMITED (DigiCat) GB5, 07964699, established in LEVEL 9 101 EUSTON ROAD, LONDON NW1 2RA, United Kingdom, GB172793185, UNIVERSITE DU LUXEMBOURG (UL), J20, established in AVENUE DE LA FAIENCERIE 162 A, LUXEMBOURG-VILLE 1511, Luxembourg, LU19805732, INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET EN AUTOMATIQUE (INRIA), 18008904700013, established in Domaine de Voluceau, Rocquencourt, LE CHESNAY Cedex 78153, France, FR45180089047, and DEVICE GATEWAY SA (DG), CHE476490762, established in PARC SCIENTIFIQUE SITE EPFL PSE C, LAUSANNE 1015, Switzerland, as 'beneficiary not receiving EU funding' (hereinafter sometimes collectively referred as the "F-Interop Beneficiaries") participate in the H2020 project entitled "FIRE+ online interoperability and performance tests tools to support emerging technologies from research to standardization and market launch" (hereinafter the "F-Interop Project").

Whereas the F-Interop Beneficiaries entered into a Grant Agreement N° 687884 with the European Commission (the "Grant Agreement" or "GA") and signed together in 2015 a Consortium Agreement with respect to the F-Interop Project (the "Consortium Agreement" or "CA").

Whereas the F-Interop Project involves financial support to selected third parties through a cascade funding scheme (hereinafter "Cascade Funding").

Whereas further to an open call for a specific Industrial Experiment as described in Annex 4 "Specific Industrial Experiment Contract", the Selected Third Party has been selected to implement such Industrial Experiment.

Whereas the Selected Third Party will be in charge of the implementation of such Industrial Experiment with also the participation of those F-Interop Beneficiaries identified in Annex 4 "Specific Industrial Experiment Contract".

Whereas the Cascade Funding Partner is willing to provide financial support in the form of a lump sum to the Selected Third Party for the implementation of such Industrial Experiment and the Selected Third Party is willing to receive such funding under the terms and conditions of this Agreement.

Whereas in accordance with the Grant Agreement and the Consortium Agreement, the Cascade Funding Partner shall sign an agreement with the Selected Third Party compliant with the GA and CA.

Whereas the Cascade Funding Partner is responsible for the execution of this Agreement with the Selected Third Party.

Now therefore it has been agreed as follows:

DEFINITIONS

Words beginning with a capital letter shall have the meaning defined in the preamble of the Agreement or in this Section:

Access Rights means rights to use Results or Background under the terms and conditions laid down in this Agreement.

An **Affiliated Entity** of a F-Interop Beneficiary means:

any legal entity directly or indirectly Controlling, Controlled by, or under common Control with that F-Interop Beneficiary, for so long as such Control lasts; and

any other legal entity that is listed on an exhaustive basis in Annex 4 "Specific Industrial Experiment Contract" to this Agreement as being an Affiliated Entity of that F-Interop Beneficiary, where such legal entity is one in which that F-Interop Beneficiary (or a legal entity qualifying as an Affiliated Entity of that F-Interop Beneficiary under (a) directly above) has a 50% equity share or is the single largest equity shareholder.

For the above purposes, "Control" of any legal entity shall exist through the direct or indirect:

- ownership of more than 50% of the nominal value of the issued share capital of the legal entity or of more than 50% of the issued share capital entitling the holders to vote for the election of directors or persons performing similar functions, or
- right by any other means to elect or appoint directors of the legal entity (or persons performing similar functions) who have a majority vote.

Common Control through government does not, in itself, create Affiliated Entity status.

Agreement means this Standard Industrial Experiment Contract, together with its Annexes.

Background means any data, know-how or information – whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights – that:

- (a) is held by a Participating Partner before 1 November 2015, and
- (b) is Needed by another Participating Partner to implement its own tasks under the Industrial Experiment or to Exploit its own Results,

but solely to the extent that such data, information, know-how and/or intellectual property rights are introduced into the Industrial Experiment by its owner.

Exploitation or **Exploit** means the direct or indirect use of Results in (a) further research activities other than those covered by the Industrial Experiment, or (b) in developing, creating or marketing a product or process, or (c) in creating and providing a service, or (d) in standardisation activities.

Fair and Reasonable conditions mean appropriate conditions, including possible financial terms or royalty-free conditions, taking into account the specific circumstances of the request for Access Rights, for example the actual or potential value of the Results or Background to which Access Rights are requested and/or the scope, duration and other characteristics of the exploitation envisaged. To fall within Fair and Reasonable conditions, the conditions must also be non-discriminatory.

With respect to F-Interop Beneficiaries which are Non-Profit Organisations considering their specific positioning, "appropriate conditions" means that, if requested by such Non-Profit Organisations, they will receive a financial compensation in case of direct or indirect industrial or commercial exploitation of their own Results.

Feedback means, in the course of or in connection with the Industrial Experiment, all comments, ideas for improvements or for modifications, information about use and performance, suggestions or other feedback from any Party or the Selected Third Party regarding a Participating Integration Partner's or its Affiliated Entities' products or technology used in the Industrial Experiment.

Financial Support means the lump sum to be paid by the Cascade Funding Partner to the Selected Third Party for the implementation of the Industrial Experiment as detailed in Annex 4 "Specific Industrial Experiment Contract".

Industrial Experiment means the experiment detailed in Annex 4 "Specific Industrial Experiment Contract" to be carried out by the Selected Third Party, with the objective to develop an innovative testing tool or test design or assessment reports or plugtest events using F-Interop platforms and competencies.

Participating Partners means the entities and organisations participating in the Industrial Experiment, as listed in Annex 4, being: (a) the Selected Third Party, (b) the Cascade Funding Partner, (c) the Participating Integration Partner and (d) the Participating Support Partners identified in Annex 4.

Industrial Party means a F-Interop Beneficiary which is not a Non-Profit Organization.

Intellectual Property Rights Policy means the Policy set out at Section 5 of this Agreement.

Internal Review Committee means that sub-group of F-Interop Beneficiaries that perform the roles of Participating Support Partners for the Industrial Experiment review and approve the deliverables and associated milestones of the experiments to allow payments.

Needed means in respect of executing or carrying out the Industrial Experiment, and/or in respect of Exploitation of Results, technically essential and:

- (a) where intellectual property rights are concerned, that those intellectual property rights would be infringed without Access Rights being granted under this Agreement;
- (b) where Confidential Information is concerned, only Confidential Information which has been disclosed during the Industrial Experiment may be considered as technically essential, except as otherwise agreed in writing between the Participating Partners.

Non-Profit Organisation means a legal entity that is by its legal form non-profit-making or has a legal or statutory obligation not to distribute profits to its shareholders or individual members.

Participating Integration Partner means the F-Interop Beneficiary identified in Annex 4 as the Participating Integration Partner for the specific Industrial Experiment. As of 1 November 2015, the potential Participating Integration Partners may be one or more of the F-Interop Beneficiaries.

Participating Integration Partner Product Information means, in respect of the products or technology of a Participating Integration Partner or its Affiliated Entities and used in the Industrial Experiment, (a) all Feedback regarding such products or technology and (b) all other information falling within the Results, concerning the use (including without limitation the environment and context in which it is used, and the other components with which it is used), performance or characteristics of such products or technology.

Participating Support Partner means the F-Interop Beneficiary identified in Annex 4 as a Participating Support Partner for the specific Industrial Experiment, and as selected by the consortium on a case per case basis, in order to provide the best matching of expertise and support needed. As of 1 November 2015, the potential Participating Support Partners may be one or more of the F-Interop Beneficiaries.

Results means any tangible or intangible outputs of the Industrial Experiment, such as data, knowledge and information whatever their form or nature, whether or not they can be protected, which are generated in the Industrial Experiment, as well as any rights attached to them, including intellectual property rights.

CONDITIONS FROM THE GRANT AGREEMENT AND THE CONSORTIUM AGREEMENT REFLECTED IN THE AGREEMENT

The Cascade Funding Partner receives funding from the European Commission for organizing the Industrial Experiment. Under the F-Interop Grant Agreement or the Consortium Agreement, some of the obligations have to be imposed on the Selected Third Party. Those obligations are reflected in this Agreement. The specific obligations that the Selected Third Party must ensure described in the Grant Agreement are reproduced in Annex 1.

The Selected Third Party acknowledges and agrees that these obligations comprised in this Agreement are fully applicable to it and shall do everything that is necessary to comply with these obligations, it being understood that the Selected Third Party is only bound by this Agreement and not by the GA or CA.

TERMS AND CONDITIONS

The Selected Third Party shall take part in the Industrial Experiment in accordance with the state of the art.

The Selected Third Party shall carry out the tasks according to the schedule set forth in Annex 4 "Specific Industrial Experiment Contract" at the latest and shall report to the Cascade Funding Partner on the activities' progress in regular intervals as indicated in Annex 4 "Specific Industrial Experiment Contract".

Such technical reports based on the reproduced in Annex 2 shall contain detailed information on the results generated by the Selected Third Party.

In consideration of the Industrial Experiment performed in compliance with this Agreement the Cascade Funding Partner shall pay Selected Third Party the Financial Support., within the limits and in accordance with the schedule of payments specified in Annex 3 "Specific Industrial Experiment Contract".

The Cascade Funding Partner will transfer the amount of the Financial Support to the Selected Third Party on the basis of (i) a written payment request by the Selected Third Party to be sent to the Cascade Funding Partner together with an invoice in accordance with the schedule set forth in Annex 4 "Specific Industrial Experiment Contract" and (ii) a decision of the Cascade Funding Partner for awarding the amount to the Selected Third Party, provided the terms and conditions of this Agreement are complied with, in particular after the written validation by all of the Participating Support Partners of the corresponding deliverable(s) identified in Annex 4 "Specific Industrial Experiment Contract". The payment shall be made as indicated in Annex 4 "Specific Industrial Experiment Contract" after the written validation of the payment request by the Cascade Funding Partner however always provided that the conditions listed in this Section 3 are met by the Selected Third Party.

LIABILITY

Notwithstanding any terms of this Section 4, or any other terms of this Agreement (including its Annexes), each Party hereby agrees and acknowledges that this Section 4 does not apply to the liability of the Participating Integration Partner(s), as this liability is dealt with at Section 6 below ("Participation of Integration Partners").

The Selected Third Party shall comply with all applicable laws, rules and regulations, including, but not limited to safety, security, welfare, social security and fiscal laws, rules and regulations.

Selected Third Party shall not be entitled to act or to make legally binding declarations on behalf of the Cascade Funding Partner or any other F-Interop Beneficiary and shall indemnify all of the latter from any third-party claim resulting from a breach of these obligations.

The contractual liability of the Cascade Funding Partner under this Agreement shall in any case be limited to the Financial Support paid to the Selected Third Party. The Cascade Funding Partner shall not in any case be liable for any indirect or consequential damages such as:

loss of profits, interest, savings, shelf-space, production and business opportunities;

lost contracts, goodwill, and anticipated savings;

loss of or damage to reputation or to data;

costs of recall of products; or

any other type of indirect, incidental, punitive, special or consequential loss or damage.

This limitation of liability shall not apply in cases of wilful act or gross negligence.

The Selected Third Party shall fully and exclusively bear the risks in connection with the Industrial Experiment for which the Financial Support is paid by the Cascade Funding Partner. The Selected Third Party shall indemnify the F-Interop Beneficiaries—and the Cascade Funding Partner for all damages, penalties, costs and expenses which the F-Interop Beneficiaries or the Cascade Funding Partner as a result thereof would incur or have to pay to the European Commission or any third parties with respect to such Industrial Experiment financially supported and/or for any damage in general which the F-Interop Beneficiaries or the Cascade Funding Partner incur as a result thereof. In addition, should the European Commission have a right to recovery against the Cascade Funding Partner or another F-Interop Beneficiary regarding the amounts paid under this Agreement, the Selected Third Party shall pay the sums in question in the terms and the date specified by the Cascade Funding Partner. Moreover, the Selected Third Party shall indemnify and hold the F-Interop Beneficiaries and the Cascade Funding Partner, their respective officers, directors, employees and agents harmless from and against all repayments, loss, liability, costs, charges, claims or damages that result from or arising out of any such recovery action by the European Commission.

In respect of any information or materials (including Results and Background) supplied by one Party to another Party or to a F-Interop Beneficiary, or by a F-Interop Beneficiary involved in the applicable Industrial Experiment to a Party, no warranty or representation of any kind is made, given or implied as to the sufficiency, accuracy or fitness for purpose nor as to the absence of any infringement of any proprietary rights of third parties.

Therefore,

- the recipient, shall in all cases be entirely and solely liable for the use to which it puts such information and materials (including Results and Background), and
- there is no liability in case of infringement of proprietary rights of a third party resulting from any Access Rights.

INTELLECTUAL PROPERTY RIGHTS POLICY

The Selected Third Party acknowledges the terms of the "Intellectual Property Rights Policy" defined hereinafter. The Selected Third Party agrees that it will comply with the Intellectual Property Rights Policy to ensure that the Cascade Funding Partner will always be able to comply with such terms towards the other F-Interop Beneficiaries.

5.1 General Principle regarding Ownership

Results are owned by the Party or by the F-Interop Beneficiary that generates them.

5.2 Joint Results

As requested in the Consortium Agreement signed between the F-Interop Beneficiaries, among which the Cascade Funding Partner, if, in the course of carrying out the Industrial Experiment, a Result is generated by the Selected Third Party with one or several F-Interop Beneficiaries or their Affiliated Entities (the "Contributors"), and if the contributions to or features of such Result form an indivisible part thereof to the extent that none of the said Contributors could reasonably claim full ownership of this Result, such Result shall be jointly owned by them in equal shares, unless differently agreed by the Contributors.

Where such joint Result is covered by intellectual property rights, the Contributors shall execute a joint ownership agreement regarding the allocation and the conditions of exploitation of the joint Result as soon as possible. They shall do all their best efforts to execute such joint ownership agreement at the latest six (6) months after the beginning of the industrial or commercial exploitation of such joint Result.

The Contributors shall agree on all protection measures, on their joint ownership shares and on the division of related costs in a joint ownership agreement to be negotiated.

Unless otherwise agreed in the joint ownership agreement:

- each of the Contributors shall be entitled to use their jointly owned Results for internal research activities on a royalty-free basis including for internal educational activities, and without requiring the prior consent of the other Contributors subject to confidentiality obligations, and
- the Contributors shall be entitled to otherwise exploit the jointly owned Results and to grant non-exclusive licenses to third parties (without any right to sub-license), if the other Contributors are given:
- (a) at least 45 calendar days advance notice; and
- (b) Fair and Reasonable compensation.

With respect to the "Fair and Reasonable compensation" due to the F-Interop Beneficiary which are Non-Profit Organisations, considering their specific positioning, "Fair and Reasonable compensation" means, if requested by such Non-Profit Organisations, that they will receive a financial compensation in case of direct or indirect exploitation of joint Results.

The Parties expressly agree herein that in case of joint ownership between Industrial Parties, such Industrial Parties are entitled to directly Exploit their joint Result without asking the other Industrial Parties' approval and without paying any compensation to the other Industrial Parties.

5.3 Access Rights

Each Party hereby agrees and accepts that this Section 5.3 does not apply to any Participating Integration Partner.

For the purpose of this article 5.3, Background shall mean the Background as listed in the Specific Industrial Experiment Contract and validated by the Participating Partners for the concerned Industrial Experiment.

Access Rights to Background and Results may be requested by the Selected Third Party only from a the Cascade Funding Partner only if the following conditions are fulfilled:

The Selected Third Party Needs such listed Background for implementation of its tasks in the Industrial Experiment. Where this is the case, the Selected Third Party will have Access Rights to that Background for the duration of the Industrial Experiment on royalty-free basis, solely to the extent Needed to implement its tasks in the Industry Experiment;

Due to provisions of the consortium agreement signed between the F-Interop Beneficiaries, Access Rights to Background and Results may be requested by the Selected Third Party from the Participating Partner only in the following case and if the following conditions are fulfilled:

The Selected Third Party Needs such listed Background for Exploitation of its own Industry Experiment Results. Where this is the case and subject to the limitations stated in the Specific Industrial Experiment Contract, the Selected Third Party shall be granted Access Rights to such

Background on Fair and Reasonable conditions and upon separate written bilateral agreement between the Selected Third Party and the owning Participating Partner. A request for Access Rights for Exploitation may be made up to twelve months after the end of the Industrial Experiment.

The F-Interop Beneficiaries involved in the Industrial Experiment enjoy the same Access Rights on Background or Results owned by the Selected Third Party for implementation of the Industrial Experiment or, direct or indirect exploitation of their Results, under the same conditions mentionned here above.

For the avoidance of doubt, any grant of Access Rights not covered by this Section shall be at the absolute discretion of the owner and subject to such terms and conditions as may be agreed between the owner and recipient.

PARTICIPATION OF INTEGRATION PARTNERS

The Selected Third Party shall not be entitled to act or to make legally binding declarations on behalf of the Participating Integration Partner(s).

Each Party hereby agrees and accepts the following with respect to the Participating Integration Partner:

The platform or other related tangible items of a Participating Integration Partner to be used in the Industrial Experiment will be used by the Selected Third Party on terms established by the Integration Partner.

Save as stated at 6.2.3 below or save as previously expressly agreed in writing with the Participating Integration Partner, no Background of such Participating Integration Partner or of any of its Affiliated Entities will be either used or introduced to the Industrial Experiment, and all such Background is expressly excluded from the Industrial Experiment and from Access Rights, whether existing before the start of the Industrial Experiment, or created during the Industrial Experiment but independently of the work funded under the Industrial Experiment, and each Party hereby formally waives any right to take a licence on any such other Background. Except as explicitly granted in the applicable commercially available terms referred to in 6.2.3below, no licence, immunity, or other right is granted or assigned under this Standard Industrial Experiment Contract (including its Annexes), either directly or indirectly, by implication, estoppel or otherwise, to any party with respect to any intellectual property rights of such Participating Integration Partner or any of its Affiliated Entities.

In addition to any products listed by the Participating Integration Partner in Annex 4, the Participating Integration Partner may, at its sole discretion, decide to use or introduce to the specific Industrial Experiment one or more of such Partner's or its Affiliated Entities' or subcontractor's commercially available products. In the event that such Participating Integration Partner decides to do so, such commercially available products shall be introduced on an "as is" basis, in the form in which, and on the terms on which, they are commercially available as at the time of such use or introduction. The terms and provisions governing the access to, and use of, such commercially available products shall be the prevailing terms.

The work committed by the Participating Integration Partner(s) and done by the Participating Integration Partner, under the Industrial Experiment, is only to provide support services consistent with the services which the Participating Integration Partner would usually provide to a third party purchaser of the applicable Participating Integration Partner's commercially available products.

The Participating Integration Partner(s) have no liability whatsoever to any Party in respect of any aspects of the Industrial Experiment or of this Agreement (including its Annexes). All potential liability (whether contractually or in tort) of the Participating Integration Partner for damages caused to

the Parties or the other Participating Partners (including liability for gross negligence) is hereby excluded to the fullest extent permitted by applicable law, and where it cannot be excluded, the total aggregate liability of the Participating Integration Partner in any way arising from the Industrial Experiment, this Agreement and Annex 4 will not exceed the amount of fifty percent of the Financial Support.

Feedback

The Selected Third Party will do its reasonable efforts to provide the Participating Integration Partner(s) with such Feedback relating to such products and technology of the Participating Integration Partner or its Affiliated Entities used in the applicable Industrial Experiment, as the Participating Integration Partner may reasonably request.

Any Feedback provided to the Participating Integration Partner in relation to its, or its Affiliated Entities' products and technology will be deemed to have been provided on a non-confidential basis by the Selected Third Party providing such Feedback, unless otherwise agreed. Notwithstanding anything else in this Agreement, the Participating Integration Partner (or, as the case may be, its Affiliated Entities) to whose products and technology of the Participating Integration Partner or its Affiliated Entities such Feedback and any other Participating Integration Partner Product Information relates, shall be irrevocably and unconditionally entitled to Exploit and otherwise use and to permit use of such Participating Integration Partner Product Information, for all purposes without any restriction in any manner they decide, without giving notice, obtaining consent or paying any compensation. For the sake of clarity, the Selected Third Party disclosing such information remains the owner of such Results and remain also entitled to freely use such Results.

CONFIDENTIALITY

All information of whatever nature and in whatever form or mode of communication, which is disclosed by a Party (the "Disclosing Party") to another Party (the "Recipient") in connection with the Industrial Experiment during its implementation and which has been explicitly marked as "confidential" at the time of disclosure, or when disclosed orally has been identified as confidential at the time of disclosure and has been confirmed and designated in writing within fifteen (15) calendar days from oral disclosure at the latest as confidential information by the Disclosing Party, is "Confidential Information".

The Recipients hereby undertake for the duration of the Industrial Experiment and a period of 4 years after the end of the Industrial Experiment:

- not to use Confidential Information otherwise than for the purpose for which it was disclosed;
- not to disclose Confidential Information to any third party without the prior written consent by the Disclosing Party;
- to ensure that internal distribution of Confidential Information by a Recipient to its employees shall take place on a strict need-to-know basis; and
- except as required for continuing Access Rights, to return to the Disclosing Party on demand all Confidential Information which has been supplied to or acquired by the Recipients including all copies thereof and to delete all information stored in a machine-readable form. The Recipients may keep a copy to the extent it is required to keep, archive or store such Confidential Information because of compliance with applicable mandatory laws and regulations (i.e. public policy legislation).

The Recipients shall be responsible for the fulfilment of the above obligations on the part of their employees involved in the Industrial Experiment and shall ensure that they remain so obliged, as far as legally possible, during and after the end of the Industrial Experiment and/or after the termination of the contractual relationship with the employee or third party.

The above shall not apply for disclosure or use of Confidential Information, if and in so far as the Recipient can show that:

- the Confidential Information becomes publicly available by means other than a breach of the Recipient's confidentiality obligations;
- the Disclosing Party subsequently informs the Recipient that the Confidential Information is no longer confidential;
- the Confidential Information is communicated to the Recipient without any obligation of confidence by a third party who is to the best knowledge of the Recipient in lawful possession thereof and under no obligation of confidence to the Disclosing Party;
- the disclosure or communication of the Confidential Information is foreseen by provisions of the Grant Agreement;
- the Confidential Information, at any time, was developed by the Recipient completely independently of any such disclosure by the Disclosing Party; or
- the Confidential Information was already known to the Recipient prior to disclosure or
- the Recipient is required to disclose the Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order subject to the last paragraph of this Section.

The Recipient shall apply the same degree of care with regard to the Confidential Information disclosed within the scope of the Industrial Experiment as with its own confidential and/or proprietary information, but in no case less than reasonable care.

Each Recipient or Disclosing Party shall promptly advise the other Recipient or Disclosing Party in writing of any unauthorised disclosure, misappropriation or misuse of Confidential Information after it becomes aware of such unauthorized disclosure, misappropriation or misuse.

If a Recipient becomes aware that it will be required to disclose Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order, it shall, to the extent it is lawfully able to do so, prior to any such disclosure:

- notify the Disclosing Party of said request, and
- comply to the extent possible with the Disclosing Party's reasonable instructions to protect the confidentiality of the information at the Disclosing Party's expense, and
- make such disclosure only to the extent it is compelled.

As far as Cascade Funding Partner is concerned, disclosure of Confidential Information to the European Commission shall be governed by the terms of the GA.

As far as Selected Third Party is concerned, disclosure of Confidential Information to or from another Participating Partner (other than the Cascade Funding Partner) shall be governed by the terms of a specific non-disclosure agreement to be signed between them.

DISSEMINATION

Each Party agrees that any dissemination activity (including publications, presentations or contributions to any standards organisation) by the Selected Third Party is subject to the prior written approval of the other Participating Partners.

The Cascade Funding Partner and the other Participating Partners are entitled to include the main issues and information regarding the Industrial Experiment in their reporting towards the European Commission, subject to prior written notification to the Selected Third Party.

CHECKS AND AUDITS

The Selected Third Party undertakes to provide any detailed information, including information in electronic format, requested by the European Commission or by any other outside body authorised by the European Commission to check that the Industrial Experiment and the provisions of this Agreement are being properly implemented.

The Selected Third Party shall keep at the European Commission disposal all original documents, especially accounting and tax records, or, in exceptional and duly justified cases, certified copies of original documents relating to the Agreement, stored on any appropriate medium that ensures their integrity in accordance with the applicable national legislation, for a period of five years from the date of payment of the balance specified in the grant agreements.

The Selected Third Party agrees that the European Commission may have an audit of the use made of the amounts awarded hereunder carried out either directly by the European Commission staff or by any other outside body authorised to do so on its behalf. Such audits may be carried out throughout the period of implementation of the Agreement until the balance is paid and for a period of five years from the date of payment of the balance. Where appropriate, the audit findings may lead to recovery decisions by the European Commission.

The Selected Third Party undertakes to allow European Commission staff and outside personnel authorised by the European Commission the appropriate right of access to the sites and premises of the Selected Third Party and to all the information, including information in electronic format, needed in order to conduct such audits.

In accordance with Union legislation, the European Commission, the European Anti-Fraud Office (OLAF) and the European Court of Auditors (ECA) may carry out spot checks and inspections of the documents of the Selected Third Party, and of any recipient of Cascade Finding, including at the premises of the Selected Third Party, in accordance with the procedures laid down by Union law for the protection of the financial interests of the Union against fraud and other irregularities. Where appropriate, the inspection findings may lead to recovery decisions by the European Commission. The Articles 22 and 23 of the Grant Agreement, reproduced in Annex 1, also apply to the Selected Third Party.

TERMINATION

The Cascade Funding Partner can terminate this Agreement with immediate effect through written notice to the Selected Third Party and to the other Participating Partners:

if the Selected Third Party is in breach of any of its material obligations under this Agreement, which breach is not remediable, or, if remediable, has not been remedied within thirty (30) days after written notice to that effect from the party not in breach,

if, to the extent permitted by law, the Selected Third Party is declared bankrupt, is being wound up, is having its affairs administered by the courts, has entered into an arrangement with its creditors, has suspended business activities, or is the subject of any other similar proceeding concerning those matters, or

if the Selected Third Party is subject to an Event of Force Majeure, which prevents the Selected Third Party from correct performance of its obligations hereunder and such circumstances have lasted, or can reasonably be expected to last more than 3 months.

Access Rights granted to the Selected Third Party shall cease immediately upon the effective date of termination.

CONCLUDING CONDITIONS

The Parties will not sign Annex 4, and the terms of this Agreement (for the sake of clarity this includes Annex 4) will not be effective, until the Cascade Funding Partner has received written confirmation from each Participating Support Partner that it agrees to their content. This written confirmation can be given by each Participating Support Partner sending by email or facsimile to the Cascade Funding Partner.

Once each written confirmation is given by each Participating Support Partner, any ancillary agreements, amendments, additions or modifications to this Agreement shall be made in writing and signed by the Parties, but will only become effective after the Cascade Funding Partner has received written confirmation from each Participating Support Partner that it agrees to their content, such written confirmation to be given in the manner set out at the above paragraph.

The Selected Third Party's consistent level in its respective field of expertise played a key role in the selection of the Selected Third Party to implement the Industrial Experiment. The selected Third Party shall not make any total or partial transfer of its expertise during this Agreement.

Any subcontract by the Selected Third Party concerning some of its tasks under this Agreement requires the prior written consent of the Cascade Funding Partner and does not affect its own obligations resulting from this Agreement. The Selected Third Party shall secure that the subcontractor will comply with all obligations – especially coming from the Grant Agreement, and with regard to confidentiality – resulting from this Agreement and that the results attained by the subcontractor will be available in accordance with Section 5.

If any provision of this Agreement is determined to be illegal or in conflict with the applicable law, the validity of the remaining provisions shall not be affected. The ineffective provision shall be replaced by an effective provision which is economically equivalent. The same shall apply in case of a gap.

This Agreement shall be governed by and construed in accordance with the laws of Belgium.

Any disagreement or dispute which may arise in connection with this Agreement and which the Parties are unable to settle by mutual agreement will be brought before the courts of Brussel, Belgium.

Done in two originals, one for each Party.

Cascade Funding Partner

Selected Third Party

Annex 1 Grant Agreement specific obligations

Annex 2 Technical report template

Annex 3 Specific Industrial Experiment Contract

ANNEX 1 - GRANT AGREEMENT SPECIFIC OBLIGATIONS

As an indirect beneficiary, the Selected Third Party has to fulfill the obligations described in article 22, 23, 35, 36, 38 and 46 of the Grant Agreement. Theses section are part of the Agreement. In case of contradiction between these sections and the Agreement, the terms of the Agreement will prevail.

ARTICLE 22 — CHECKS, REVIEWS, AUDITS AND INVESTIGATIONS — EXTENSION OF FINDINGS

Checks, reviews and audits by the Commission

Right to carry out checks

The Commission will — during the implementation of the action or afterwards — check the proper implementation of the action and compliance with the obligations under the Agreement, including assessing deliverables and reports.

For this purpose, the Commission may be assisted by external persons or bodies.

The Commission may also request additional information in accordance with Article 17. The Commission may request beneficiaries to provide such information to it directly.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

Right to carry out reviews

The Commission may — during the implementation of the action or afterwards — carry out reviews on the proper implementation of the action (including assessment of deliverables and reports), compliance with the obligations under the Agreement and continued scientific or technological relevance of the action.

Reviews may be started **up to two years after the payment of the balance**. They will be formally notified to the coordinator or beneficiary concerned and will be considered to have started on the date of the formal notification.

If the review is carried out on a third party (see Articles 10 to 16), the beneficiary concerned must inform the third party.

The Commission may carry out reviews directly (using its own staff) or indirectly (using external persons or bodies appointed to do so). It will inform the coordinator or beneficiary concerned of the identity of the external persons or bodies. They have the right to object to the appointment on grounds of commercial confidentiality.

The coordinator or beneficiary concerned must provide — within the deadline requested — any information and data in addition to deliverables and reports already submitted (including information on the use of resources). The Commission may request beneficiaries to provide such information to it directly.

The coordinator or beneficiary concerned may be requested to participate in meetings, including with external experts.

For **on-the-spot** reviews, the beneficiaries must allow access to their sites and premises, including to external persons or bodies, and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the review findings, a 'review report' will be drawn up.

The Commission will formally notify the review report to the coordinator or beneficiary concerned, which has 30 days to formally notify observations ('contradictory review procedure').

Reviews (including review reports) are in the language of the Agreement.

Right to carry out audits

The Commission may — during the implementation of the action or afterwards — carry out audits on the proper implementation of the action and compliance with the obligations under the Agreement.

Audits may be started **up to two years after the payment of the balance**. They will be formally notified to the coordinator or beneficiary concerned and will be considered to have started on the date of the formal notification.

If the audit is carried out on a third party (see Articles 10 to 16), the beneficiary concerned must inform the third party.

The Commission may carry out audits directly (using its own staff) or indirectly (using external persons or bodies appointed to do so). It will inform the coordinator or beneficiary concerned of the identity of the external persons or bodies. They have the right to object to the appointment on grounds of commercial confidentiality.

The coordinator or beneficiary concerned must provide — within the deadline requested — any information (including complete accounts, individual salary statements or other personal data) to verify compliance with the Agreement. The Commission may request beneficiaries to provide such information to it directly.

For **on-the-spot** audits, the beneficiaries must allow access to their sites and premises, including to external persons or bodies, and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the audit findings, a 'draft audit report' will be drawn up.

The Commission will formally notify the draft audit report to the coordinator or beneficiary concerned, which has 30 days to formally notify observations ('contradictory audit procedure'). This period may be extended by the Commission in justified cases.

The 'final audit report' will take into account observations by the coordinator or beneficiary concerned. The report will be formally notified to it.

Audits (including audit reports) are in the language of the Agreement.

The Commission may also access the beneficiaries' statutory records for the periodical assessment of unit costs or flat-rate amounts.

Investigations by the European Anti-Fraud Office (OLAF)

Under Regulations No 883/2013¹⁵ and No 2185/96¹⁶ (and in accordance with their provisions and procedures), the European Anti-Fraud Office (OLAF) may — at any moment during implementation of the action or afterwards — carry out investigations, including on-the-spot checks and inspections, to establish whether, concerning the action funded under the Agreement, there has been fraud, corruption or any other illegal activity affecting the financial interests of the EU.

Checks and audits by the European Court of Auditors (ECA)

Under Article 287 of the Treaty on the Functioning of the European Union (TFEU) and *Article 161 of the Financial Regulation No 966/2012*¹⁷, the European Court of Auditors (ECA) may — at any moment during implementation of the action or afterwards — carry out audits.

The ECA has the right of access for the purpose of checks and audits.

Consequences of findings in checks, reviews, audits and investigations —Extension of findings

Findings in this grant

Findings in checks, reviews, audits or investigations carried out in the context of this grant may lead to the rejection of ineligible costs (see Article 42), reduction of the grant (see Article 43), recovery of undue amounts (see Article 44) or to any of the other measures described in Chapter 6.

Rejection of costs or reduction of the grant after the payment of the balance will lead to a revised final grant amount (see Article 5.4).

Findings in checks, reviews, audits or investigations may lead to a request for amendment for the modification of Annex 1 (see Article 55).

Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council of 11 September 2013 concerning investigations conducted by the European Anti-Fraud Office (OLAF) and repealing Regulation (EC) No 1073/1999 of the European Parliament and of the Council and Council Regulation (Euratom) No 1074/1999 (OJ L 248, 18.09.2013, p. 1).

Council Regulation (Euratom, EC) No 2185/1996 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities (OJ L 292, 15.11.1996, p. 2).

Regulation (EU, EURATOM) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, EURATOM)) No 1605/2002 (OJ L 298, 26.10.2012, p. 1).

Checks, reviews, audits or investigations that find systemic or recurrent errors, irregularities, fraud or breach of obligations may also lead to consequences in other EU or Euratom grants awarded under similar conditions ('extension of findings from this grant to other grants').

Moreover, findings arising from an OLAF investigation may lead to criminal prosecution under national law.

Findings in other grants

The Commission may extend findings from other grants to this grant ('extension of findings from other grants to this grant'), if:

the beneficiary concerned is found, in other EU or Euratom grants awarded under similar conditions, to have committed systemic or recurrent errors, irregularities, fraud or breach of obligations that have a material impact on this grant and

those findings are formally notified to the beneficiary concerned — together with the list of grants affected by the findings — no later than two years after the payment of the balance of this grant.

The extension of findings may lead to the rejection of costs (see Article 42), reduction of the grant (see Article 43), recovery of undue amounts (see Article 44), suspension of payments (see Article 48), suspension of the action implementation (see Article 49) or termination (see Article 50).

Procedure

The Commission will formally notify the beneficiary concerned the systemic or recurrent errors, together with the list of grants affected by the findings.

If the findings concern **eligibility of costs**: the formal notification will include:

an invitation to submit observations on the list of grants affected by the findings;

the request to submit revised financial statements for all grants affected;

the **correction rate for extrapolation** established by the Commission on the basis of the systemic or recurrent errors, to calculate the amounts to be rejected if the beneficiary concerned:

considers that the submission of revised financial statements is not possible or practicable or

does not submit revised financial statements.

The beneficiary concerned has 90 days from receiving notification to submit observations, revised financial statements or to propose a duly substantiated **alternative correction method**. This period may be extended by the Commission in justified cases.

The Commission will determine the amounts to be rejected on the basis of the revised financial statements, subject to their approval.

If the Commission does not receive any observations or revised financial statements, does not accept the observations or the proposed alternative correction method or does not approve the revised financial statements, it will formally notify the beneficiary concerned the application of the initially notified correction rate for extrapolation.

If the Commission accepts the alternative correction method proposed by the beneficiary concerned, it will formally notify the application of the accepted alternative correction method.

If the findings concern **improper implementation** or a **breach of another obligation**: the formal notification will include:

an invitation to submit observations on the list of grants affected by the findings and

the flat-rate the Commission intends to apply according to the principle of proportionality. The beneficiary concerned has 90 days from receiving notification to submit observations or to propose a duly substantiated alternative flat-rate.

If the Commission does not receive any observations or does not accept the observations or the proposed alternative flat-rate, it will formally notify the beneficiary concerned the application of the initially notified flat-rate.

If the Commission accepts the alternative flat-rate proposed by the beneficiary concerned, it will formally notify the application of the accepted alternative flat-rate.

22.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, any insufficiently substantiated costs will be ineligible (see Article 6) and will be rejected (see Article 42).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 23 — EVALUATION OF THE IMPACT OF THE ACTION

Right to evaluate the impact of the action

The Commission may carry out interim and final evaluations of the impact of the action measured against the objective of the *EU* programme.

Evaluations may be started during implementation of the action and up to *five* years after the payment of the balance. The evaluation is considered to start on the date of the formal notification to the coordinator or beneficiaries.

The Commission may make these evaluations directly (using its own staff) or indirectly (using external bodies or persons it has authorised to do so).

The coordinator or beneficiaries must provide any information relevant to evaluate the impact of the action, including information in electronic format.

Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the Commission may apply the measures described in Chapter 6.

SECTION3 RIGHTS AND OBLIGATIONS RELATED TO BACKGROUND AND RESULTS

SUBSECTION 1 GENERAL

ARTICLE 23a — MANAGEMENT OF INTELLECTUAL PROPERTY

23a.1 Obligation to take measures to implement the Commission Recommendation on the management of intellectual property in knowledge transfer activities

Beneficiaries that are universities or other public research organisations must take measures to implement the principles set out in Points 1 and 2 of the Code of Practice annexed to the Commission Recommendation on the management of intellectual property in knowledge transfer activities ¹⁸.

This does not change the obligations set out in Subsections 2 and 3 of this Section.

The beneficiaries must ensure that researchers and third parties involved in the action are aware of them.

23a.2 Consequences of non-compliance

If a beneficiary breaches its obligations under this Article, the *Commission* may apply any of the measures described in Chapter 6.

ARTICLE 35 — CONFLICT OF INTERESTS

Obligation to avoid a conflict of interests

The beneficiaries must take all measures to prevent any situation where the impartial and objective implementation of the action is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ('conflict of interests').

They must formally notify to the *Commission* without delay any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation.

The *Commission* may verify that the measures taken are appropriate and may require additional measures to be taken by a specified deadline.

Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43) and the Agreement or participation of the beneficiary may be terminated (see Article 50).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 36 CONFIDENTIALITY

General obligation to maintain confidentiality

During implementation of the action and for four years after the period set out in Article 3, the parties must keep confidential any data, documents or other material (in any form) that is identified as confidential at the time it is disclosed ('confidential information').

If a beneficiary requests, the *Commission* may agree to keep such information confidential for an additional period beyond the initial four years.

If information has been identified as confidential only orally, it will be considered to be confidential only if this is confirmed in writing within 15 days of the oral disclosure.

Unless otherwise agreed between the parties, they may use confidential information only to implement the Agreement.

The beneficiaries may disclose confidential information to their personnel or third parties involved in the action only if they:

need to know to implement the Agreement and

are bound by an obligation of confidentiality.

This does not change the security obligations in Article 37, which still apply.

The *Commission* may disclose confidential information to its staff, other EU institutions and bodies or third parties, if:

this is necessary to implement the Agreement or safeguard the EU's financial interests and

the recipients of the information are bound by an obligation of confidentiality.

Under the conditions set out in Article 4 of the Rules for participation Regulation No 1290/2013²⁴, the Commission must moreover make available information on the results to other EU institutions, bodies, offices or agencies as well as Member States or associated countries.

The confidentiality obligations no longer apply if:

the disclosing party agrees to release the other party;

the information was already known by the recipient or is given to him without obligation of confidentiality by a third party that was not bound by any obligation of confidentiality;

the recipient proves that the information was developed without the use of confidential information;

the information becomes generally and publicly available, without breaching any confidentiality obligation, or the disclosure of the information is required by EU or national law.

Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 38 — PROMOTING THE ACTION — VISIBILITY OF EU FUNDING

Communication activities by beneficiaries

General obligation to promote the action and its results

The beneficiaries must promote the action and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner.

This does not change the dissemination obligations in Article 29, the confidentiality obligations in Article 36 or the security obligations in Article 37, all of which still apply.

Before engaging in a communication activity expected to have a major media impact, the beneficiaries must inform the *Commission* (see Article 52).

Information on EU funding — Obligation and right to use the EU emblem

Unless the *Commission* requests or agrees otherwise or unless it is impossible, any communication activity related to the action (including in electronic form, via social media, etc.) and any infrastructure funded by the grant must:

display the EU emblem and

include the following text:

"This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 644090".

When displayed together with another logo, the EU emblem must have appropriate prominence.

For the purposes of their obligations under this Article, the beneficiaries may use the EU emblem without first obtaining approval from the *Commission*.

This does not, however, give them the right to exclusive use.

Moreover, they may not appropriate the EU emblem or any similar trademark or logo, either by registration or by any other means.

Disclaimer excluding Commission responsibility

Any communication activity related to the action must indicate that it reflects only the author's view and that the *Commission* is not responsible for any use that may be made of the information it contains.

Communication activities by the Commission

38.2.1 Right to use beneficiaries' materials, documents or information

The *Commission* may use, for its communication and publicising activities, information relating to the action, documents notably summaries for publication and public deliverables as well as any other material, such as pictures or audio-visual material that it receives from any beneficiary (including in electronic form).

This does not change the confidentiality obligations in Article 36 and the security obligations in Article 37, all of which still apply.

However, if the *Commission's* use of these materials, documents or information would risk compromising legitimate interests, the beneficiary concerned may request the *Commission* not to use it (see Article 52).

The right to use a beneficiary's materials, documents and information includes:

use for its own purposes (in particular, making them available to persons working for the *Commission* or any other EU institution, body, office or agency or body or institutions in EU Member States; and copying or reproducing them in whole or in part, in unlimited numbers);

distribution to the public (in particular, publication as hard copies and in electronic or digital format, publication on the internet, as a downloadable or non-downloadable file, broadcasting by any channel, public display or presentation, communicating through press information services, or inclusion in widely accessible databases or indexes);

editing or redrafting for communication and publicising activities (including shortening, summarising, inserting other elements (such as meta-data, legends, other graphic, visual, audio or text elements), extracting parts (e.g. audio or video files), dividing into parts, use in a compilation);

translation;

giving access in response to individual requests under Regulation No 1049/2001²⁵, without the right to reproduce or exploit;

storage in paper, electronic or other form;

archiving, in line with applicable document-management rules, and

the right to authorise **third parties** to act on its behalf or sub-license the modes of use set out in Points (b), (c),(d) and (f) to third parties if needed for the communication and publicising activities of the *Commission*.

Regulation (EC) No 1049/2001 of the European Parliament and of the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents, OJ L 145, 31.5.2001, p. 43.

If the right of use is subject to rights of a third party (including personnel of the beneficiary), the beneficiary must ensure that it complies with its obligations under this Agreement (in particular, by obtaining the necessary approval from the third parties concerned).

Where applicable (and if provided by the beneficiaries), the *Commission* will insert the following information:

"© – [year] – [name of the copyright owner]. All rights reserved. Licensed to the *European Union (EU)* under conditions."

Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 46 — LIABILITY FOR DAMAGES

46.1 Liability of the Commission

The Commission cannot be held liable for any damage caused to the beneficiaries or to third parties as a consequence of implementing the Agreement, including for gross negligence. The Commission cannot be held liable for any damage caused by any of the beneficiaries or third parties involved in the action, as a consequence on implementing the Agreement.

46.2 Liability of the beneficiaries

46.2.1 Conditions

Except in case of force majeure (see Article 51), the beneficiaries must compensate the Commission for any damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement. Each beneficiary is responsible for paying the damages claimed from it.

46.2.2 Amount of damages - Calculation

The amount the Commission can claim from a beneficiary will correspond to the damage caused by that beneficiary.

46.2.3 Procedure

Before claiming damages, the Commission will formally notify the beneficiary concerned:

- informing it of its intention to claim damages, the amount and the reasons why and
- inviting it to submit observations within 30 days.

If the Commission does not receive any observations or decides to claim damages despite the observations it has received, it will formally notify confirmation of the claim for damages and a debit note, specifying the amount to be recovered, the terms and the date for payment. If payment is not made by the date specified in the debit note, the Commission may recover the amount:

- (a) by offsetting it without the beneficiary's consent against any amounts owed to the beneficiary concerned by the Commission or an executive agency (from the EU or Euratom budget). In exceptional circumstances, to safeguard the EU's financial interests, the Commission may offset before the payment date specified in the debit note;
- (b) by taking legal action or by adopting an enforceable decision under Article 299 of the Treaty on the Functioning of the EU (TFEU) (see Article 57). If payment is not made by the date in the debit note, the amount to be recovered (see above) will be increased by late-payment interest at the rate set out in Article 21.11, from the day following the payment date in the debit note, up to and including the date the Commission receives full payment of the amount. Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal. Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC applies.

ANNEX 2 - TECHNICAL REPORT TEMPLATE

Document Description

The technical report includes an explanation of work carried out, an overview of progress and a publishable summary (describing the overview of the results and the exploitation and dissemination, the conclusions of the actions and its socio-economic impacts).

1. Introduction

Description of the objectives of the IE (concept and objectives), progress beyond SoA and potential innovation, targeted testing tools, test designs, assessment reports and plugtest events that use F-Interop platforms and competencies.

2. State of the Art

Short discussion of the state-of-the-art (project management, implementation, etc.).

3. Results and Analysis

- Describe the results including required details compared
- Use diagrams, tables and figures for overview and understanding
- Show results vs. requirements vs. state of the art
- Describe cooperation of the partners
- Give an interpretation and/or analysis of the results
- Highlight major achievements
- Highlight major impacts for the European industry (industrial relevance, exploitation plans and business view).

4. Summary and Conclusion

Summarize major results and achievements and evaluate them compared with the objectives.

ANNEX 3 - SPECIFIC INDUSTRIAL EXPERIMENT CONTRACT

F-Interop Specific Industrial Experiment Contract

This F-Interop Specific Industrial Experiment Contract for implementation of the Industrial Experiment by the Selected Third Party, hereinafter referred to as the "Specific Industrial Experiment Contract", is entered into by and between:

Digital Catapult ("Cascade Funding Partner"), an organisation under the laws of England, having its registered office at Level 9, 101 Euston Road, London NW1 2RA, herein represented by ...

And

... ("Selected Third Party"), an organisation under the laws of, having its registered office at ..., herein represented by ...

Hereinafter sometimes individually or collectively referred to as "Party" or "Parties".

Whereas Cascade Funding Partner and the Selected Third Party have agreed the main terms and conditions to implement the Industrial Experiment in the course of the F-Interop Project by signing the Standard Industrial Experiment Contract n° xxx which form part of this Specific Industrial Experiment Contract.

Now therefore it has been agreed as follows:

1. TERMS AND CONDITIONS FOR THE INDUSTRIAL EXPERIMENT

The Selected Third Party shall implement the Industrial Experiment in accordance with the following:

Description of the Industrial Experiment	
Acronym	
Full Title	
F-Interop call identification	
Starting date of the Industrial Experiment:	
Duration of the Industrial Experiment:	
Date of selection of the Selected Third Party	
Problem to be Solved (in no less than 100 words)	
Solution to be Developed (in no less than 100 words)	

Industrial Experiment outcomes	S
Expected results in terms of Industrial Impact	
Expected added value	
Expected results in terms of building blocks, IPs, software and hardware solution	
Implementation of the Industrial Experiment	
Outline scope of work	
Milestones	
Deliverables	
TASK 1	
Task 1.1	
Description	
Starting date	
Duration	
Inputs	
Deliverable	
Task 1.2	
Description	
Starting date	
Duration	
Inputs	
Deliverable	
TASK 2	
TASK 3	

TASK 4

Participating Partners technologies and ressources			
<name Partners></name 	of	Participating	<describe and="" ressources="" technologies=""></describe>
<name Partners></name 	of	Participating	<describe and="" ressources="" technologies=""></describe>

Participating	Partners I	PR	
Participating Background	Р	artners'	rdeseribe Deelcaround
(including restrictions)	limitations	and	<describe background=""></describe>
Selected Background	Third	Party's	rdeseribe Deelcaround
(including restrictions)	limitations	and	<describe background=""></describe>

Participating Integration Partners

Name of the Participating Integration Partner Basis of participation

Specific conditions (including limitations and restrictions)

Participating Support Partners

Name of the Participating Support Partner Basis of participation

Financial conditions	
Financial Support	
Schedule of payment	See table below and delete as appropriate
Payment conditions	
Penalties	

Payments to the Selected Third Party will be made in stages based on the successful completion of specified milestones and reviews. Stage 1 payments will be made on commencement. Stage 2 and Stage 3 payments will be made on successful review of deliverables by the Internal Review Committee (and provided all other conditions are met).

The actual amount payable and the stage at which payments will be made will be determined according to the following table:

Category	Award	Stage 1 payment (milestone)	Stage 2 payment (milestone)	Stage 3 payment (milestone)
С	€10,000	€5,000	 N/A	€5,000 (final release)
D	€10,000	€5,000 (On commencement)	N/A	€5,000 (delivery of event report)

The Selected Third Party does not have the right to make direct profit from the cascade funding.

Key contacts for those partners involved in the Industrial Experiment	
Support Partners	
Name & surname	
Department	
Tel:	
Email:	
Integration Partners	
Name & surname	
Department	
Tel:	
Email:	
Affiliated Entities	
Name & surname	
Department	
Tel:	
Email:	
Selected Third Party Project Manager	
Name & surname	
Department	
Tel:	
Email:	
Cascade Funding Project Manager	
Name & surname	
Department	

Tel:	
Email:	
Date of agreement of all the Participating Partners involved in the Industrial Experiment	

2. ADDITIONAL TERMS

2.1 Section 3.1 of the Standard Industrial Experiment Contract is hereby amended as follows:

The Selected Third Party shall provide reports on its activities' progress as are reasonably requested by the F-Interop Beneficiaries from time to time. The Selected Third Party shall use its best efforts to monitor the progress of other Participating Partners and of the F-Interop Beneficiaries for the purposes of avoiding duplication of work and to maximise the outcomes of complementary, interoperable and integrated solutions, raising questions and co-operating with the F-Interop community at all and any opportunity.

- 2.2 The Selected Third Party shall release Results that are in the form of software under a reasonably permissive open source licence type e.g. BSD or MIT on the F-Interop github site.
- 2.3 Unless otherwise agreed in writing signed by the Participating Partners, the F-Interop Beneficiaries shall each have a non-exclusive, royalty-free right to use Background of Selected Third Party for the duration of the F-Interop Project and thereafter for 10 years after the end of the project.
- 2.4 The Selected Third Party acknowledges and agrees that:
- it is a goal of the F-Interop Project and of the Industrial Experiment to choose technical and information flow architectures which, in the event that personal data processing is a necessary aspect of the implementation, are compliant with the relevant laws on data protection and privacy and avoid the need for personal data to be processed outside of the F-Interop Platform itself; and
- in the event that personal data processing is a necessary aspect, Background of the Selected Third Party that is Needed for such purpose is integrated into the F-Interop Platform by the Selected Third Party and maintained by the Selected Third Party at its expense for the duration of the F-Interop Project and for a minimum of (three) years thereafter.

3. MISCELLANEOUS

- 3.1 This Specific Industrial Experiment Contract, composed of the Standard Industrial Experiment Contract and its Annexes 1 to 4 included, constitutes the sole and complete understanding of the Parties with respect to its subject matter and supersedes all prior or contemporaneous communications between the Parties concerning such subject matter. This Specific Industrial Experiment Contract will be governed and construed according to the choice of governing and constructive law set forth in the Standard Industrial Experiment Contract.
- 3.2 Save to the extent expressly modified in this Specific Industrial Experiment Contract, all of the terms of the Standard Industrial Experiment Contract and Annexes 1-4 included shall apply to this Specific Industrial Experiment Contract. Save to the extent expressly specified in this Specific Industrial Experiment Contract, all capitalized terms used in this Specific Industrial Experiment Contract which are defined in the Standard Industrial Experiment Contract shall have the meaning given in the Standard Industrial Experiment Contract. In the event of a conflict between this Specific

Industrial Experiment Contract and the terms of the Standard Industrial Experiment Contract, the terms of the Standard Industrial Experiment Contract shall apply.

3.3 The terms of Clause 11.1 of the Standard Industrial Experiment Contract will apply to the signing and enforceability of this Annex 4.

Done in two originals, one for each Party.

Signature Selected Third Party:	Signature Cascade Funding Partner
Date:	Date:

8.2 Annex B - Received and selected proposals statistics

The section below provides additional statistics related to the number, and types of applications that were received and accepted.

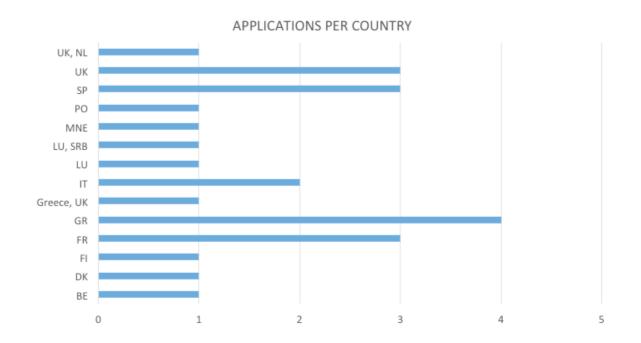


Figure 11: Applications per country

Greece is the country with the largest number of submissions (4).

SUCCESSFUL APPLICATIONS PER COUNTRY

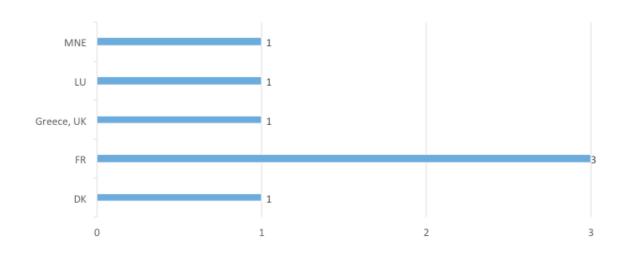


Figure 12: Successful applications per country

The country with most successful application is France, with 3 accepted proposals from 3 submissions (100% acceptance rate).

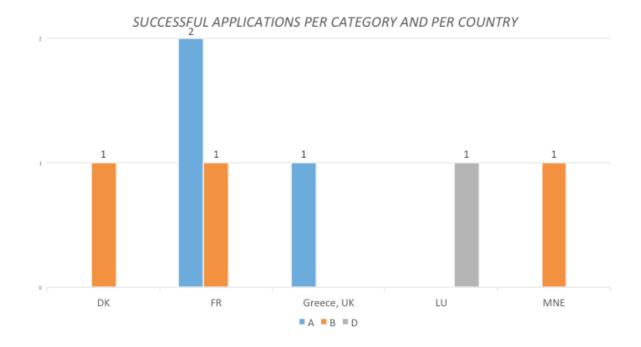


Figure 13: Successful applications per category and per country

France and Greece are the countries with successful Category A proposals.

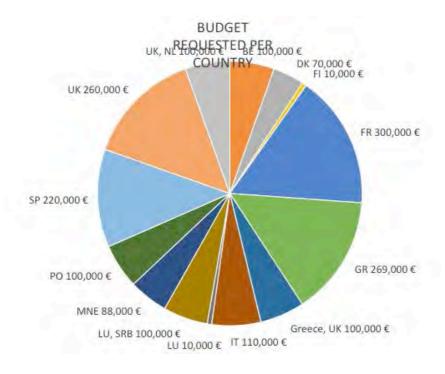


Figure 14: Requested budget per country

France, UK, Greece and Spain are the countries that respectively requested the largest amount of budget to support their proposals.

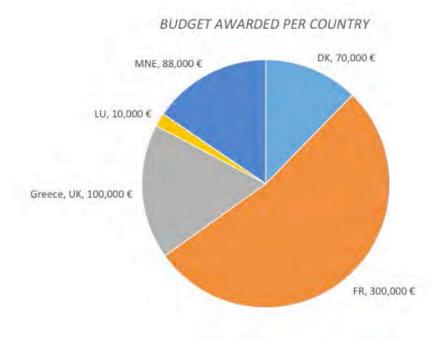
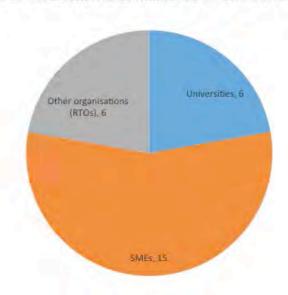


Figure 15: Awarded budget per country

France is the country that will receive the largest open call budget as a result of the submitted proposals.



TYPE OF ORGANISATIONS MEMBERS OF THE CONSORTIA

Figure 16: Type of applicant organisations

As expected, and as result of the targeted dissemination activities performed during the F-Interop Open Call promotion, SMEs represent the organization category with most submissions (over 50%), equally followed by universities and other research organizations.



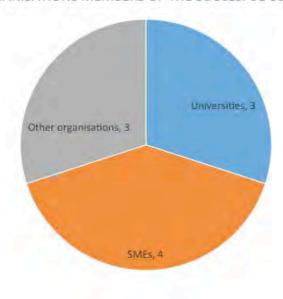


Figure 17: Type of successful organisations

As result of the selection process, SMEs were the most successful organizations receiving funding (4), as compared to universities (3), and other research organizations (3).

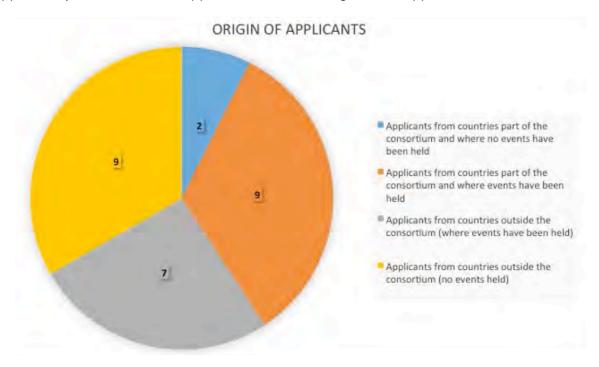


Figure 18: Applicant Origin

Interestingly **Figure 18: Applicant Origin** shows how the largest number of applications (60%) were received from organizations in a country not part of the F-Interop consortium, even though physical dissemination events could not be held in each of these countries. This confirms the effectiveness of the online open call dissemination campaign.

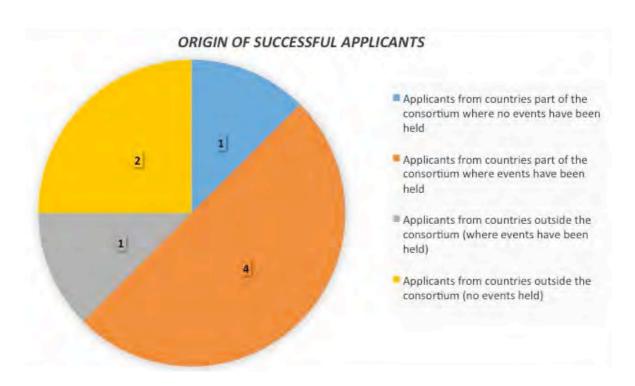


Figure 19: Successful applicant origin

An equal split of successful applications is observed between countries part of the F-Interop consortium, and those that are not.



HORIZON 2020

Information and Communication Technologies

Integrating experiments and facilities in FIRE+

Proposal Template – Part A Second Open Call

Grant Agreement number: 687884

Project acronym: F-Interop

Project title: FIRE+ online interoperability and performance test tools

to support emerging technologies from research to

standardization and market launch

The standards and innovations accelerating tool

Type of action: Research and Innovation Action

(RIA) Project website address: www.finterop.eu

Call Information:

Call Identifier: F-Interop02 call

Deadline: Wednesday December 20th, 2017 – 17h00 (CET)

Organisation name:
Coordinator name:
Coordinator telephone number:
Coordinator email address:
Date of submission:
Version:

Email address to which the Acknowledgement of Receipt should be sent:

(insert)





Proposal Template - Part A

Instructions for completing Part A of the Proposal

The Proposal is comprised of two parts: Part A and Part B

Please note that proposals must be submitted in English to the online submission tool at the following address: http://www.f-interop.eu/index.php/open-call before the deadline, according to the procedure described in Section Erreur! Nous n'avons pas trouvé la source du renvoi. of the Guide for Applicants. Part A and Part B must be saved in PDF format and must

This Section provides the instructions and the proposal template to help you to structure Part A of your proposal aimed at providing the administrative details that will be used in the evaluation and further processing of your proposal. The applicant(s) must fill in the predefined forms, respecting the instructions provided in the forms themselves.

Beside the template for drafting Part A provided in the following pages, a "stand alone" electronic word version of it can be obtained through the F-Interop project website, in the section "Second Open call", at the following link:

http://www.f-interop.eu/index.php/open-call

Please note that in case of proposals submitted by a group of institutions:

- 1. The main applicant fills in the front page;
- 2. The main applicant and all other participants already identified at the time of proposal submission fill in the remaining pages;

Proposal summary

Proposal Full Title:
Proposal Acronym:
Type of Project most relevant to your proposal
☐ Type C – SME F-Interop assessment reports
☐ Type D – Plugtest event
Duration in months:
Proposal Abstract: (2000 characters limit)

Proposal participants

Single Applicant or Main Applicant organization (in case of projects involving a group of organizations)

Your organization		
Organization legal name:		
Organization short name:		
Official address (street name, number, town, postal code, country):		
Webpage (optional):		
Legal status of our organization Select the correct option(s)		
Public body (yes/no):		
International organization (yes/no):		
International organization of European Interest (yes/no)		
Secondary or Higher education establishment (yes/no):		
Enterprise (yes/no)		
Small or Medium-size Enterprise (optional):		
Dependencies with (another applicant(s):		
Are there dependencies between your organization and (an)other applicant(s) in this proposal? (yes/no)		
If yes:		
Participant Identification Code:		
Organization short name:		
Character of dependence (SG/CLS/CLB)*		
SG: Same group: if your organization and the other applicant are controlled by the same third parties; CLS: Controls: if your organization controls the other applicant; CLB: Controlled by: if your organization is controlled by the other applicant.		
Organization contact point	nization	
It is the scientific contact person for your orga	mization.	

Organization authorized representative	
It is the authorized representative to sign the Grant Agreement or to commit the organization for this project.	
Title:	
Family name:	
First name:	
Gender:	
Position in the organization:	
Department, Faculty, Institute, Laboratory name:	
Email address:	
Telephone:	
Fax (optional):	
Official address (street name, number, town, postal code, country):	

Organization 2 (if any): proposer should complete the same fields as above Organization 3 (if any): proposer should complete the same fields as above

Proposal Template - Part B

Instructions for completing Part B of the Proposal

The Proposal is composed of two parts: Part A and Part B.

Please note that proposals must be submitted through the online tool in English to the following address: http://www.f-interop.eu/index.php/open-call before the deadline, according to the procedure described in the Guideline for Applicants, found here: http://www.f-interop.eu/images/OpenCall/SecondOpenCall/-F-Interop---Guidelines-for-Application---Second-Call.pdf. Part A and Part B must be saved in PDF format and must not exceed 10Mb total size.

Proposal Part B contains the description of the content of the proposed work and covers, among others, the concept and objectives of the project, the implementation details and the impact that is expected to arise from the proposed work.

The instructions to complete Part B of the proposal are inserted along the template itself, explaining the expected content in each section using text in italics. You may eventually delete them from the final version of the Part B you intend to submit. Please always keep the evaluation criteria (Section 6 and 11 of the Guide for Applicants) in mind, and carefully follow the abovementioned instructions when preparing Part B of the proposal.

In addition to the template for drafting Part B provided in the following pages, a "stand alone" electronic word version of it can be obtained through the F-Interop project website in the "Second Open Call" section via the following link: http://www.f-interop.eu/index.php/open-call.

It is in your interest to keep your text concise as overly-long proposals are rarely viewed in a positive light by the evaluating experts. Part B of the proposal should therefore not exceed 10 pages.

HORIZON 2020

Information and Communication Technologies

Integrating experiments and facilities in FIRE+

Proposal Template – Part B Second Open Call

Grant Agreement number: 687884

Project acronym: F-Interop

Project title: FIRE+ online interoperability and performance test

tools to support emerging technologies from research

to standardization and market launch

The standards and innovations accelerating tool

Type of action: Research and Innovation Action

(RIA) Project website address: www.finterop.eu

Call Information:

Call Identifier: F-Interop02 call

Deadline: Wednesday December 20th, 2017 - 17h00 (CET)

Proposal full name:

Proposal acronym:

Organisation name: Coordinator name:

Coordinator telephone number: Coordinator email address:

Date of submission:

Version:

Email address to which the Acknowledgement of Receipt should be sent:

(insert)

Proposal Abstract (max 2000 character)

REQUIRED

This should be copied from Part A

Cost and funding breakdown

REQUIRED

Participant Number	Participant				Estima	ated eligible cost	s	
	short name	Effort (PM)	sonnel its (€)	Other Direct costs (€)	Indirect costs (€)	Total Subcontracting costs (€)*	Total costs (€)	Requested Funding** (€)
Total								

In column 'Effort', insert the required person months for the work involved.

In column 'Personnel Costs', insert your personnel costs for the work involved.

In column 'Other Direct costs', insert any other direct costs, for example material or travel

costs. In column 'Indirect costs', insert your indirect (overhead) costs, 25 % of all your

direct costs.

In column 'Total costs', calculate the sum of all your indicated costs.

In column 'Requested Funding', insert your requested EC contribution.

In column "Total subcontracting costs", insert any costs related to a subcontract you would enter into. *Subcontracting costs should be exceptional, well justified and will require the prior written consent of the Cascade funding partner. Please note that you will have to ensure that the subcontractor will comply with all obligations — especially those from the contract you will sign with the Cascade funding partner, if successful.

Please provide sufficient justification on what and why you need to subcontract some of your tasks here:

Commission contribution for industrial experiments per applicant is:

- 10,000€ for project category C (SME F-Interop assessment reports)
- 10,000€ for project category D (Plugtest Events)

^{**}You may request up to the total amount allowed by the related open call. The maximum European

1 Impact

1.1 Expected impact

REQUIRED (RECOMMENDED 0.5 PAGES)

Please explain how your proposal aligns with the requirements for the category you are applying for, and how your project will support the following:

Enabling access to FIRE facilities by SMEs; serving new constituencies and new types of innovation-oriented experimentation previously not served within FIRE+.

Promotion of innovative applications and services, close-to-market, short-term, focused, mature ideas and acceleration of technology take-up and transfer.

In particular for category D please highlight how the organized plugfest events will reach existing communities and SDOs, what will be the expected impact for the F-Interop platform, the potential number of users/ participants mobilized for the plugfest events, and number of functionalities tested.

In particular for Category C, please highlight the number of the tools you will consider in the testing phase.

1.2 Dissemination and engagement activities

REQUIRED FOR CATEGORY D PROPOSALS (RECOMMENDED 0.5 PAGE) OPTIONAL FOR CATEGORY C PROPOSALS

Describe the type of dissemination activities you envision, trying to align with the activity requested in

Section 12 of Guide for Applicants, e.g., further promotion of outcome of your plugfest events.

If the result of your testing is integrated, how do you plan to further use, promote, and exploit the platform.

2 Implementation

Applicants must provide credible evidence that the project delivery team have the necessary skills and management experience to be able to deliver the project in the timescales and budget specified.

Define a clear set of deliverables aligned with the objectives of the open call and the specific category to which the proposal relates.

Include a clear budget, detailing the overall project cost, the amount of funding requested and how it will be spent. This budget must represent good value for money in the opinion of the evaluation panel selected to evaluate the open call applications. Due to the scope and scale of proposals, management structure and cost should be kept at minimum.

2.1 Description of the work plan including the project duration

REQUIRED (RECOMMENDED 2.5 PAGE)

Please provide the following:

Brief presentation of the overall structure of the work plan with work package list; timing of the work

(please consider the maximum suggested length for the Category of project category you selected) Detailed work description (use the template provided below; 1 table per WP)

Identify the F-Interop partners and testbeds you will need to interact, the type of expected interaction

and support requested

Please add a list of deliverable using the provided table.

For Category C in particular add reference to the different elements of the F-Interop platform you will address in your testing and evaluation and how feedback will be reported to F-Interop development team.

Work package number	Start	Date or Starting Eve	nt		
Work package title					
Participant number					
Short name of participant					
Person/months per participant:					

2 Implementation

Objectives			

Description of work (where appropriate, broken down into tasks), lead partner and role of participants.

D	liverables (brief description and mo	onth of delivery)	

Table 2.1a: List of Deliverables¹

Deliverable (number)	Deliverable name	Work package number	Short name of lead participant	Туре	Dissemination level	Delivery date

Table 2.1b: List of work packages

Work package No	Work Package Title	Lead Participant No	Lead Participant Short Name	Person- Months	Start Month	End month
				Total months		

2.2 Justification of Costs and Resources

REQUIRED (RECOMMENDED 0.5 PAGE)

Please provide a summary of required efforts per WP and per partners using the table below.

1

¹ If your action taking part in the Pilot on Open Research Data, you must include a data management plan as a distinct deliverable within the first 6 months of the project. This deliverable will evolve during the lifetime of the project in order to present the status of the project's reflections on data management. A template for such a plan is available on the Participant Portal (Guide on Data Management)

Please explain the role and expertise of partners and how they match the proposal envisioned activity and the WP of involvement

Table 2.2a: Summary of staff effort

Please indicate the number of person/months over the whole duration of the planned work, for each work package, for each participant. Identify the work-package leader for each WP by showing the relevant person-month figure in bold.

	WPn	WPn+1	WPn+2	Total Person/ Months per Participant
Participant Number/Short Name				
Participant Number/ Short Name				
Participant Number/ Short Name				
Total Person/Months				

2.3 Company description (Third party)

REQUIRED (RECOMMENDED 1.0 PAGE)

For each third party provide a brief description of the legal entity, the main tasks they have been attributed, and the previous experience relevant to those tasks. Provide also a short profile of the individuals who will be undertaking the work.

3 Ethical Issues

REQUIRED

Describe any ethical issues that may arise in the action, filling the following form.

	YES	Page Number
Informed Consent		
Does the proposal involve children?		
Does the proposal involve patients?		
Does the proposal involve persons not able to give consent?		
Does the proposal involve adult healthy volunteers?		
Biological research		
Does the proposal involve human genetic material?		
Does the proposal involve human biological samples?		
Does the proposal involve human biological data collection?		
Does the proposal involve human embryos?		
Does the proposal involve human foetal tissue or cells?		
Does the proposal involve human embryonic stem cells?		
Privacy		
Does the proposal involve processing of genetic information or personal data (e.g. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)		
• Does the proposal involve tracking the location or observation of people without their knowledge?		
Research on Animals		
Does the proposal involve research on animals?		
Are those animals transgenic small laboratory animals?		
Are those animals transgenic farm animals?		
Are those animals cloned farm animals?		
Are those animals non-human primates?		
Research Involving Third Countries		
• Is any part of the research carried out in countries outside of the. European Union and FP7 Associated states?		

	YES	Page Number
Dual Use		
Does the research have direct military application?		
Does the research have the potential for terrorist abuse?		
ICT Implants		
Does the proposal involve clinical trials of ICT implants?		
(IF NONE) I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL		

Created by: Marie Baldauf-Lenschen, 26.10.2017, Confidentiality: Internal & Partners F-Interop Deliverable D5.2_v1.0.docx

HORIZON 2020

Information and Communication Technologies Integrating experiments and facilities in FIRE+

Evaluation Form Second Open Call

Grant Agreement number: 687884

Project acronym: F-Interop

Project title: FIRE+ online interoperability and performance test tools to

support emerging technologies from research t

standardization and market launch

The standards and innovations accelerating tool

Type of action: Research and Innovation Action (RIA)

Project website address: www.finterop.eu

Scoring

Scores must be in the range 0-5. Half marks may be given. Evaluators will be asked to score proposals as they were submitted, rather than on their potential if certain changes were to be made. When an evaluator identifies significant shortcomings, he or she must reflect this by awarding a lower score for the criterion concerned.

Interpretation of the scores

0 — The **proposal fails to address the criterion** or cannot be assessed due to missing or incomplete

information.

- 1 **Poor**. The criterion is inadequately addressed, or there are serious inherent weaknesses.
- 2 **Fair**. The proposal broadly addresses the criterion, but there are significant weaknesses.
- 3 **Good**. The proposal addresses the criterion well, but a number of shortcomings are present.
- 4 **Very Good**. The proposal addresses the criterion very well, but a small number of shortcomings are present.
- 5 **Excellent**. The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

Evaluation

Proposal n°:

Individual evaluation / Consensus (delete as appropriate)

Ту	pe of activity:					
	Excellence	1	Score Thres		3/5,	
	te: The following aspects will be taken into account, to the extent that the oposed work corresponds to the topic description in the call text		veight		<i>σ, σ,</i>	
•	How well the proposal addresses the challenge as detailed in the respective challenge description.	ie				
•	How well the applicant understands the F-Interop project, current development, and mission.					
•	For Category C, how relevant is the expertise of applicant, size of the company, number of the tools considered in the testing phase?					
•	For Category D, how relevant are the potential number of users/participants mobilized for the plugfest events and number of functionalities tested?					
2.	Impact	S	Score	2:		
•	How well the proposed work will engage new communities and help textend the impact of the overall F-Interop project.	() '	Thres veight		3/5,	
•	To what extent the proposal has the potential to address future/wide challenges in the area.	er				
•	To what extent is there potential for the proposal to improve communit outreach relevant to the F-Interop mission?	ty				
3.	Quality and efficiency of the implementation		core			
•	How effectively will be the IE managed? How effective is the propose transfer of feedback from plugfests or the testing phase to the F-Interoconsortium?	u į	Thres veight		3/5,	
•	Is the expertise of the applicant relevant to the task (e.g. involvement with previous standardisation activities and testing)?	th				
•	To what extent appears the consortium to have dedicated the adequate resources (e.g. human capital, equipment, man hours, etc.) necessary to perform the scope of the proposal.					
•	To what extent the crucial risk (technological, commercial and other) to I success appear to have been identified and how effectively these will b managed.					
	Total score (1+2+;	3)				
	Threshold 9/1	5				
	-					
Do	es this proposal contain ethnical issues that may need further attention?	NO		YES		

Acronym:

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

Name	
Signature	
Date	
Name	
Signature	
Date	

Created by: Marie Baldauf-Lenschen, 26.10.2017, Confidentiality: Internal & Partners



PROJECT PERIODIC REPORT – Template for Industrial Experiment

IE Number	
IE Title	
Person Responsible	
Date	

NOTE: This is a living document that will evolve from IE kick-off until IE closure

Created by: Émilie Mespoulhes, 26.10.2017, Confidentiality: Internal & Partners Template_PeriodicReport.docx

1. Abbreviations

Abbreviation Meaning

2. Publishable summary (1 page)

Provide a summary of this industrial experiment that can be made publically available (e.g., F-Interop website). Please include one project image, logo or drawing.

3. Project approach (1 page)

Provide a list of project milestones and projects deliverables (inclusive due date and status) including technical readiness level (TRL^2)

Include Gantt chart

 $[\]frac{\text{http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/annexes/h2020-wp1415-annex-g-trl_en.pdf}$

4. Work Progress and Achievements during the Period

Reporting Period: DD/MM/YYYY - DD/MM/YYYY

Summary (200-400 words)

- Summary of work and progress towards overall objectives
- Summary of work and progress by Task

Results (bullet points)

• Results and achievements for relevant Deliverables / Milestones during the reporting period

Deviations and corrective actions if applicable (100 words)

- Description of significant deviations from DoW
- Possible impact
- Explain the reasons for failing to achieve critical objectives and/or not being on schedule

If applicable, propose corrective actions

5. Risks and mitigation strategy

No	Date	Description of	Probability	Impact	Response Plan	Support
	Identified	Risk	<i>3-High</i> ,	3-High,		Required
			2-Medium,	2-Medium,		from
			1-Low	1-Low		Coaching
						Partner
1						
2						

6. Business opportunities and cooperation with the F-Interop platforms and competence partners

NOTE: this section shall be completed with the industrial experiment owner and support partners.

Cooperation overview (100 words)

- What kind of interactions have there been?
- How have you utilized the F-Interop platforms?
- Which parts have worked well with the F-Interop platforms / with the competence partners?
- If problems have occurred, what kind of problems and how could those have been avoided?

Technical cooperation (200 words)

- Formulation of the needs with regards to industrial constraints
- Exploration of the potential solutions, identification of the components and the services required to build the final F-Interop product
- Best pilot lines and available technologies, platforms or infrastructures to design the product
- Necessary tools and infrastructures
- Validation of the industrial feasibility and delivering product industrialization plans.

Future Collaboration and Support (100 words)

- Describe future envisioned collaboration and support to the F-Interop platform.
- Required or interesting future industrial cooperation to support designing the F-Interop product.

I, the undersigned, hereby confirm that the above is an accurate statement and the work it refers to has been completed in conformance with the Industrial Experiment Contract.

Signature	
Name	
Title	
Date	