## FED4FIRE+ RATIONALE

We are rapidly evolving towards a fully digital society. From the way we pay bills to how we watch a movie in the evening, we daily use a wide range of technology applications.

Ensuring the **safety** and **trust** of these technologies is a real challenge for research, which must deal with fast-changing requirements and heterogeneous features in a highly competitive environment.

To tackle this challenge, since 2017, the Fed4FIRE+ project has provided **open Internet and network-related testing facilities** to researchers and innovators, fostering the validation of cutting-edge technological solutions and becoming a reference point in the research community.

## PROJECT FACTS

**Duration:** *January 2017 – June 2022*

**Call:** *H2020-ICT-2016-2017*

**Topic:** *Information and Communication Technologies, Research Infrastructure for Experimentation*

**Type:** *Research & Innovation Action*

Fed4FIRE+ project has received funding under grant agreement No 732638 from the Horizon 2020 Research and Innovation Programme, which is co-funded by the European Commission and the Swiss State Secretariat for Education, Research and Innovation.

Co-funded by the European Union

Co-funded by the Swiss Confederation

FED4FIRE
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# 5 MAJOR ACHIEVEMENTS OF FED4FIRE+

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## 1 Built a Large Community of Experimenters

Fed4FIRE+ supported over 150 experimenters in the validation of a number of concrete technology solutions. The Fed4FIRE+ community succeeded in bringing together researchers and innovators from academia, research institutions, industry and SMEs. Face-to-face and online Fed4FIRE+ Engineering Conferences (FECs) were the focal points of the community, providing an opportunity for experimenters to showcase their results, analyze technical requirements from the testbeds and foster synergies between innovators and facility providers.

## 2 Ensured a Low Threshold to Top-quality Experimental Facilities

70 open calls for funding and an open access mechanism enabled innovators to take advantage of large-scale and top-quality experimental facilities. The users' feedback collected greatly valued the variety of available technologies, the cost-effective experimental process and excellent support and expertise from testbed patrons.

## *Hands-on feedback from experimenters*

> *This experiment allowed us to identify four scalability bottlenecks. We adjusted one by one, and we came up with a new product development roadmap.*
>
> **Daniele Miorandi** about **GoldenOwl - Testing the Scalability of DLTs for Education Certificates**

> *We have used only a fragment of the large possibilities available in Fed4FIRE+, but we think that even small-scale experiments bring large benefits to SMEs like ours.*
>
> **Filip Wiśniewski** about **Video-Rooms - High performance, personalized WebRTC service for B2B customers**

## 3 Upgraded a Validated Framework of Federated Testbeds in Europe and Beyond

+ 25 experimentation facilities across Europe and the US were adapted to seamlessly integrate and build the largest federation worldwide of Next Generation Internet (NGI) testbeds. Such facilities typically focus on different kinds of networking-related research or on different communities regarding services and applications. The Fed4FIRE+ federation supported a very heterogeneous set of requirements in multiple technology domains.

## 4 Standardized Its Components on a Global Level

In August 2021, Fed4FIRE+ open application program interfaces (API) became a global standard for the federation and interconnection of testbeds. This was possible thanks to the official adoption of the ITU-T Recommendation "Open application program interfaces (APIs) for interoperable testbed federations".

## 5 Ensured the Sustainability after the Project End

Researchers and innovators can still put ICT ideas or solutions to test thanks to the open-access Fed4FIRE+ Testbeds Portal, which filters on available testbeds' technologies and provides you with a single account to perform experiments.

**SCAN THE QR CODE & FIND OUT MORE ON PORTAL.FED4FIRE.EU** »»

> *Fed4FIRE+ helped us to connect with a competent and valued partner for our concerns regarding Kubernetes.*
>
> **Stephan Schwichtenberg** about the **Neuropil cybersecurity mesh**