Digital around the World

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Introduction

Our society gets “Digital”
- Everything connected
- Always connected

“Digital” has huge socio-economic impacts
“Digital” is still at early stage
“Digital Society” is on the agenda at all levels of public authority
“Digital Society” is supported by a wide range of technologies

- Wide range of technologies (wireless, wired, cloud, Big Data, 5G, IoT, …)
- Linking & interaction between heterogenous technologies
Introduction

To be implemented in a
- Highly competitive environment with
- Rapidly evolving requirements

Research, Innovation, Development, …

Calls for
- Up-to-date testing facilities
- Skilled support

Too expensive for many players …
Fed4FIRE+

EU H2020 Funded project (2017 – 2021)

has the objective to
- serve the community and to
- support digital transformation

by
- offering low threshold access to
- a top-quality Research Infrastructure
- for a broad spectrum of activities in the IT domain
- covering a wide range of technologies
- and supporting application across multi-technology networks
Fed4FIRE+ allowing:

- academia, research groups, SME’s, start-ups, industry to research, develop, test, valorize, benchmarking,…
- new concepts, new technologies, new products,…
- in a trustable and reproducible manner
Problem that Fed4FIRE+ solved

Televic Rail (Belgium) wants to introduce New & Scalable on-board Passenger Information Systems (PIS) for trains

1. New system needs to be tested, but not on operational trains!
2. New system must be scalable (is software stable for multiple countries / 10 000 cars?)
3. Network changes (WiFi in stations / 4G on tracks)
Problem that Fed4FIRE+ solved

Scaling up to n systems in a single/multiple countries – how does the software behave?

- Behavior of the real-time PIS at scale
- Efficient way to scale up?

Virtual Wall testbed allows emulation and scalability testing in near-real life / realistic environment
Problem that Fed4FIRE+ solved

Wireless handover between wifi (station) and 4G (moving)

Reproducible experimentation on w-iLab testbed with mobile robots
Fed4FIRE+ - Expertise

Based on FP7 Fed4FIRE

- IMEC took 4 (FP7) + 5 (H2020) years role as project coordinator
- offering the largest federation worldwide of Next Generation Internet (NGI) testbeds
- providing open, accessible and reliable facilities
- supporting a wide variety of different research and innovation communities
Fed4FIRE+ is used for

- Testing of concept / Upscaling of product / tool
- Move from emulation- and lab-based evaluation to field testing
- Near-real life / realistic environment testing
- Validation / quality-label / creating trust / demo to customers
- Comparison / benchmarking of equipment / techniques
- Access to real devices
- Vender-neutral
- Show / exhibit expertise / visibility
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