



# ICT-11-2017

## Collective Awareness Platforms for Sustainability and Social Innovation

<http://ec.europa.eu/digital-agenda/en/collectiveawareness>

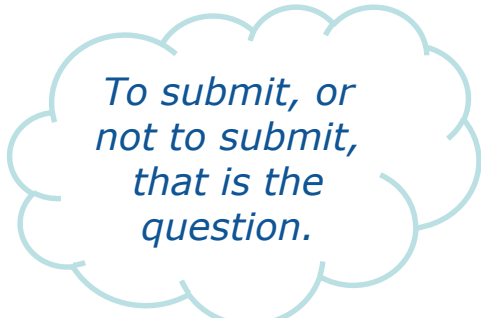
# Challenge

- 
- Capitalise on participatory innovation
  - Develop models and blueprints to produce collective intelligence
    - **leveraging on open data, knowledge networks, open hardware and Internet of things**
  - Demonstrate that innovative combinations of existing or emerging network technologies enable new Digital Social Innovation
    - **to cope with emerging sustainability challenges better than with traditional solutions**

# ICT-11a: Scope

- **Pilots** of Collective Awareness Platforms (CAPS)
- **Demonstrating** new forms of bottom-up innovation and social collaboration
- Exploiting digital citizen engagement and **collaborative tools**
- Based on **open** data, **open** knowledge, **open** source software and **open** hardware
- Harnessing **crowdsourcing** or **crowdfunding** models
- Leveraging on fresh grassroots ideas and civil society **participation** in the broad digital social innovation domain

# ICT-11a: target areas



*To submit, or  
not to submit,  
that is the  
question.*

- New participatory innovation models for economy and society
  - **e.g. collaborative or circular economy, collaborative public services and collaborative making**
- Solutions for sustainable lifestyles
  - **e.g. collaborative consumption and production, smart reuse, low carbon approaches**
- Emerging ethics of digital innovation
  - **e.g. social entrepreneurship, direct democracy, privacy preservation, digital rights**

*At least 1 proposal per area will be selected*

# ICT-11a: methodological approach

- Include in consortia an existing and motivated community of citizens
  - **driving platform development**
- Base the platforms on an appropriate combination of existing or emerging network technologies
  - **e.g. distributed social networks, wikis, sensors, blockchains**
- Demonstrate a durable multidisciplinary collaboration
  - **including in the consortia at least two entities whose main focus of interest is beyond the ICT domain**

# ICT-11a: methodological approach



- **Integrating different platforms**, addressing several sustainability challenges
- **Engaging civil society at large**, for instance through NGOs, local communities, social enterprises, non-profit organisations, students and hackers

# ICT-11b: Coordination & Support Actions

- Coordinate and **support** the CAPS initiative and the underlying broader digital social innovation constituency
- Identify links and **synergies** among different projects
- Ensure **visibility** and contacts at European and international level

# ICT-11: expected impact (1/2)

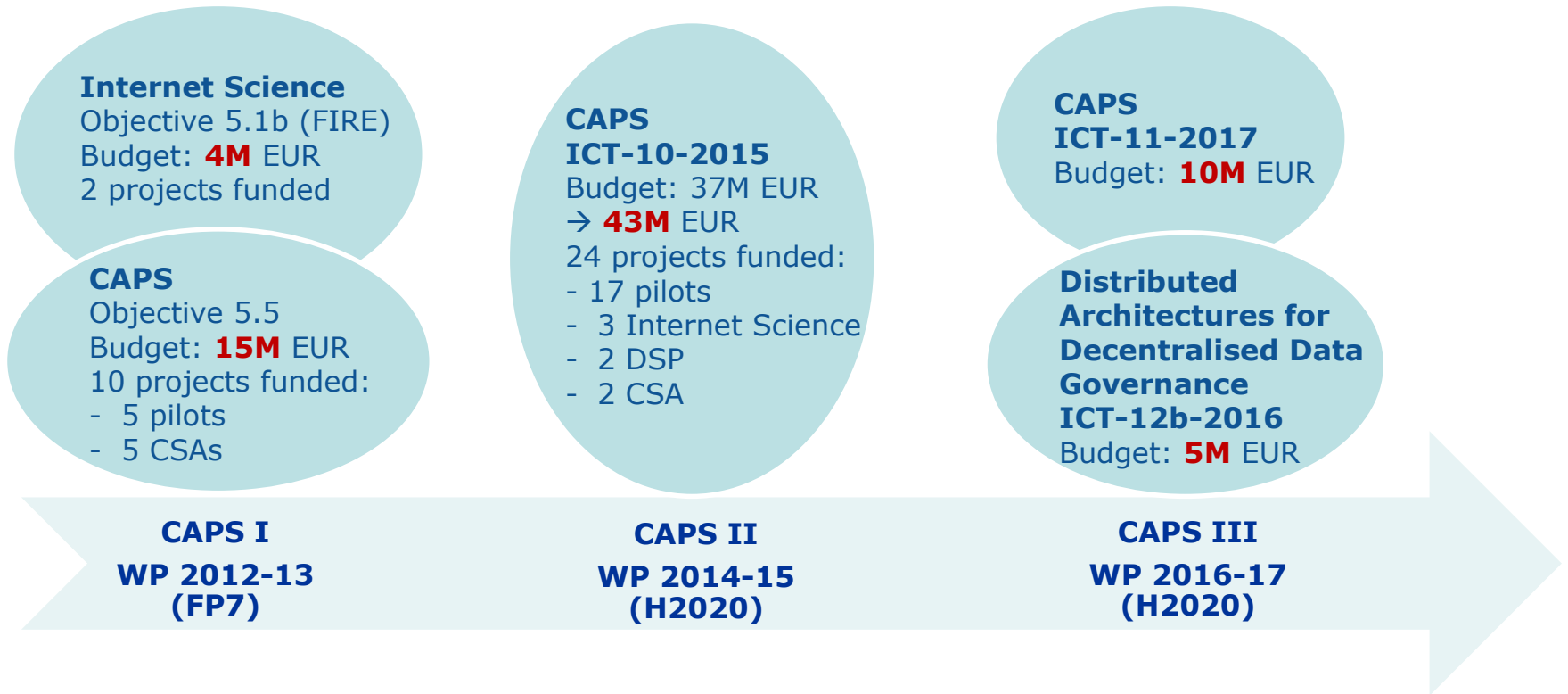
- Demonstrate **increased effectiveness** of new **bottom-up, open and distributed approaches** exploiting network effects and based on open data /open hardware, compared to existing solutions to societal/sustainability challenges
- Capability to reach a **critical mass** of European citizens and to **transpose** the proposed approaches to **other application areas** related to sustainability
- Achieve **effective involvement of citizens and relevant new actors in decision making**, collective **governance**, new **democracy models, self-regulation, citizen science** and citizens' observatories, new business and economic models



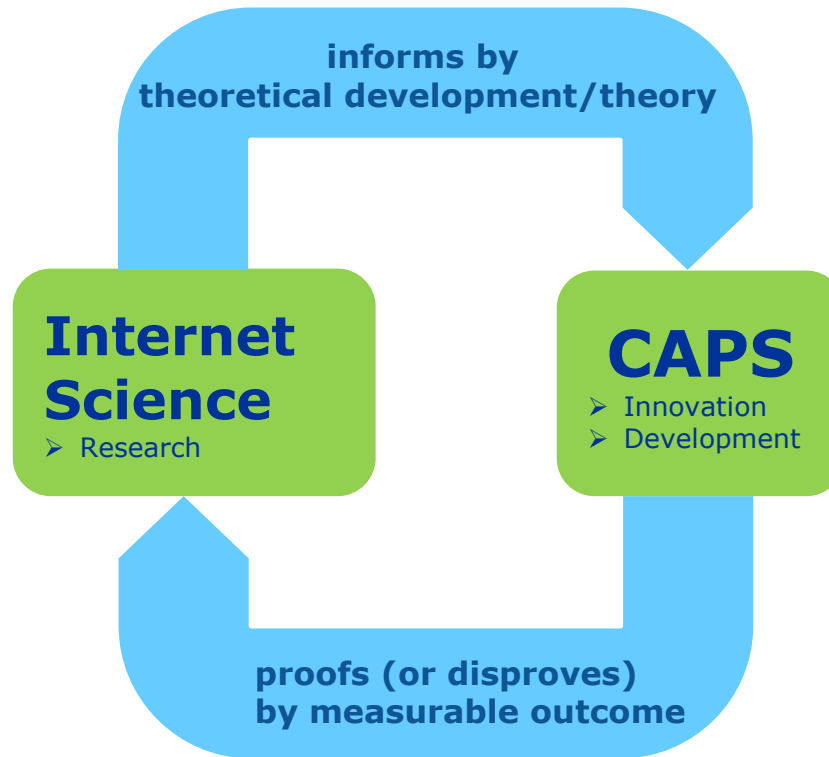
## ICT-11: expected impact (2/2)

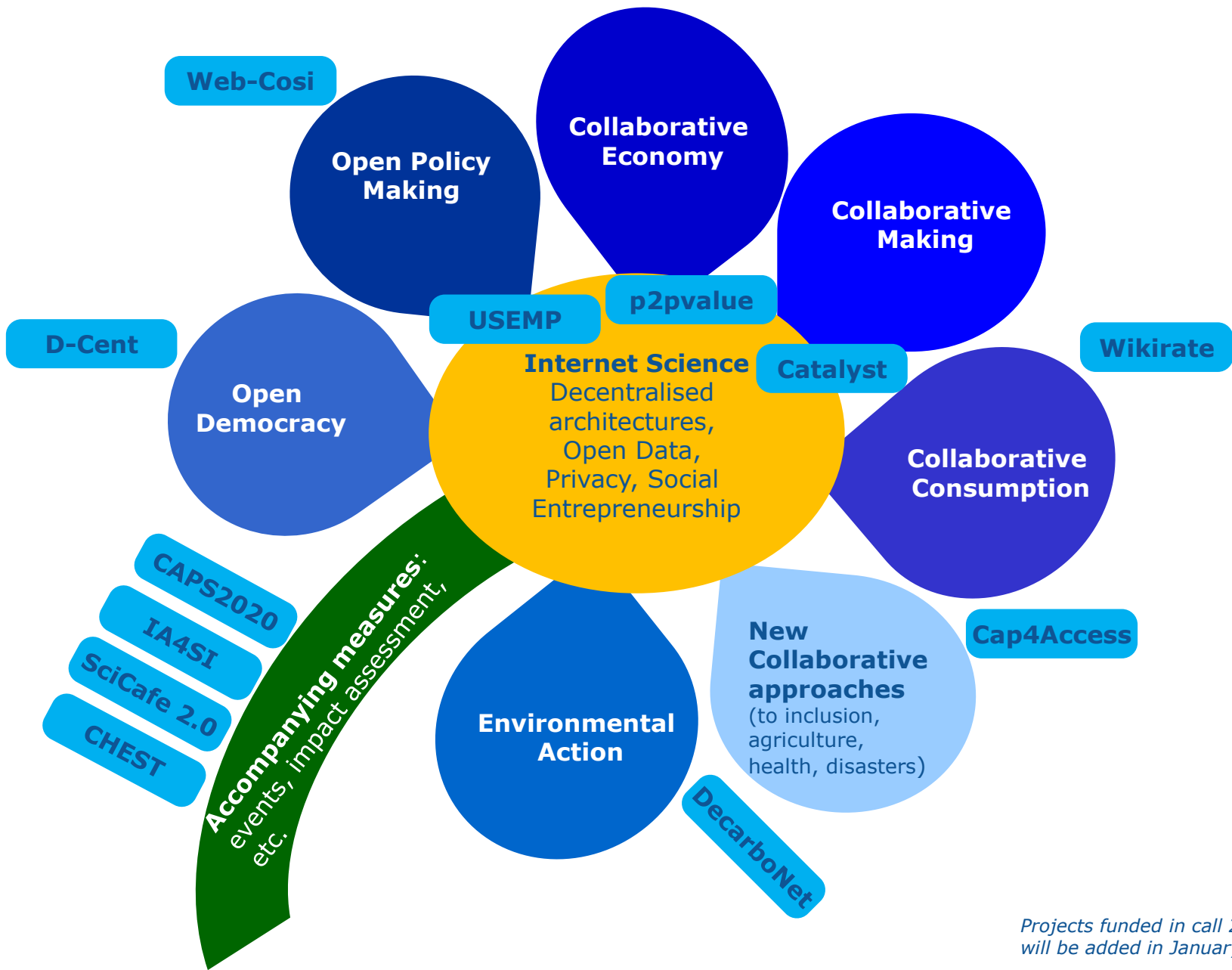
- Achieve measurable improvement in **cooperation among citizens**, (including elderly), researchers, public authorities, private companies and civil society organisations in the development of new **sustainable and collaborative consumption patterns, new lifestyles, and innovative product and service creation and information delivery**
- Demonstrate the applicability of concrete and **measurable indicators** to assess the social impact and the "**social return of investment**" of the proposed solutions

# CAPS: Evolution



# CAPS and Internet Science





*Projects funded in call 2 will be added in January 2016*

# CAPS: Examples

**Open Democracy:** enabling citizens' participation in democratic processes (voting, consultation)

- **D-Cent:** *Provide civil society with digital tools for democratic participation*

**Open Policy Making:** better decision making based on open data

- **WebCosi:** *Increasing trust in collectively-generated statistics*

**Collaborative Economy:** lending, exchange, swapping made to operate at scale

**Collaborative Making:** new ways of manufacturing

**Collaborative Consumption:** rethinking consumerism

- **Wikirate:** enabling citizens to rate companies on corporate social responsibility

**Environmental action:** applying citizen science and IoT to environmental challenges

- **DecarboNet:** *foster behavioural change to reduce energy consumption*

**New Collaborative approaches** to inclusion, agriculture, health, disaster management

- **Cap4Access:** *Collectively removing barriers to inclusion*

**Internet Science,** Decentralised architectures, Open Data, Privacy, Social Entrepreneurship

- **Catalyst:** *Experimenting new collective forms of creativity and collaboration*

**Accompanying Measures**

- **CAPS2020:** *Organisation and management of events*

# Why multidisciplinary?



ICT

To understand:

simple **online reputation mechanisms**



Economics

new **collective models for value creation** beyond monetisation



Innovation

**motivations** and **incentives** for online collaboration



Physics

impacts of social networks on

**sustainable collective behaviours**



Legal

...



Philosophy



Sociology



Psychology



History



Art



European  
Commission

# EC Study on Digital Social Innovation in Europe

## Crowdmapping actors and networks



[About](#) [Blog](#) [Events](#) [Organisations](#) [Activities](#)

<http://digitalsocial.eu/>

DIGITAL  
SOCIAL  
INNOVATION

*We're setting up a network of organisations that use the Internet for social good.*

- Be part of a growing community of Digital Social Innovation
- Inform better policy across the EU
- Showcase your work and network to potential funders and investors

It just takes a few minutes to get started. [Read More.](#)

[Put your organisation on the map](#)

Already signed up? [Log in.](#)

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# What do we NOT want?

- Proposals without a clear existing (and physical) community of motivated users
  - No "virtual" solution
- Proposals technology-driven, or aiming at purely commercial solutions
  - Rather integrating existing technologies
- Consortia without at least two partners which are focused on non-ICT disciplines
  - Be multidisciplinary!



# ICT-11-2017: Good to know

- ✓ **Opening:** 8 December 2016
- ✓ **Submission deadline:** 25 April 2017
- ✓ **Budget:** 10 M€ (IA: 9M€, CSA: 1M€)

## Work Programme:

[http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016\\_2017/main/h2020-wp1617-leit-ict\\_en.pdf#page=32](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-leit-ict_en.pdf#page=32)

## CAPS Website:

<http://ec.europa.eu/digital-agenda/en/collectiveawareness>

## Contact:

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**ICT-12-2016**

**Net Innovation Initiative**

# Challenge

- 
- Turn RTD & I outcomes into business success
  - Exploit the potential that open platforms offer for the development of new services and applications
  - Develop alternatives to current centralised platforms for big and social data management
  - Overcome the dominance of existing incumbent actors, stifling innovation and allowing less and less control over the data by citizens
  - Give key players and ecosystems, startups and SMEs a sufficiently innovative technology to innovate on the net
  - Outcomes of Future Internet RTD & I need to be transferred faster into real life.

# ICT-12a: Multi-vendor Open Service Platform

- ✓ Increase competition
- ✓ Avoid vendor lock-in
- ✓ Royalty-free open specifications
- ✓ Open source reference implementations, offered by multiple vendors
- ✓ Deploy FIWARE platform (FP7)

# ICT-12a: Innovation Actions (1/2)

- i. FIWARE adoption
  - take-up of FIWARE in **cities**
  - evolution of the FIWARE platform with new context-aware services addressing the needs of cities
- ii. Ecosystem creation
  - development of an engagement strategy
  - building and supporting an open **community** of FIWARE innovators and users (hackathons, challenges, community programmes for startups and SMEs, link to related national and regional programmes)

# ICT-12a: Innovation Actions (2/2)

## iii. FIWARE sustainability and evolution

- further evolution of the FIWARE platform by an open community
- execution of a **roadmap** (set of supported enablers, reference implementation in open source, maintained and made available to third parties, clear terms and conditions)
- create public sandbox environment for **experimentation** of all supported enablers
- build an open source community to manage the integrity and evolution of the FIWARE technology and to ensure a real multi-vendor approach

## iv. Acceleration activities

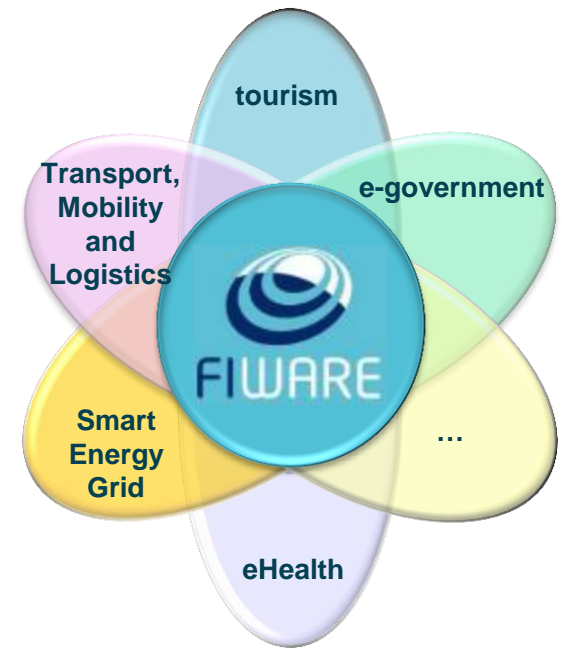
- support SMEs and startups taking research results of projects in the domain of Future Internet
- financial support to third parties (typically EUR 25,000-75,000 EUR)

## ICT-12a: Expected Impact

- Outcomes handed over to an open, multi-stakeholder community
- Ensure the evolution of FIWARE and its take-up among industry and small business
- Establishing FIWARE as the open service platform of choice for cities
- Increased take-up of Future Internet technologies by SMEs and web entrepreneurs
- Significant increase of the effectiveness of business processes and applications of high economic and/or societal value



- Goal: capture opportunities derived from the new wave of digitalization of life and businesses that is coming
- Strategy: Develop platform components to ease application development and nurture an ecosystem around the technologies to capture opportunities
- Pillars:
  -  **FIWARE** : an open standard platform which serves the needs of developers in multiple domains
  -  **FIWARE Lab** : an implementation of the platform where anyone can experiment and test the technologies
  -  **FIWARE Ops** : the suite of tools easing deployment and operation of FI-WARE instance nodes
  -  **Accelerate** : a program that funds and supports startups and SMEs to create business using FIWARE technologies
  -  **FIWARE Mundus** : reach a global footprint, opening to regions that share the same vision and ambition



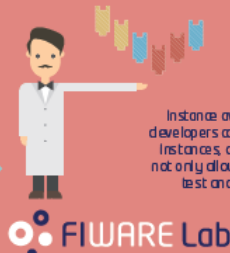


# FIWARE REFERENCE ARCHITECTURE 1

Set of components (Generic Enablers) that eases the creation of Smart Internet Applications by providing APIs that are public and royalty free, supported by open source reference implementations. They offer reusable and common shared functions serving multiple use cases in various sectors. They are available and ready to use in the FIWARE Catalogue.



# WHAT DOES FIWARE OFFER? 2



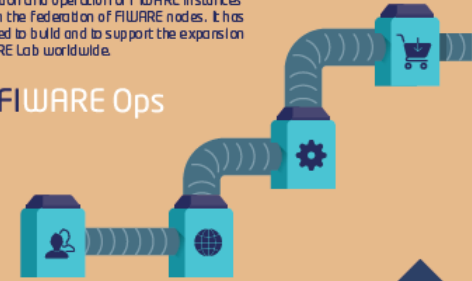
## 2 FIWARE Lab

The FIWARE Lab is an example of FIWARE Instance available as a free experimentation environment where developers can build their applications using available FIWARE GEnI Instances, or dedicated Instances they can deploy on their own. It not only allows them to experiment with FIWARE technologies, but test and showcase their applications with real data and users, making it easier to draw the attention of potential customers and investors.

# FIWARE Operations 3

FIWARE Ops is the suite of tools that will ease the creation and operation of FIWARE Instances based on the Federation of FIWARE nodes. It has been used to build and to support the expansion of FIWARE Lab worldwide.

## FIWARE Ops



# COACHING AND MENTORING 8

The FIWARE Accelerator Programme, co-funded by the European Commission, provides mentoring and distributes a total amount of 80 million euros among the most innovative and SMEs projects with a higher potential.



# FIWARE (Oct 2015)

# FIWARE Academy 4

The FIWARE eLearning Platform is a good place to start. Here you will find **webcasts, tutorials and other training material** about FIWARE Generic Enablers.



# FIWARE Mundus 7

With the growth of the FIWARE ecosystem, cooperation opportunities are increasingly arising all around the globe, as well as the need to share the knowledge of FIWARE and establish new FIWARE Lab nodes. FIWARE Mundus aims to facilitate the growth of a global ecosystem by mobilizing policy makers and Innovation Initiatives in EU regions and countries outside Europe, where the uptake of Future Internet technologies can rapidly occur and create impact on local markets. Current leads include a dozen of EU and international regions including Mexico, Chile, Brazil, US, Canada, and some African countries.



# 6 FIWARE INNOVATION HUBS



To encourage the growth of European digital economy, FIWARE enables European business hubs to enrich their services and to accelerate the creation of new Internet-based business. The starting point is the initial network of EIT ICT Labs nodes. New Hubs have been selected to expand the reach of FIWARE technologies, so that as many companies as possible can have an easy first contact with FIWARE and take full advantage of it.

# 5 CITIES AS ENGINES OF INNOVATION

Making a city become "smart" means the organic adoption and further development of a common set of standard APIs, data models and open data platforms which will ultimately fuel city-driven innovation and transform cities into hearts of economic growth and enablers of sustainable well-being of citizens. Thanks to the FIWARE open standard platform and the sustainable ecosystem around FIWARE Labs, cities can make their Open Data available to cities, communities and developers worldwide for free experimentation based on open licenses.



# FIWARE Catalogue

TAKE THE TOUR

QUICK FIWARE GUIDE FOR DEVELOPERS

## FIWARE GENERIC ENABLERS

Generic Enablers (GE) offer a number of general-purpose functions, offered through well-defined APIs, easing development of smart applications in multiple sectors. They will set the foundations of the architecture associated to your application.

Specifications of FIWARE GE APIs are public and royalty-free. You can search for the open source reference implementation, as well as alternative implementations, of each FIWARE GE in the FIWARE Reference Architecture.



**Data/Context Management**  
Easing access, gathering, processing, publication and analysis of context information at large scale.



**Internet of Things (IoT) Services Enablement**  
Make connected things available, searchable, accessible, and usable.



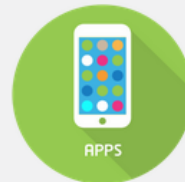
**Advanced Web-based User Interface**  
3D & AR capabilities for web-based UI.



**Security**  
Make delivery and usage of services trustworthy by meeting security and privacy requirements.



**Interface to Networks and Devices (I2ND)**  
Build communication-efficient distributed applications, exploit advanced network capabilities and easily manage robotic



**Architecture of Applications / Services Ecosystem and Delivery Framework**  
Co-create, publish, cross-sell and consume applications/services, addressing all business aspects.

## DOMAIN SPECIFIC ENABLERS

The FIWARE Catalogue will be extended to include domain-oriented enablers to be combined with those serving general purposes (Generic Enablers - GE). They will cover functionalities that are specific and will help accelerating development of applications, in certain domains.

The perfect solution to make your app focus on a specific vertical.



## BUNDLES

### BUSINESS FRAMEWORK CONSUMPTION

The business Framework Consumption Bundle includes a set of GEIs that support different monetization and revenue sharing features.

### DATA CONTEXT STREAMS

Context Streams generation storage and analysis.





# Acceleration of Future Internet research results

- Accelerators
- Company managed funds
- ICT infrastructure providers
  - Public sector
- Regional Development Agencies
  - Sectorial ecosystems
  - SME associations
  - Others?



Consortium



By sector



By business ecosystem



By regional dimension



By ??

## ICT-12b: Distributed architectures for decentralized data governance (1/2)

- Demonstrating a **distributed open hardware and software platform** (for communications, cloud computing or Internet of Things)
- Supporting decentralised data and identity management and bottom-up participatory innovation
- Provide SMEs, social enterprises, industries, researchers, communities and individuals with a new development platform, which is intrinsically protective of the **digital sovereignty** of European citizens

## **ICT-12b: Distributed architectures for decentralized data governance (2/2)**

- Fully distributed, e.g. using decentralised algorithms based on blockchains
- Resilient, intrinsically resistant to malware and hacking
- Preventing any possible centralisation of data storage or data management
- Able to provide federated identity management

# ICT-12b: Goal

- Design, develop and demonstrate an architecture for such a platform
- Involving
  - **technological actors** (P2P and open source developers, open hardware manufacturers, experts in security, encryption, anonymity, blockchains and linked data)
  - **civil society** organisations (citizens' organisations, digital rights advocacies, artists, social scientists)
  - **developers** of the overlying social applications and systems (creative industries, SMEs, social entrepreneurs, software developers).
- To create robust **open standards** for distributed and decentralised architectures (in coordination with industry and academia)

# ICT-12b: Expected Impact

- Demonstrate how a distributed architecture can enable **new data services** and disruptive (e.g. commons-based) economic models (as an alternative to the current centralised data management platforms)
- Demonstrate that citizens' generated data can be made available as part of a common distributed and decentralised architecture, open to all, so to **allow new entrants to aggregate data on demand**, bringing unanticipated features and innovative services
- Develop an architecture and open standards allowing European citizens to retain **full control over their digital identities**, and to move their personal profiles between different platforms (data portability)
- Create a **level playing field** for the development of new **collaborative applications and services** based on emerging participatory innovation models that are intrinsically respectful of privacy and ethics



# ICT-12c: Coordination and Support Actions

- Support for collaboration and networking in the domain of Future Internet
- Organisation of the Net Futures conference
- Increased multi-disciplinary collaboration among Future Internet communities

# ICT-12-2016: Good to know

- ✓ **Opening:** 20 October 2015
- ✓ **Submission deadline:** 12 April 2016
- ✓ **Types of action:** Innovation Action (IA, 12a), Research and Innovation Action (RIA, 12b), Coordination and Support Action (CSA, 12c)
- ✓ **Budget:** 15M € (12a), 5M € (12b), 200,000 € (12c)

## Work Programme:

[http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016\\_2017/main/h2020-wp1617-leit-ict\\_en.pdf#page=34](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-leit-ict_en.pdf#page=34)

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[johanna.schepers@ec.europa.eu](mailto:johanna.schepers@ec.europa.eu)

# Regulatory environment for platforms, online intermediaries, data and cloud computing and the collaborative economy

## **Public Consultation:**

- *This is a key action under the Digital Single Market*
- *Understand better the **key role of platforms** with the aim to create framework conditions for the digital world*
- *Addresses also **Open Service Platforms***
- *For the first time policy makers sound out stakeholders to present their issues, concerns and advice.*
- ***Reply by 30 December 2015***

## **Specific questions on Open Service Platform:**

*"What are in your opinion the socio-economic and innovation advantages of open versus closed service platforms and what regulatory or other policy initiatives do you propose to accelerate the emergence and take-up of open service platforms?"*

[Go to Survey](#)

# Looking for experts!

- are YOU an **expert** in the topic?
- are YOU **not submitting** a proposal?
- do YOU want to **work as evaluator** for these calls?

Please send an email and a short CV to [CNECT-SOCIAL-INNOVATION@ec.europa.eu](mailto:CNECT-SOCIAL-INNOVATION@ec.europa.eu).



WE WANT YOU