

# **Internet of Things**

## ***Policy Research and Innovation***



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# #DigitalSingleMarket

**EC DSM technologies and public services modernisation package** - set of coherent policy measures aiming at the digital transformations of our industries and at maximising their impact on economic growth

***Chapeau Communication on Digitising European Industry - Reaping the full benefits of a Digital Single Market***

***Communication on the Priority ICT Standards Plan***

>ICT Standardisation Priorities for the Digital Single Market

***Communication on European Cloud initiative***

>Vision document and framework for future actions

***Communication on the e-Government Action Plan***

>Digital transformation of public services

***Staff Working Document on the Internet of Things***

>Advancing the Internet of Things in Europe

## Internet of Things action plan

The action measures for IoT are listed in the following communications:

- **Communication "Digitising European Industry – Reaping the full benefits of a Digital Single Market"**
- **Communication "Priorities for ICT Standardisation for the Digital Single Market"**
- **DSM Strategy: under the free flow of data initiative**



# Internet of Things action plan - 3 pillars

**1) Single market for IoT:**

IoT devices and services should be able to connect seamlessly and on a plug-and-play basis anywhere in the European Union (EU)

**2) Thriving IoT ecosystem:**

Open platforms used across vertical silos will help developer communities to innovate. As a kick-start, IoT deployments in selected lead markets will be supported

**3) Human-centred IoT:**

Respect of European values, empowering people along with machines and businesses, high standards for protection of personal data and security, notably through a "Trusted IoT label"

# IoT relevant Actions from Digitising European Industry communication

The Commission, together with Member States and industry, will:

Propose a governance framework for coordination of digitisation activities:

- **Organise twice a year, a high-level Roundtable** of representatives of Member States' initiatives, industry leaders, and social partners ensuring a continuous EU-wide dialogue
- **Set up a yearly European stakeholder forum** for wider consultation and outreach involving stakeholders from the full digital value chains

Co-investing in boosting Europe's digital innovation capacities (Digital Innovation Hubs across Europe):

- Commission plans to focus 500M€ investment from Horizon 2020 on digital innovation hubs on: **networking and collaboration of digital competence centres** and cluster partnerships; supporting **cross-border collaboration of innovative experimentation** activities; sharing of best practices and developing, by end of 2016, a **catalogue of competences; mobilising regions** with no Digital Innovation Hub to join and invest; Wider use of **public procurement** of innovations to improve efficiency and quality of public sector

# IoT relevant Actions from Digitising European Industry communication

The Commission, together with Member States and industry, will:

Co-investing in boosting Europe's digital innovation capacities (*Facilitate partnerships for leadership in digital technologies value chains and platforms by launching a set of initiatives supporting the building of the digital industrial platforms of the future*):

- **Leadership in IoT:** The Commission will invest in **demand-driven large-scale pilots and lighthouse initiatives** in areas such as **smart cities, smart living environments, driverless cars, wearables, mobile health and agro-food**. The investment will address notably open platforms cutting across sectors and accelerate innovation by companies and communities of developers, building on existing open service platforms, such as FIWARE. **The Alliance for IoT Innovation (AIOTI) is seen as playing a key role in achieving this goal**



# IoT relevant Actions from Digitising European Industry communication

The Commission, together with Member States and industry, will:

Provide the appropriate regulatory framework conditions:

- Propose in 2016 the initiative on a **free flow of data** within the EU in order to remove or prevent unjustified localisation requirements in national legislation or regulation as well as to examine in greater detail the emerging issues of **data ownership**, access and re-use rules, including as regards data in an industrial context and especially data generated by sensors and other collecting devices.
- Explore the legal frameworks for **autonomous systems and IoT** applications in particular safety and liability rules and the **legal conditions** to allow large scale testing in real life environments.

# IoT relevant Actions from Standardisation communication

## Main goal:

Ensure that ICT-related standards are set in a way that is more responsive to policy needs, **agile, open, more strongly linked to research and innovation, better joined-up**, and thus that they ultimately **have more impact** for the wider European economy as it transforms into a digital one. **Internet of Things** is one of the five priority areas identified by the Commission relevant for action.

- It will complement existing tools: e.g. Rolling Plan for ICT Standardisation.

## Actions for IoT:

- Foster **an interoperable environment for the Internet of Things**, working with ESOs and international SDOs. This will develop consensus under the umbrella of the Alliance for IoT innovation (AIOTI), targeting **reference architectures, protocols and interfaces, the promotion of open application programming interfaces (APIs), support of innovation activities related to reference implementations and experimentation and the development of missing interoperability standards.**



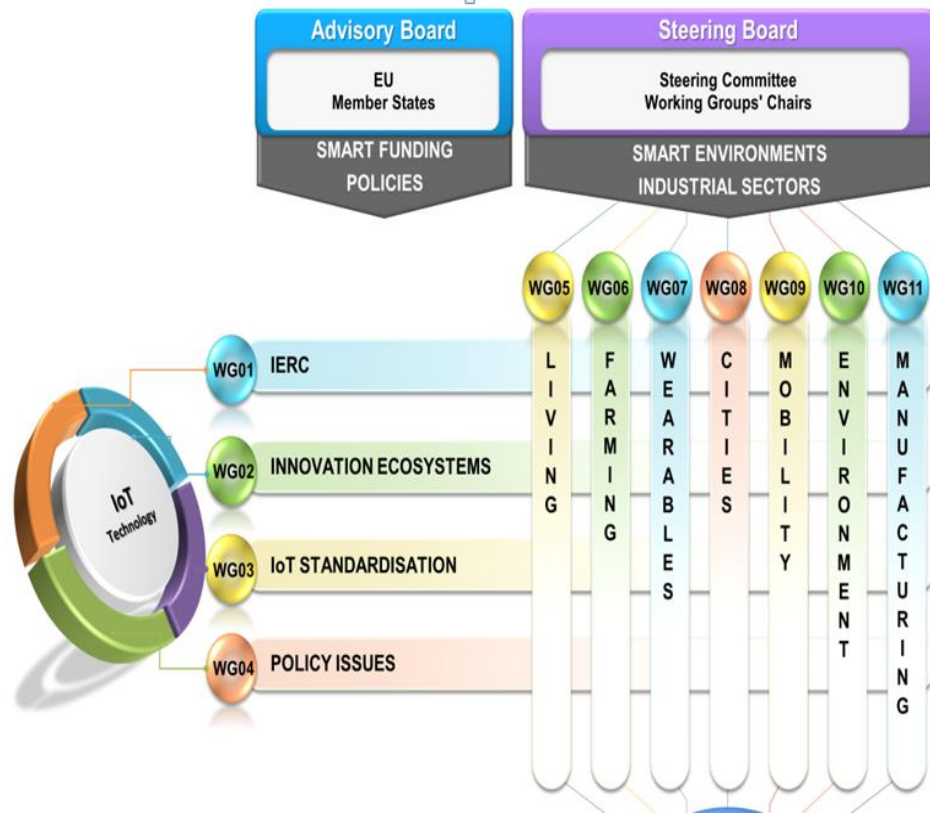
# IoT relevant Actions from Standardisation communication

## Actions for IoT:

- Promote the uptake of IoT standards in public procurement to avoid lock-in, notably in the area of smart city services, transport and utilities, including water and energy
- Promote an interoperable **IoT numbering space** that transcends geographical limits, and an open system for object identification and authentication
- Explore options and guiding principles, including developing standards, for trust, privacy and end-to-end security, e.g. through a '**trusted IoT label**'

## Policy cooperation: AIOTI – Alliance Internet of Things Innovation

- **Open Platforms** that accelerate innovation by companies and communities of developers
- Advancing IoT convergence across verticals for **standardisation/ interoperability**
- Discuss with industry to provide guidance for **Digital Single Market**
- Get connected on [www.AIOTI.eu](http://www.AIOTI.eu)



# EU's IoT Research







# EU's IoT Research

**IoT Focus Area (cross sectorial)**

**IoT-01 Large-scale pilots**

**IoT-02 Coordination and Support**



- **Foster take-up of IoT** in Europe and enable the emergence of IoT ecosystems supported by open technologies and platforms.
- **Coordination body** to ensure an efficient interplay of the various elements of the IoT-FA and liaise with relevant initiatives at EU, Member States and international levels
- Research and innovation effort in specific IoT topics will ensure the **longer-term evolution** of the Internet of Things
- **Link with IoT Large Scale Pilots**



## IoT – Large Scale Pilots in 2016

- *IoT LSP: Specific features*
  - Involve all value-chain actors
  - Address business model validation & standardisation
  - Address user validation and acceptability
  - Up-scaling of open platforms like FI-Ware, CRYSTAL, UniversAAL
- *Key Performance Indicators:*
  - Ensure the longer-term evolution of the Internet of
  - Critical Mass, leadership
  - Rich portfolio of technologies and tools
  - To guarantee the sustainability of the approach





# Expected Impact

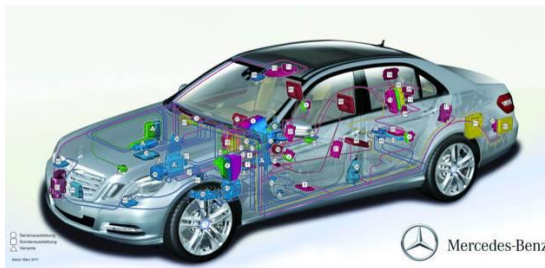
- Validation, sustainability and replicability, of architectures, standards, interoperability properties, of key characteristics such as security and privacy
- New industry and business processes and innovative business models
- Significant and measureable contribution to standards or pre-normative activities
- Improvement of citizens' quality of life, in the public and private spheres, in terms of autonomy, convenience and comfort, participatory approaches, health and lifestyle, and access to services
- Creation of opportunities for entrepreneurs, expanding local businesses to European scale, etc.
- Development of secure and sustainable European IoT ecosystems and contribution to IoT infrastructures viable beyond the duration of the Pilot

## FA IoT Pilot areas:

- Pilot 1: Smart living environments for ageing well
- Pilot 2: Smart Farming and Food Security
- Pilot 3: Wearables for smart ecosystems
- Pilot 4: Reference zones in EU cities
- Pilot 5: Autonomous vehicles in a connected environment

## Total budget:

- 100 MEUR



# Thank You



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<https://ec.europa.eu/digital-single-market/en/internet-things>

