Digital Platforms for 'Interoperable and Smart Homes and Grids'

DT-ICT-10-2018-2019 Introduction

IoT Week Bilbao 05 June 2018

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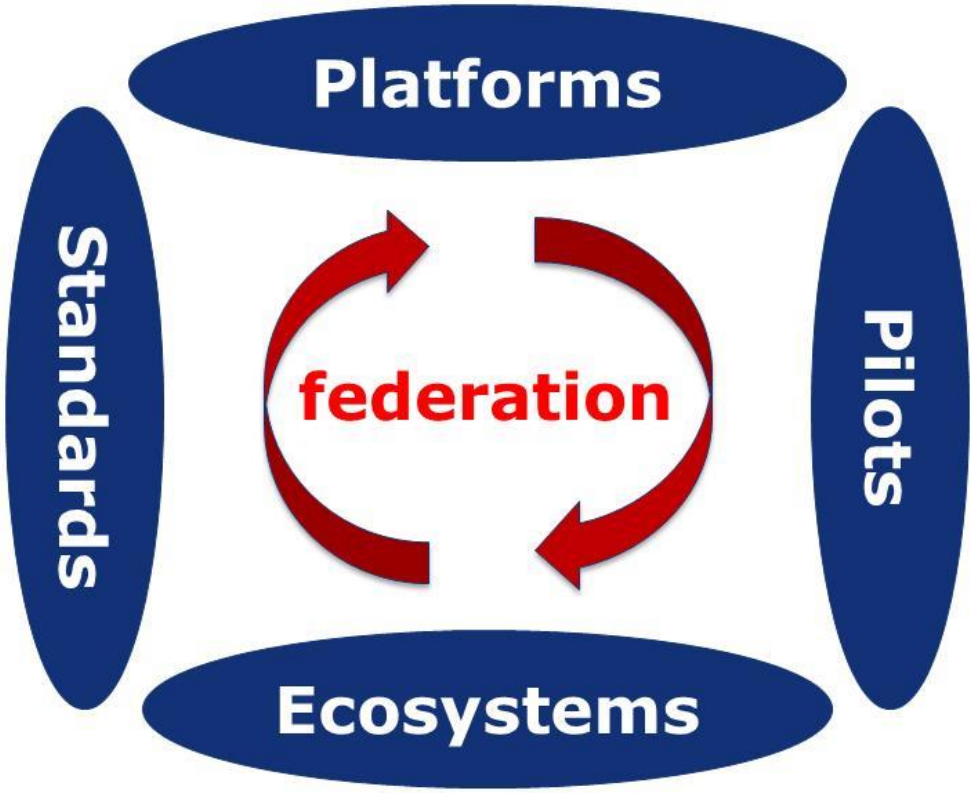
European Commission

Digital Industrial Platforms
Alignment of R&I efforts

EU actors join forces along common interests
Future global standards & platforms driven by interests of EU actors

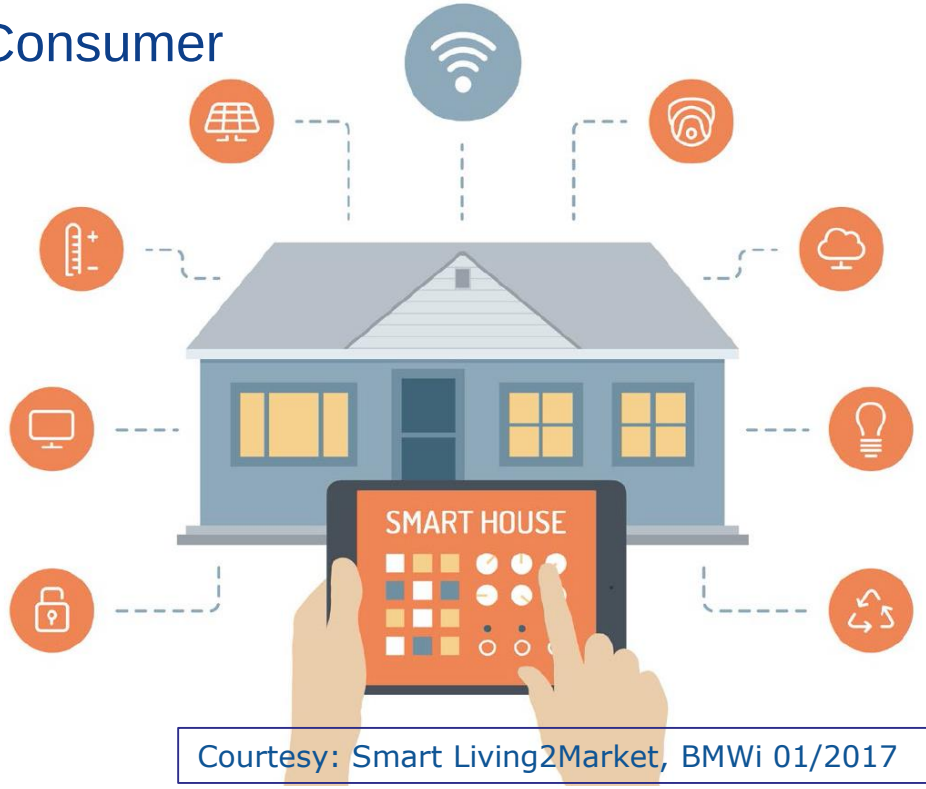
Focus investments on:

- Integration of key digital technologies
- Digital industrial platforms, reference architectures, …
- Reference implementations, large-scale piloting, experimentation environments
- Ecosystem building and standardisation

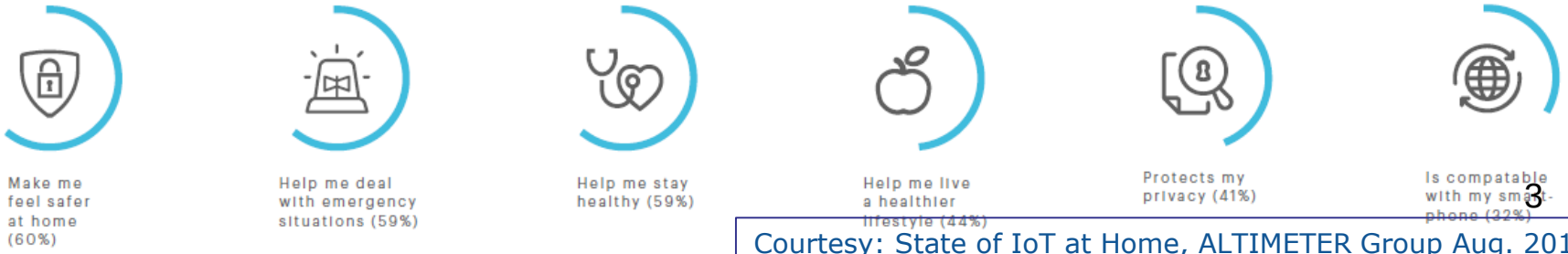


Perspectives for Smart Home Comfort

- Understanding IoT for the Home Consumer
  - Awareness – Fun
  - Interaction – Satisfaction
  - Security – Ownership
- B2C Considerations
  - Cross-cutting managed services
  - Managed Security & Lifecycle
  - Provision as a Service



Courtesy: Smart Living2Market, BMWi 01/2017

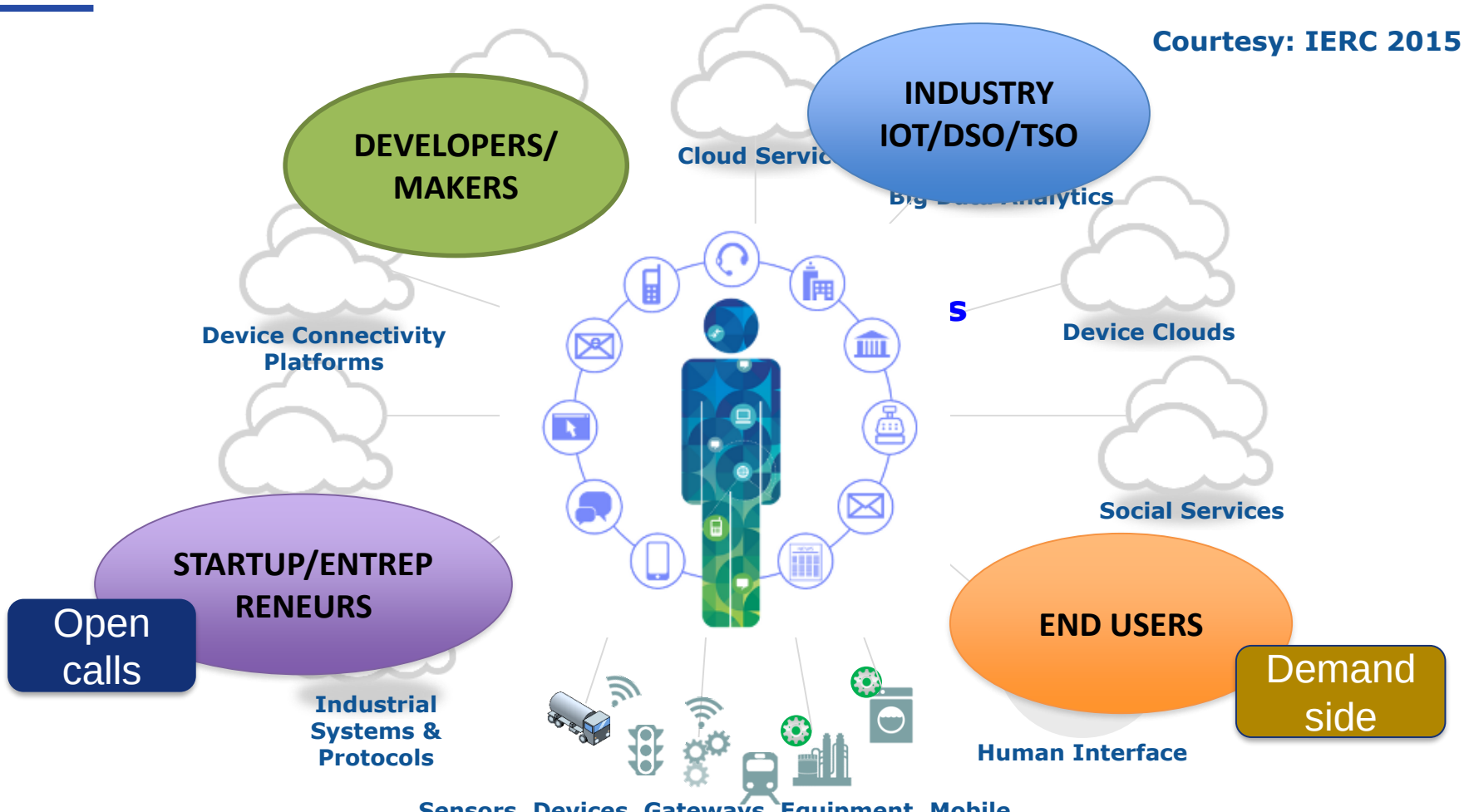


Courtesy: State of IoT at Home, ALTIMETER Group Aug. 2017

SDOs and Alliances Landscape

Source: AIOTI WG3 (IoT Standardisation) – Release 2.6

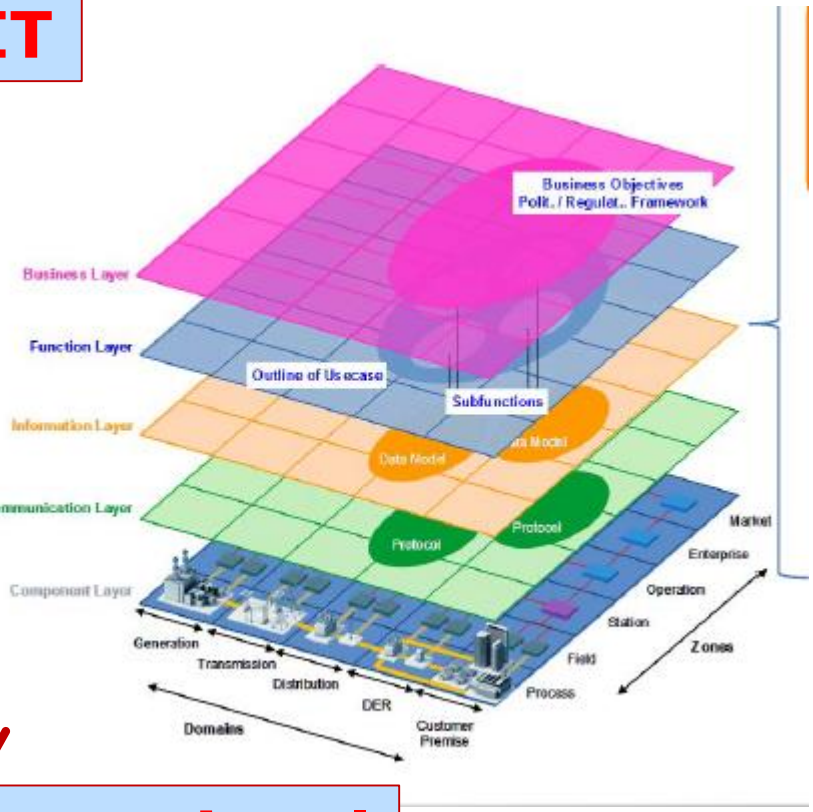
IOT eco system:
Devices, Applications and Business models



Architecture Models & Standards

European Commission

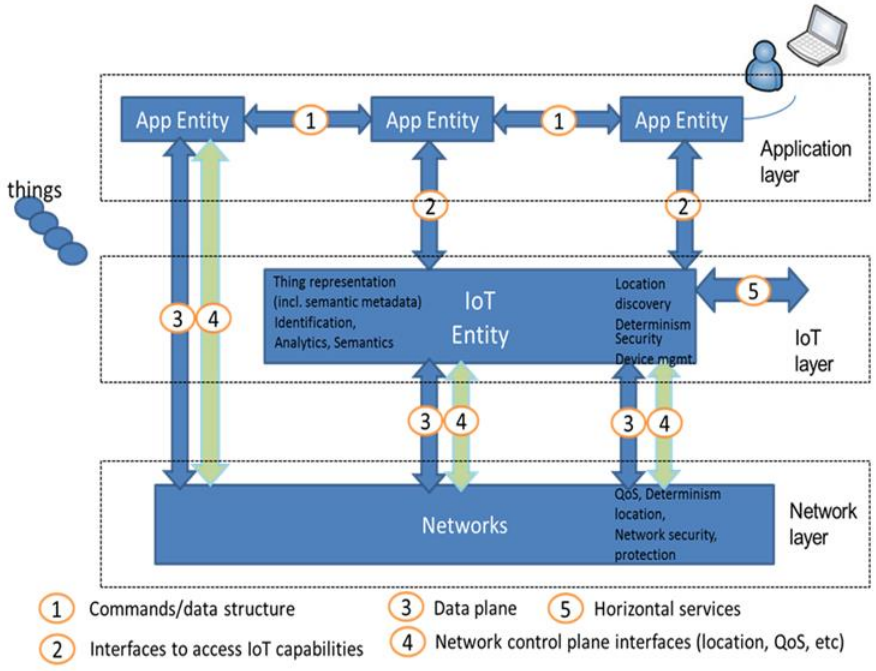
IT



Operational Technology

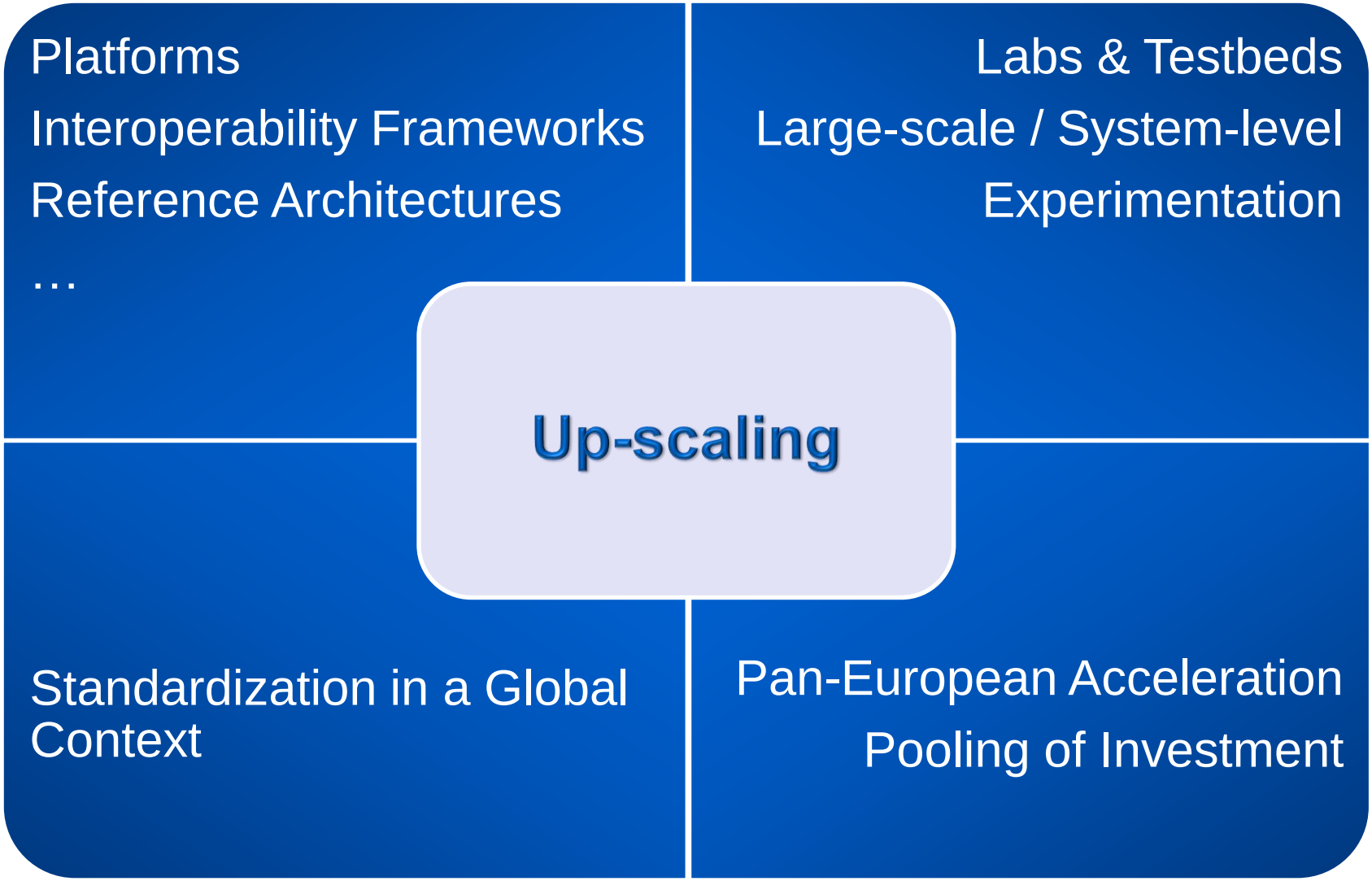
Reference Architecture

SAREF Ontology
as common language



AIOTI WG 03 High Level Architecture (HLA)

.... Guiding Principles ....



Challenges of IoT Interoperability & Standards

- ***Interoperability*** *– essential for a Digital Single Market, with seamless flow of data across sectors and value chains.*

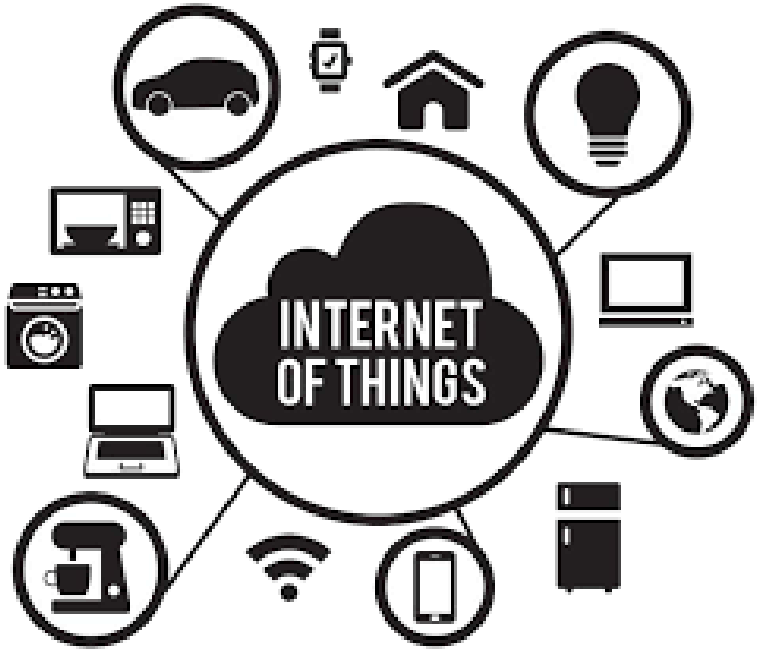
- *Hot interest:* ***Semantic Interoperability*** *standards like SAREF defined and after the EC study aligned. Scaling up needed.*

- ***End-2-End services*** *and Underlying IoT standards - Chicken and egg – supply- and demand-side are both struggling to define standards at appropriate level and scale-up.*

- ***Standardisation – Fast Track****, e.g. SAREF as an ontology for energy data and services to be extended across sectors energy, home, city, health..*

- *Innovation –* ***open innovation systems*** *move fast, and the standards processes struggle to keep up.*

Key challenge: flexibility (demand-side)
Key enabler: interoperability



- Goal: Delivering a fair deal for consumers
  - efficient integration of renewables
  - integrated smart home services through IoT
  - interoperable smart grids (production capacity optimisation)

Topic: DT-ICT-10-2018-2019

Timeline:

- Call opening: 26th July 2018
- Call deadline: 14th November 2018, 17.00h
- Budget: 30 Mio € - 1 Pilot only

Specific Challenges:

- Novel services for more comfortable, convenient and healthier living environment at lower energy costs for consumers
- The integration of renewable energy sources (RES) and promotion of energy efficiency
- To match user needs with the management of distributed energy across the grid, and to gain access to benefits from Demand Response

Success Factors of a large-scale pilots

Approach:

- **Internet of Things (IoT)** enables a seamless integration of home appliances with related home comfort and building automation services // IoT reference architectures models based on platforms that enable the integration of relevant digital technologies like IoT, AI, cloud and big data services and where applicable, combined with blockchain technologies.
- **Developing interoperability and seamless data sharing** across different application domains such as home comfort & well-being, smart appliances, building automation and energy management,
- **aligning existing standards** from the utility and ICT domains; and explore the need for further standardisation and legislation
- Active user engagement and a multi-disciplinary approach to ensure the understanding of user needs
- **The envisaged architecture should allow for third party contributions** that may lead to new value added services both in energy and the home/building domain.

Scale:

- promote the use of these interoperable solutions as widely as possible involving many different types of appliances
- Clear evidence of demonstrating the benefits of energy management through IoT application and services for the users
- demonstrate that such platforms lead to a marketplace for new services in EU homes and buildings

Financial support to third parties
(a.k.a. "open calls" or "cascading funding")

From General Annexes – K

Proposals […] shall **clearly detail the objectives** and the results to be obtained and include at least the following elements:

- a **closed list** of the different types of activities that qualify for financial support,
- the persons or **categories of persons which may receive** financial support,
- the **criteria** for awarding financial support,
- the criteria for **calculating the exact amount** of the financial support,
- the **maximum amount to be granted** to each third party

Innovation Actions
up to 20%

Specific rules for this call

- maximum amount to be granted can be in the order of **EUR 50.000 to 150.000** per party (general rule in H2020: max. 60.000)
- total amount to be granted via open calls can be **maximum 50%** of the project funding

"The action may involve financial support to third parties"
(this is not mandatory!)

Expected Impacts

- Increasing number of **energy apps/services and home devices and appliances** allowing to shift consumption according to wholesale market or grid-constraints-related price signals.
- Validation of **user acceptance**, as well as demonstration of viable concepts that ensure privacy, liability, security and trust in connected data spaces.
- Accelerated wider deployment and adoption of **IoT standards and platforms** in smart homes and buildings in Europe.
- Platforms lead to **a marketplace for new services in EU homes and buildings** *[built on a sustainable European IoT ecosystems and related business models with opportunities also for SMEs and start-ups]*
- Increasing the **use of renewable energy and increased energy efficiency**, offering access to cheaper and sustainable energy for consumers and maximising social welfare.

Events / Dates

- ICT Proposers Day on Horizon 2020 – WP2018-20
  - 9-10 Nov. 2017 in Budapest
- Secure, Clean and Efficient Energy Info Day
  - Stakeholder event in Brussels on 25 Oct. 2018
- Info Day, Horizon 2020 – 'Health, demographic change and wellbeing'
  - Stakeholder event in Brussels on -7-08 December. 2017
- Sustainable Energy Week EUSEW 2018
  - Policy Conference from 05-07 June 2018 in Brussels

14 Nov. 2018

Thank you - useful links

- Digitising European Industry Strategy (DEI):

  https://ec.europa.eu/digital-single-market/en/digitising-european-industry → **FUTURIUM**

- The Alliance of Internet of Things Innovation

  http://www.AIOTI.eu

- Internet of Things in DAE:

  http://ec.europa.eu/digital-agenda/en/internet-things

- Horizon 2020 – The EU Framework Programme for research and Innovation - Digital

  https://ec.europa.eu/digital-single-market/en/news/european-commission-invest-eur-6-billion-digital-research-2018-2020

- **Supporting and Building Platforms under DEI**

  - https://ec.europa.eu/digital-single-market/en/industrial-platforms-and-large-scale-pilots