

## Agreed strategic targets for Smart solutions for energy consumers:

The overall objective is:

Further develop plug-and-play energy management solutions that will lead to more comfortable, convenient and healthier living environment at lower energy cost for consumers. Based on ICT and energy technologies, these services need to be deployed in houses using innovative business and service models. They will also increase energy efficiency, create new demand response opportunities, optimise building operation and ensure RES integration in houses.

By 2030 R&I should contribute to the key enabling smart home technologies by:

1. Demonstrating new services based on innovative organisational and services models based on interoperability and data sharing between different devices and systems with monitored performance, cost-effectiveness, acceptability, replicability and serviceability, by:

Target:

- Demonstration and application of an interoperable reference architecture and a set of open interface standards as soon as possible, so that they will be the default architecture and standards that are used by new services by 2020.

Improving control and decision-making strategy based on better use of the data coming from devices and systems through more adaptive and accurate energy usage models combined with self-learning algorithms (e.g. in the form of open-source cloud-based applications).

Target:

- Improve the performance of the tools for forecasting the electricity consumption of the smart home so that is within 80% of the real consumption 1 hour in advance.

Developing user-friendly interfaces (including apps) that turn energy management technologies into easy-to-use services<sup>1</sup>, accompanied by the development of science-based KPI's to measure the benefits for consumers.

Target:

- Making available in the market 5 user-friendly interfaces/tools for energy management (including apps), in every MS, developed by start-ups and innovative service providers, that are part of a smart home service bundle.

- Making available an agreed methodology (KPIs and protocols) to measure the consumer benefits and the success in use of tools and appliances that are deployed in the market.

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<sup>1</sup> Smart energy apps should be driven by an ecosystem of vibrant apps developers that aim at providing innovative services for home user comfort and well-being. Future solutions must ensure interoperability and should be closely integrated with open smart home platforms addressing services in the field of building automation, demographic change, energy efficiency, security that are open to applications from various manufacturers and also Third Party developers.

2. Further deployment of robust and interoperable advanced energy-related sensors and controllers attached to or integrated in home energy devices that can be easily integrated into smart home management systems, and are easy to maintain and update.

Target:

- The additional cost of sensors, controllers and actuators, their installation and maintenance should have a pay-back period of maximum 3 years;
- Increased penetration of advanced energy sensors and controllers so that at least 80% of the electricity consumption and at least 80% of the total energy consumption is controllable through ICT<sup>2</sup> in 80% of the homes in Europe by 2030<sup>3</sup>.

These solutions should meet the following conditions:

- Proof of acceptance of services by EU-wide representative consumers
- Ensure that legal privacy, safety and security requirements are respected according to relevant EU and national legislation;

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<sup>2</sup> That uses the reference architecture and the open standards as stated in the target under 1)

<sup>3</sup> The reference to 80% of the total energy and the total electricity consumption in a house is set so as to ensure that the main electricity-consuming appliances beyond those used for heating and cooling are included.