

INITIATIVE **EEBUS** Energy@home

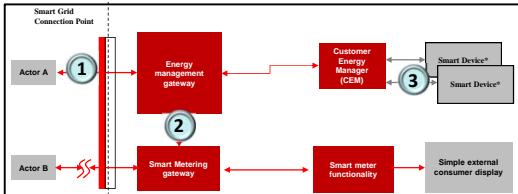
**JOINT INITIATIVE FOR
SMART APPLIANCE INTEROPERABILITY**

Interoperability is essential for consumers and for manufacturers

❑ Interoperability is needed

- Smart devices enabling demand response must be interoperable in order to allow consumers to enjoy flexibility of choice and reassurance on what they buy
- Consumers prefer an integrated system for Home Energy Management versus dealing with all products individually
- Interoperability allows manufacturers to exploit economies of scale in the EU market,
- Interoperability will make easier the development of new Energy Services that can be offered to the consumers

Common Standards Vs Interoperability: What is needed?



All boxes in the diagrams are logical functions and do not necessarily represent physical boxes.
CEM may be already included in a smart device

Taking as a reference the Home Area Network architecture proposed by SG CG:

- 1) Standard protocol with Energy Management Gateway is needed**
 - ❑ IEC\TC 57 addresses the market aspect as well as the grid operation
- 2) Interoperability with Smart Metering Gateway**
 - ❑ Standards on how Smart Meter can connect to the Han is developed by TC 205
- 3) Interoperability between a smart device and the Customer Energy Manager**
 - ❑ This is what many are trying to develop and is also the focus of the joint project Eebus-Energy@Home
 - ❑ The interoperability is not among Smart Appliances but Vs an Energy Manager

Scope of Interoperability for Smart Devices

- ❑ **The Appliance Industry vision is that Interoperability is needed to enable integration of Demand Response functionalities**
 - ❑ **The Appliance Industry has already defined what are the Use Cases to make Smart Appliances interoperable for:**
 - Smart start to benefit from low tariffs or use green power
 - Load shift to reduce peak consumption
 - Emergency power reduction request
 - ❑ **When coordinated by a central intelligence, connected devices can react to grid requests and make smart decisions.**
 - This smart automation can take the burden from users and increase efficiency by handling tasks in the background.
 - Possibility to enable a Central Energy Coordination is key to make end consumer an active player in the energy market
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Eebus&Energy@home project

- ❑ Agorà, Eebus and Energy @home attended together last Utility week with a common demonstrator and a common vision:

ONE EUROPE, ONE LANGUAGE, ONE SMART HOME

- ❑ Eebus and Energy@home are now working to make this vision become true.
 - Common starting point is the Ontology (SAREF) defined by TNO under the sponsorship of EU Commission in the Smart Appliance interoperability project
 - First step is the implementation of the Energy Use cases for Smart Appliances as agreed within CECED and standardized by CENELEC.
 - A common datamodel will be derived from SAREF Ontology to create the base for a technology neutral communication protocol designed to implement the energy use cases
 - Datamodel and protocol will be designed to be **open** and easily **expandable** in order to extend them to new products and use cases in the future.
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What Interoperability is not

Interoperability should not be

- ❑ an excuse to force consumers to provide to third parties more information than those required for enabling Demand-Response
 - ❑ a way to impose external control on their products by third parties
 - ❑ A shortcut from third parties to deprive consumers of their freedom to choose if and when they want to offer flexibility with their Smart Appliances
 - ❑ A way to avoid that consumers receive a fair reward for the flexibility they provide
 - ❑ A solution to override Smart Appliance control and force it against manufacturer's program or consumer input
 - ❑ a mandatory choice of communication technologies and protocols for direct communication with Smart Devices
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