SMART PRODUCTS INTEROPERABILITY: WHY WE NEED IT

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Why Do We Need Interoperability?

The promise of smart means devices are connected to a larger network of other devices and data. Connectivity — whether through NFC, Zigbee, WiFi — gives users more precise and more flexible controls for all products in the home

For Home Energy Management, Consumers prefer an integrated system versus dealing with all products individually

Energy@home

Smart Products and Energy Management

•SMART Products, and especially Appliances, are mostly known for their capability to provide DEMAND-RESPONSE

CO2 production reduced

Better integration and use of Renewable Energy

Reduction of cost of energy

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
  - With clearly defined rules, connected devices can react to certain situations and make smart decisions. These smart automations can take the burden from users and increase efficiency by handling tasks in the background. For best results though, smart devices must be integrated within their larger ecosystem — the HAN where other smart devices like smart meter, displays, energy production and storage units are present.
  - Interoperability allows manufacturers to exploit economies of scale in the EU market and so to compete in the global world,
  - Interoperability will preserve in time the value of investments made by consumers

Scope of Interoperability for Smart Devices

- Interoperability is needed to enable integration of Demand Response functionalities
  - ➢Smart start to benefit from low tariffs or use green power
  - ➢Load shift to reduce peak consumption
  - ➢Emergency power reduction request
- Interoperability may be used to share information coming from smart devices
  - ➢Example: visualize processes and statistics, energy produced by solar panel, level of charge of EV, remaining cycle time for washing machines, etc.
- Interoperability is a platform for both technical and business model innovation
  - ➢New services can be offered to consumer when different industries may work on a common base

What Interoperability is not

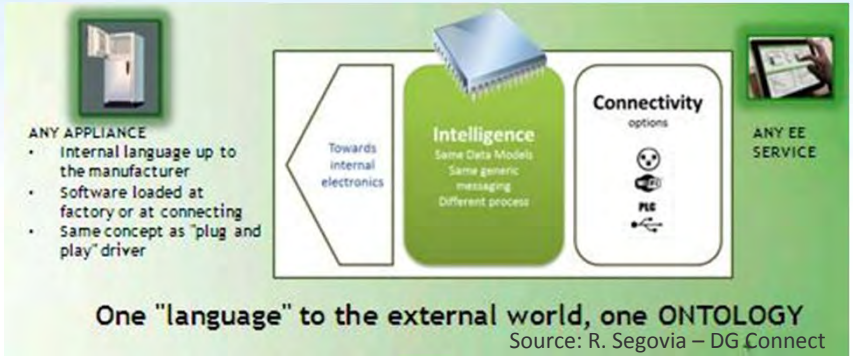
Interoperability should not be

- 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 on energy consumption
- 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

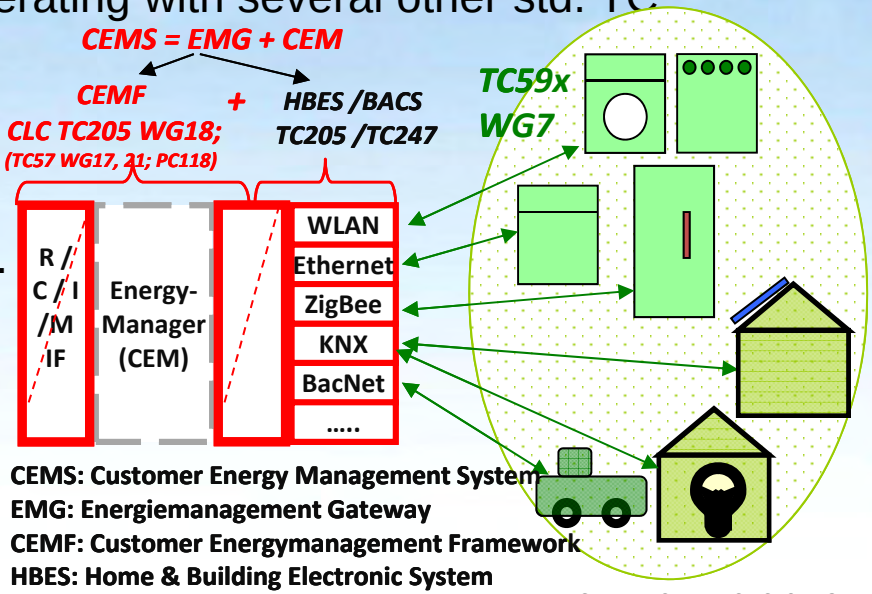
Current status of interoperability in europe

- CENELEC TC59 WG7 is currently working on a standard for Smart Products interoperability in the home and it is cooperating with several other std. TC working on HAN

- DG Connect is also initiating a study with ETSI for a common Ontology on Smart Products to foster 'Plug&Play' interoperability.



Source: R. Segovia – DG Connect



Source: CENELEC TC59 WG7

- Energy@home and EEBUS that have also signed a co-development agreement on a common datamodel and standard.
- Recently Bosch, LG, Cisco and ABB have signed an agreement for a similar initiative.

Conclusions: Interoperability is needed because...

- It is a key requirement from end consumers
- it is the only way to fully exploit the flexibility in the energy use that consumers may offer to future energy market
- It creates the right base for developing products and services with a global perspective
- It is a fundamental requirement to develop business innovation

ENERGY@HOME IS AT THE FRONTLINE IN THE DEVELOPMENT OF INTEROPERABILITY SOLUTIONS AT EUROPEAN LEVEL