GOALS OF EEBUS

• One global language for devices to **communicate about energy** – transcending the boundaries of industries and continents

• One common language that every device and every platform can use **free of charge** – regardless of the manufacturer and the technology

• One standard based language to **enable proper functionality of all devices** even in the event of an energy shortage

• One standard based language to enable companies to join the **solution business**

• One standard based language to deliver **plug & play** solution for residential and commercial applications
CROSS-INDUSTRY ASSOCIATIONS RELY ON EEBUS

AS WELL AS LEADING COMPANIES

[Image of various company logos]
MARKET REQUIREMENTS LEAD IN CONCRETE USE CASES

- Starting point of the standardization process are the **market requirements** brought by the companies.

- **Market requirements** are translated into use cases and information that needs to be shared in eco system are defined.

- The **cross-industry network** plays a central role. Through this exchange a common overarching understanding is developed and future developments accelerated.
• Transformation of the use cases into released specifications and data models

• The EEBUS working group ensures that only what is needed is standardized

• Common plug fests to verify the implementation of new use cases

• Global convergence through collaboration with international alliances such as Energy@home, OCF and Thread

>> EEBUS specifies and standardizes on behalf of industry
FROM THE VISION TO THE CONCRETE USE CASE

- OPEN STANDARD
  - Launch of market-ready products and systems
  - Identification of common market needs
  - Plugfests and independent testing
  - Transfer into technical specifications
- PARTNERING
  - Cooperative development of use cases

Use Case Collection
- User Stories
- High Level Use Cases

Generic Use Cases
- Interactions

Technical Solution
- Domain specific, defined by members

Use Case Specification
- SPINE Resources
- SPINE Protocol
- SPINE Data Model
SPINE AS TOOLBOX TO BUILD YOUR APPLICATION

Protocol Specification

Resource Specification

SPINE Tool Box
maximum flexibility for the ecosystem

Use Case Specification
precise guidance to build the application

Use Case 1

Use Case 2

SPINE Resources

SPINE Protocol

SPINE Data Model
EEBUS describes the data models necessary for the technical implementation of a use case (Smart Premise Interoperable Neutral Message Exchange = SPINE)

- SPINE is standardized

- SPINE can be transmitted via many communication/transmission channels, e.g.
  - In TCP/IP environment, EEBUS has published the specification (Smart Home IP = SHIP)
  - In UDP environment cooperation with Thread and OCF
To guarantee **maximum flexibility**, the EEBUS architecture is based on the **SGAM architecture** model and offers solutions for several layers.
Introduction

Energy management systems will more and more become necessary due to change from fossil and nuclear to renewable production and the associated decentralisation. Since an appropriate standard for a home & building management is in preparation this European Standard specifies how sets of products from multiple manufacturers are able to interoperate with Home & Building / Customer Energy Management Systems, located in a home network or in the cloud, in the most interoperable manner.

This standard focuses on interoperability of household appliances and describes the necessary control and monitoring. It defines a set of functions of household and similar electrical appliances. The functions in this standard cover next to energy-management main remote-control and – monitoring use cases.

This European Standard does not deal with safety and security requirements. Safety requirements have been set in IEC/EN 60335-x (17).

EN 50631 will provide interoperability on information exchange among various appliances in the home. The standard will be split into 4 parts:

- EN 50631-1: Household appliances network and grid connectivity — Part 1: General Requirements, Generic Data Modeling and Neutral Messages
- EN 50631-2-x: Household appliances network and grid connectivity — Part 2: Product Specific Requirements and -Specifications
- EN 50631-3: Household appliances network and grid connectivity — Part 3: General Test-Requirements & -Specifications
- EN 50631-4-x: Household appliances network and grid connectivity — Part 4: Technology Specific Implementation and Test Requirements
SEAMLESS COMMUNICATION FROM GRID TO DEVICE LEVEL

- Manufacturer-independent energy management
- Transparency of energy demand and flexibility
- Grid interaction up to the device level

Energy Management System (EMS)
- Photovoltaic
- Lighting
- Air Conditioning
- Electrical Energy Storage (EES)
- Internet Access
- E-Mobility
- Microwave
- Private Cloud Device Service

Flexible Charging

- Trading
- Billing
- Metering
- Grid Connectivity
- E/E Hardware
- Energy Management System (EMS)
- Private Cloud Device Service
- Smart Grid
- Energy
- In-Plant Metering
- MV access
- Photovoltaics
EEBus Initiative e.V.
Butzweilerhof-Allee 4, 50829 Cologne / GERMANY
Rue d’Arlon 25, 1050 Brussels / BELGIUM

Phone: +49 221 / 47 44 12 - 28
info@eebus.org

www.eebus.org