



# SEESGEN-ICT

## 4° GENERAL WORKSHOP

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**Bert Claessens (Maarten Hommelberg) (VITO):**  
*ICT requirements, solutions and needs for the priority applications*



PARIS 14/04/2011



# THANKS to SAP

- To Maher Chebbo and Fritz Schwarzlaender
- To Françoise Bailly



# Introduction

4.2 Investigate the ICT solutions which may support efficient demand side integration (DSI) into the future generation smart electricity network of Europe.

The different stakeholders and their corresponding requirements, functions constraints and objectives have been defined.

## **End users**

- Offer flexibility to reduce cost and increase efficiency under strict constraints/requirements: **privacy, financial gain...**

## **Aggregators**

- Facilitate demand side integration for end user by removing barriers that can hinder power market participation.
- coordinate generation and load, end user constraints,
- Support that controllable loads and resources are integrated in a way that generates the most value to the end user

## **DSO**

- Responsible for transport electrical power on distribution networks, guarantee the safe and economic operation and the maintenance of the distribution grid.
- Reduce losses and defer investments in net reinforcement
- Requirements are e.g. **Aggregation, Information exchange, reliability demand side management**



### ***Match maker and clearing house***

Internet based system that links end users and aggregators

Have to be unbiased and transparent

The clearinghouse is an unbiased intermediate entity that helps facilitate market processes by collecting synchronizing and coordinating interactions and data between power market participants.

### ***Demand side coordination mechanisms***

E.g. Hierarchical market-mechanisms, prices to devices,...and the corresponding potential



### **Develop and facilitate an ICT Demand Service oriented Platform (DSSP)**

Meeting the requirements of the addressed stakeholders based upon the shared interest (common needs)



## Requirements (barriers Inaki Laresgoiti)

economical

technical

social

### **Economical:**

investment required by the automation of the process and the expected revenues, what is the benefit of DSI ?

### **Technical :**

*Equipment related:* smart meters

*Interoperability:* standardization

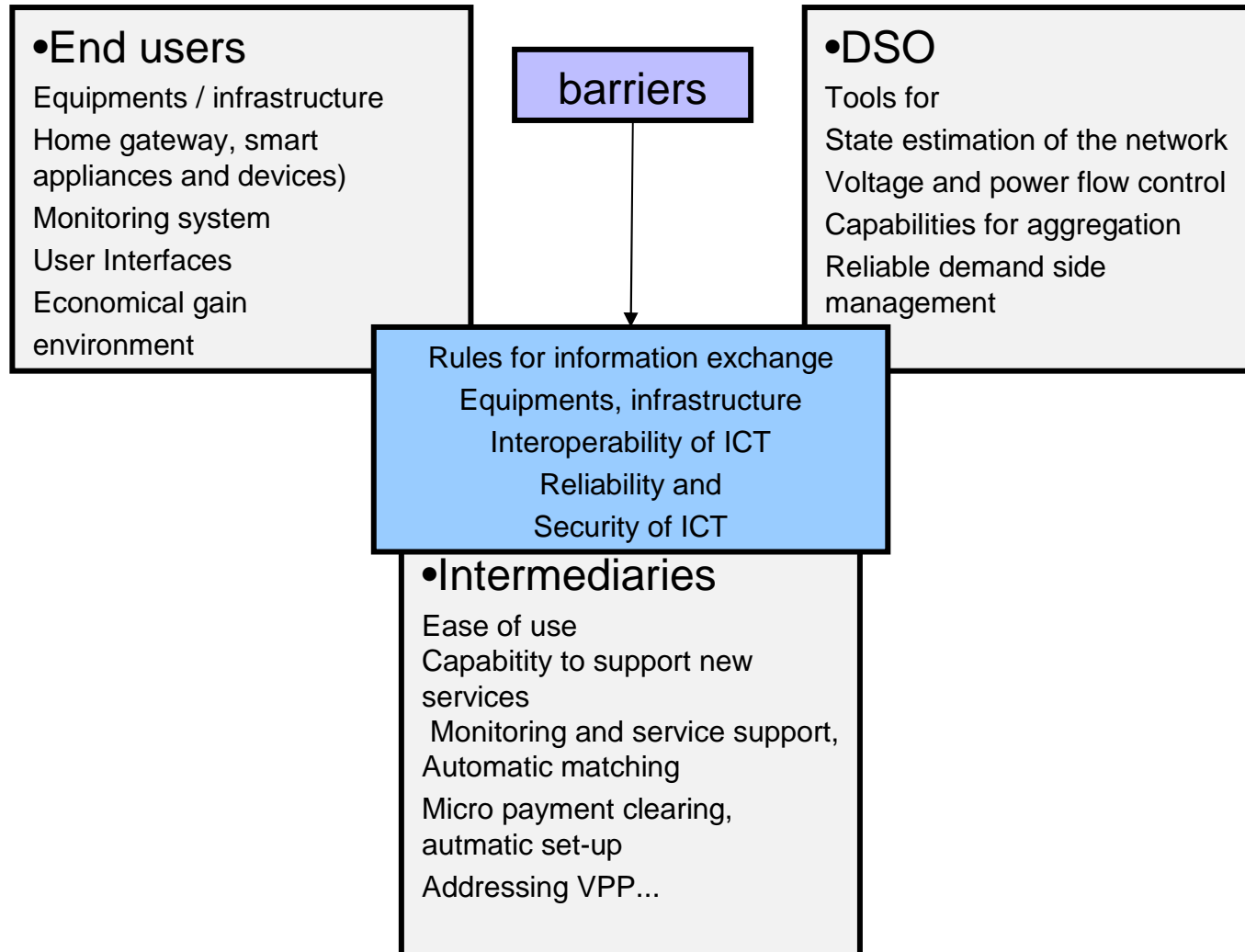
*Security:* dedicated lines...

### **Social:**

Social acceptance, privacy issues



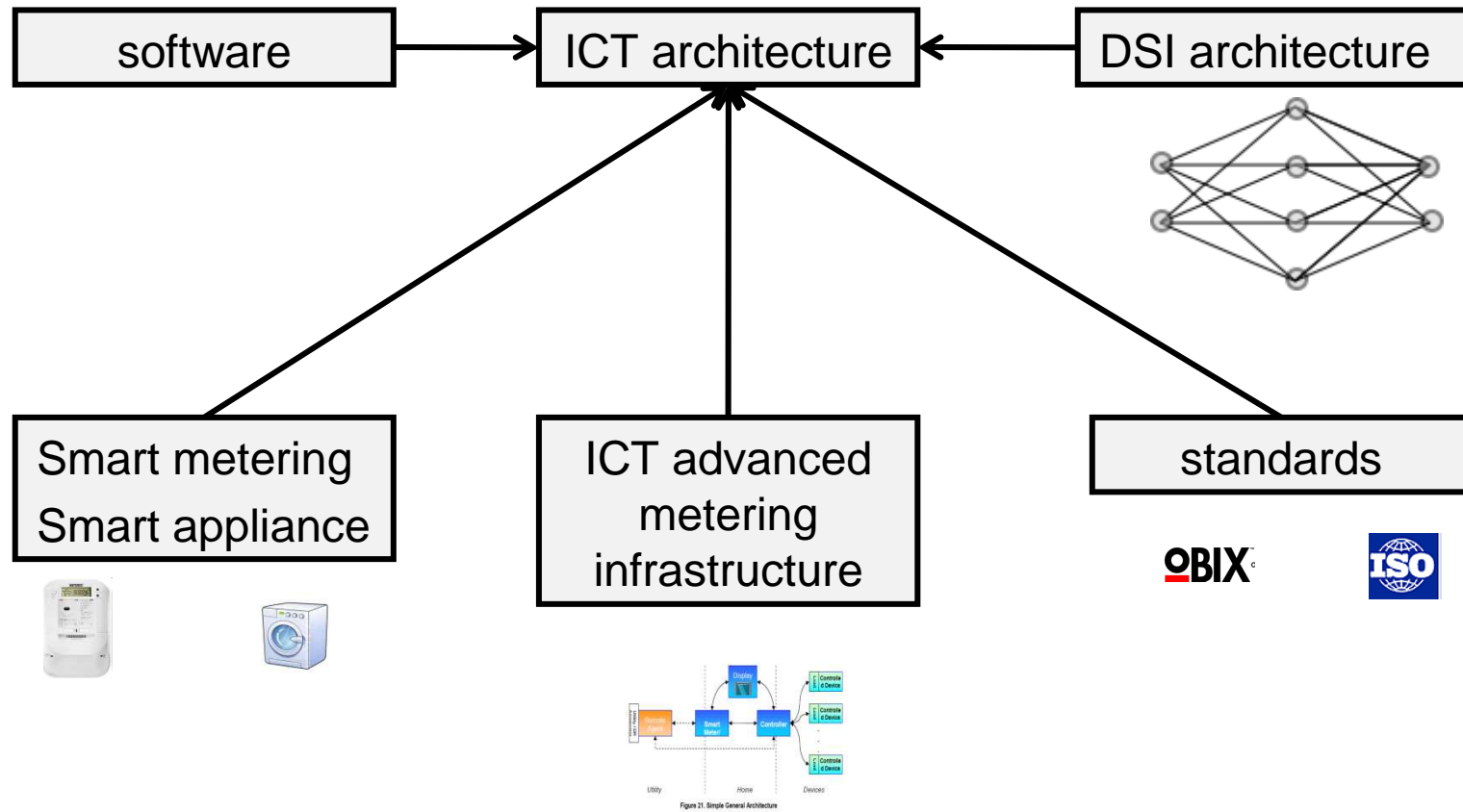
# DSSP



**equipments & infrastructure, regulation framework, interoperability, reliability and security, ...**



# DSSP

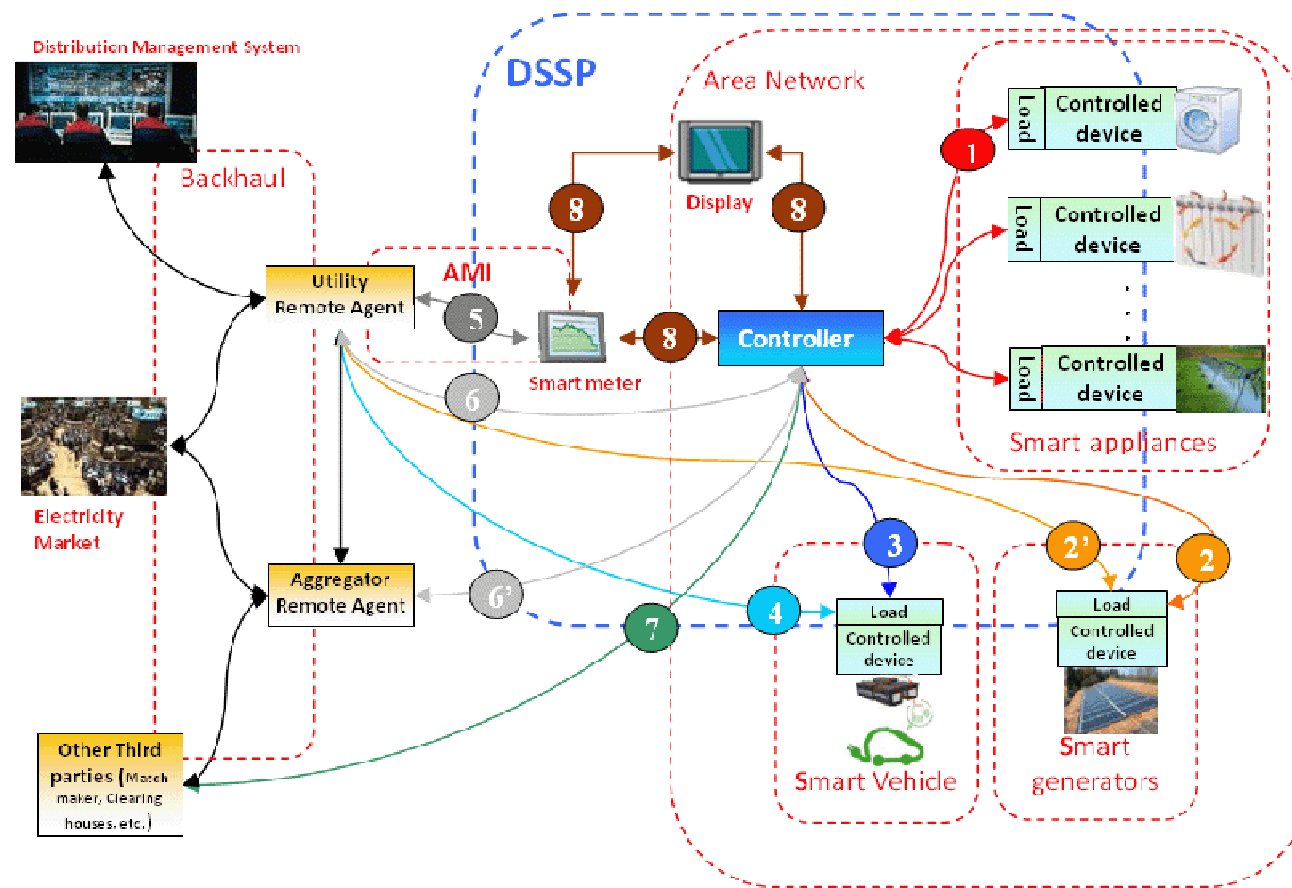




# DSSP

## Develop and facilitate an ICT Demand Service oriented Platform (DSSP)

Meeting the requirements of the addressed stakeholders and address the technical and non-technical barriers





# Summarize

- DSSP has to provide all required ICT practises that stakeholders have to share
- Interface which provides interoperability (smart appliances, meters, generation,...), plug and play
- reliability, safety and security rules for connection between the electrical system and the end-user environment
- Tested and demonstrated capacity to provide a minimum level of services to the grid
- Tested and demonstrated solutions for societal requirements, and economic valuable