



# ETIP SNET

**European Technology and Innovation Platform  
Smart Networks for Energy Transition**

**13<sup>th</sup> ETIP SNET Regional Workshop  
Parallel Session 4  
Consumer and Data to discuss the relation of  
products, privacy and policy**



# Consumer and Data to discuss the relation of products, privacy and policy

<b>WELCOME AND INTRODUCTION</b>	<ul style="list-style-type: none"><li>- <b>Ludwig Karg</b> – B.A.U.M. Consult</li><li>- <b>Esther Hardi</b> – Energiecoöperatie 2030</li></ul>
<b>99 SECOND PITCH</b>	<ul style="list-style-type: none"><li>- <b>Kalle Kukk</b> – Elering (<b>EU-SysFlex project</b>)</li><li>- <b>Heidi Tuiskula</b> – Smart Innovation Norway (<b>E-LAND project</b>)</li><li>- <b>Ivelina Stoyanova</b> – E.ON Energy Research Center (<b>OneNet project</b>)</li><li>- <b>Pedro Crespo del Granado</b> – Norwegian University of Science and Technology (<b>BEYOND project</b>)</li></ul>
<b>PANEL DISCUSSION</b>	<ul style="list-style-type: none"><li>- <b>Kalle Kukk</b> – Elering (<b>EU-SysFlex project</b>)</li><li>- <b>Heidi Tuiskula</b> – Smart Innovation Norway (<b>E-LAND project</b>)</li><li>- <b>Ivelina Stoyanova</b> – E.ON Energy Research Center (<b>OneNet project</b>)</li><li>- <b>Pedro Crespo del Granado</b> – Norwegian University of Science and Technology (<b>BEYOND project</b>)</li></ul>



European  
Commission

# Welcome

## *Panellists*

EU-SysFlex – **Kalle Kukk** – Elering

E-LAND – **Heidi Tuiskula** – Smart Innovation Norway

OneNet – **Ivelina Stoyanova** – E.ON Energy Research Center

BEYOND – **Pedro Crespo del Granado** – Norwegian University of  
Science and Technology (NTNU)

## *Moderators*

**Ludwig Karg** – B.A.U.M. Consult

**Esther Hardi** – Energiecoöperatie 2030

# General organisation rules

- Switch off your microphone and Camera
- Only Panellists and Moderators will have Camera and Microsoft on

## ➤ Questions & Answer session

- Please write your questions in the chat on TEAMS



The entire workshop (including the parallel sessions)  
will be recorded !

## ➤ accessing links

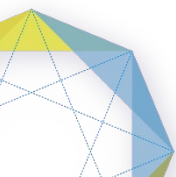
- They will be posted in the chat before each session change!

# Join the conversation on Slido



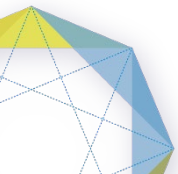
[www.slido.com](https://www.slido.com/#742417)  
**#742417**

→ **Parallel Session 4**  
**'Consumer and Data to discuss  
the relation of products, privacy  
and policy' at the top left**



# Join the conversation on Slido

- *Which sector are you from?*
- *In which country is your company/organisation located? [No abbreviations, full country name in English]*
- *Which of the following is currently your primary research area?*



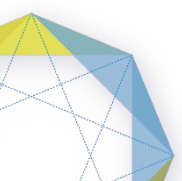
# 99-Second Pitches

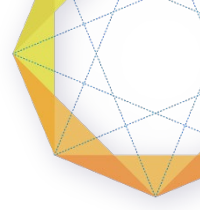
**EU-SysFlex** – Kalle Kukk – Elering

**E-LAND** – Heidi Tuiskula – Smart Innovation Norway

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# **EU-SysFlex**

## **Kalle Kukk – Elering**



# Overall increase in system complexity



GREATER RELIANCE ON VARIABLE  
SOURCES OF ELECTRICITY

## System Structure



BECOMING MORE DECENTRALISED AND DISTRIBUTED

ELECTRIFICATION OF HEAT,  
COOLING & TRANSPORT



LARGE SCALE DEPLOYMENT  
OF BATTERY STORAGE



SMARTER  
LIVING

2030>>

50%  
RES

 EU-SysFlex

CREATING A ROADMAP  
TO ADDRESS FUTURE  
SYSTEM OPERATION  
COMPLEXITIES

... 2050>>

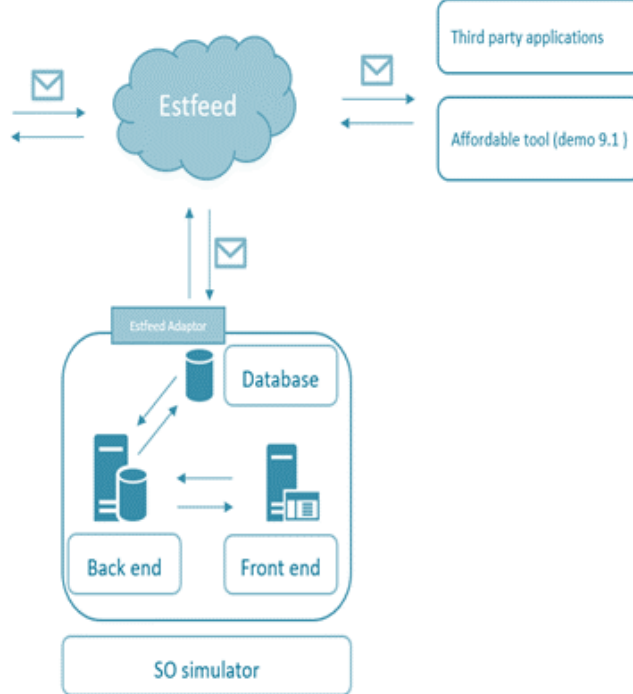
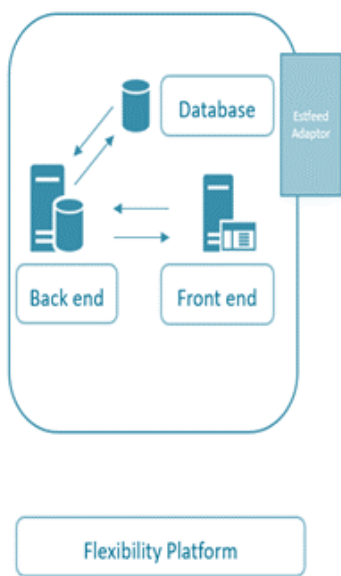
ELECTRICITY USE IS ESTIMATED TO INCREASE FROM 20% OF THE OVERALL  
EUROPEAN ENERGY USE TODAY TO 40% OF ENERGY NEEDS.



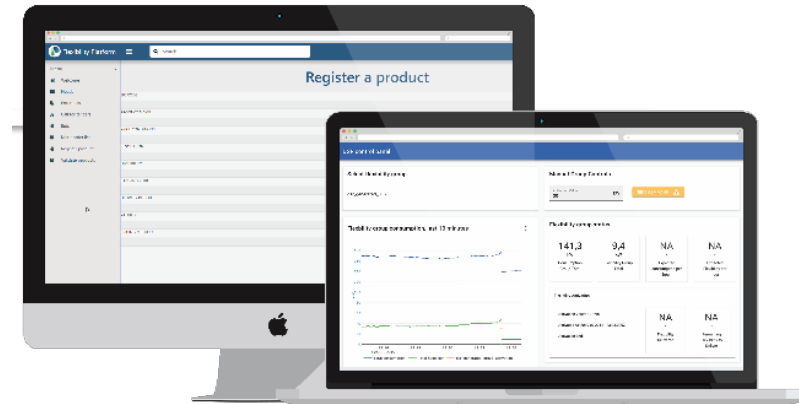
EU-SysFlex



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# Data access -> market access



eurora

Affordable Application

TagDsr

Submit Flexibility Potential

FlexibilityStatus Table

Products

Call for tenders

Submit Schedule

Schedule Table

Submit Flexibility Bid

Create Activation Order

Activation Order Table

Service Provider  
EnocoFSP



Preparation period  
Hours

Enter period time  
1

Product ID  
27 - Product\_Enoco\_Estfeed\_Test

Expiration date  
2020-10-08

Expiration time  
22:30

Metering point ID  
2

Localization factor  
A

Power (kWh)  
100

Baseline type  
ex ante

☒ Decreased consumption  
☐ Increased consumption

Compliance demonstration  
A

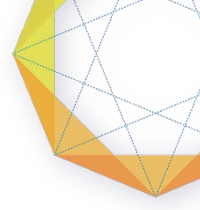
SUBMIT FORM

Availability start  
2020-10-08

Time start  
22:30

Availability end  
2020-11-08

Time end  
21:00

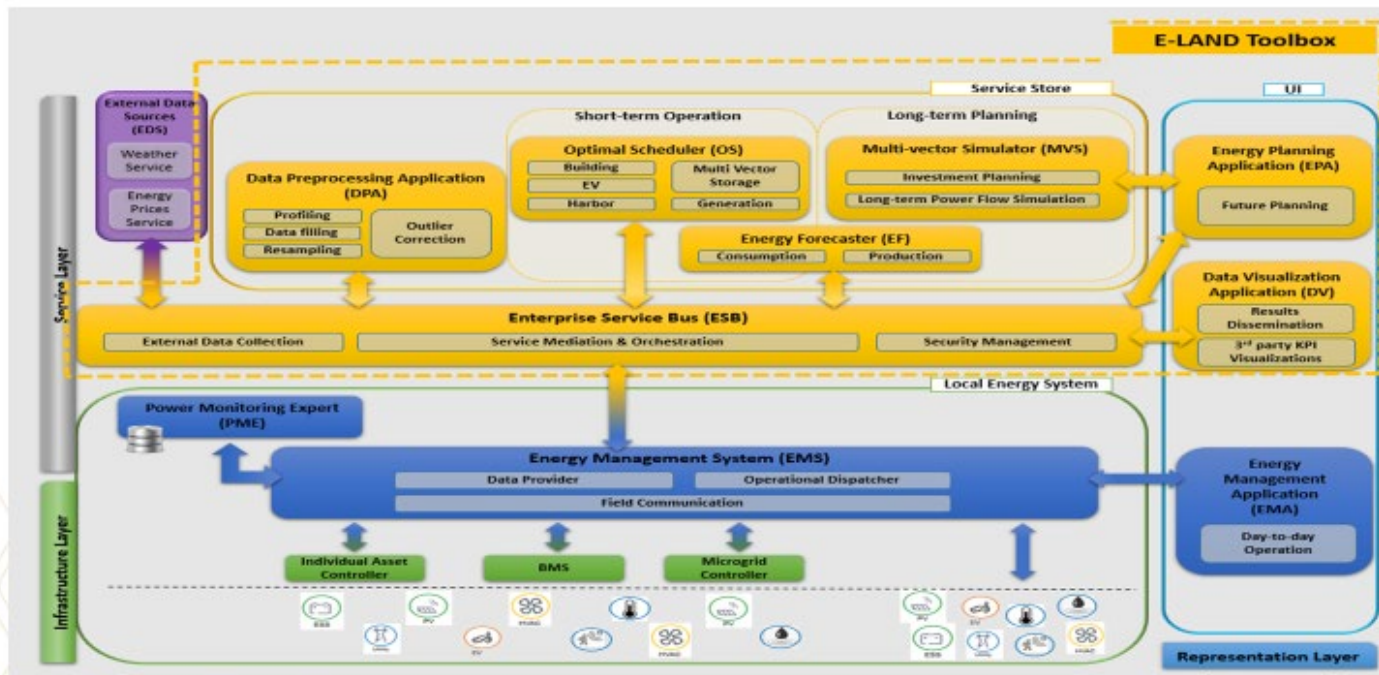


**E-LAND**

**Heidi Tuiskula – Smart Innovation  
Norway**

# E-LAND Toolbox

## Overall E-LAND architecture



99



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# Piloting and replication



Port of Borg  
NORWAY



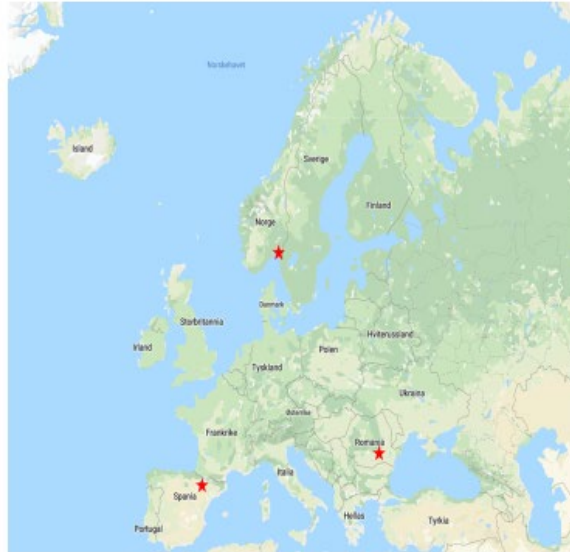
UVTgy Campus  
ROMANIA



Walqa Technology Park  
SPAIN



European Pilot-Sites: Characteristic and Location



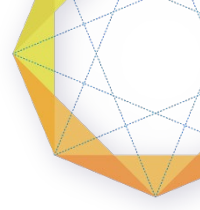
Indian replication sites



E - LAND



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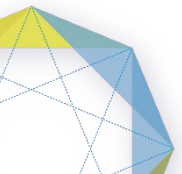
# OneNet

**Ivelina Stoyanova – E.ON Energy  
Research Center**

# OneNet

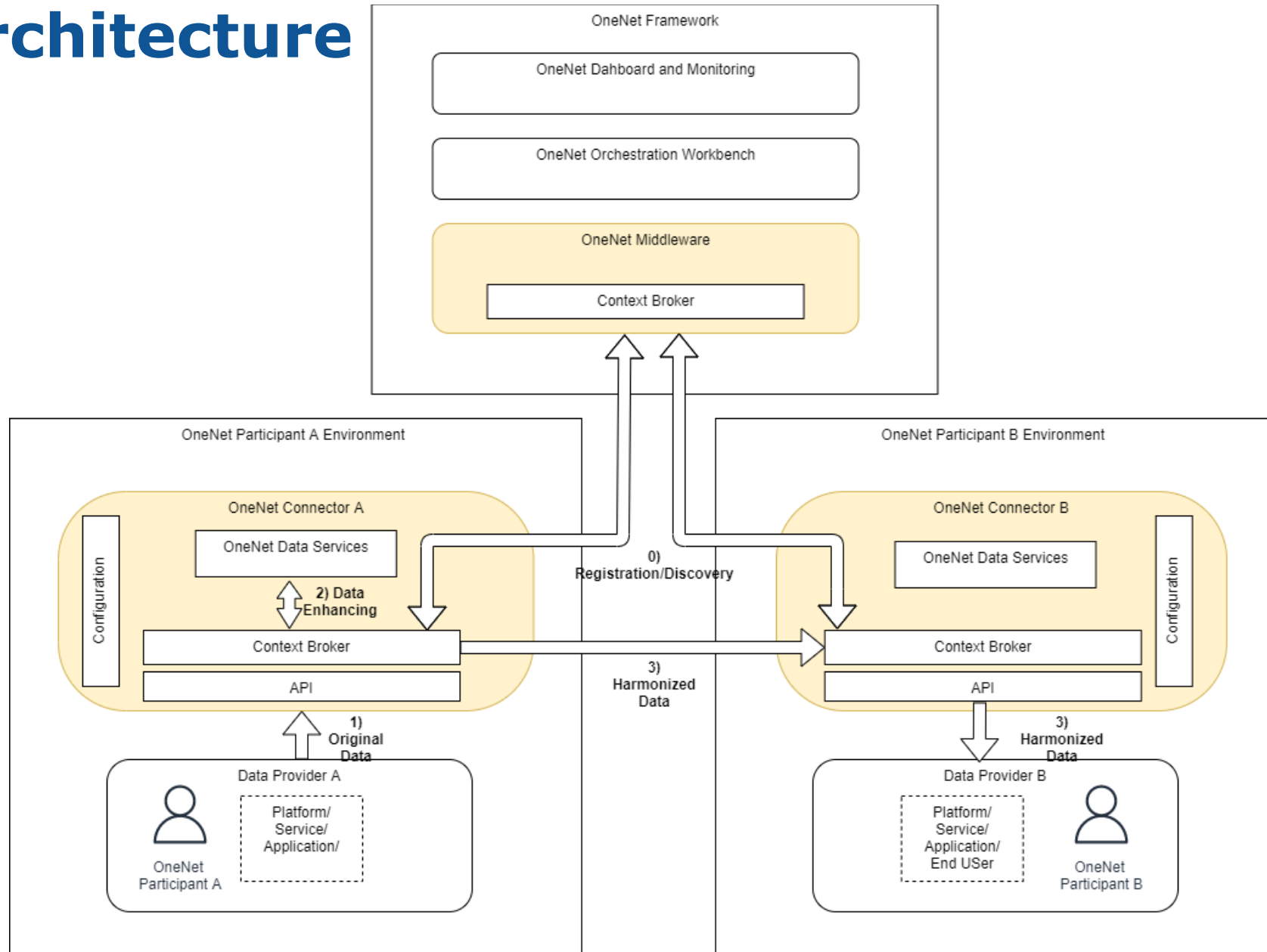


- *Integrated view of grid operations*
- *Customer centric approach to grid operation*
- *Innovative mechanisms of platform federation*
- *Four demo clusters in 12 countries*
- *Large-scale discussion forum within the international energy community*

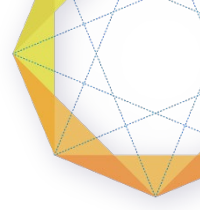




# Architecture







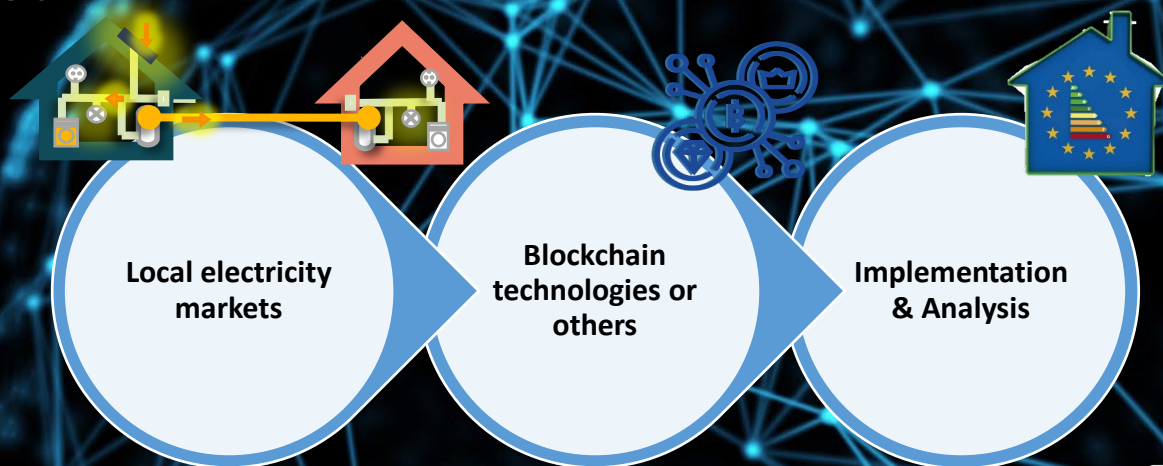
# **BEYOND**

**Pedro Crespo del Granado –  
Norwegian University of Science  
and Technology (NTNU)**



# *Blockchain based Electricity trading for the integration Of National and Decentralized local markets*

#Local Markets # Prosumers # Blockchain



Dr. Pedro Crespo del Granado

13th ETIP SNET Regional Workshop



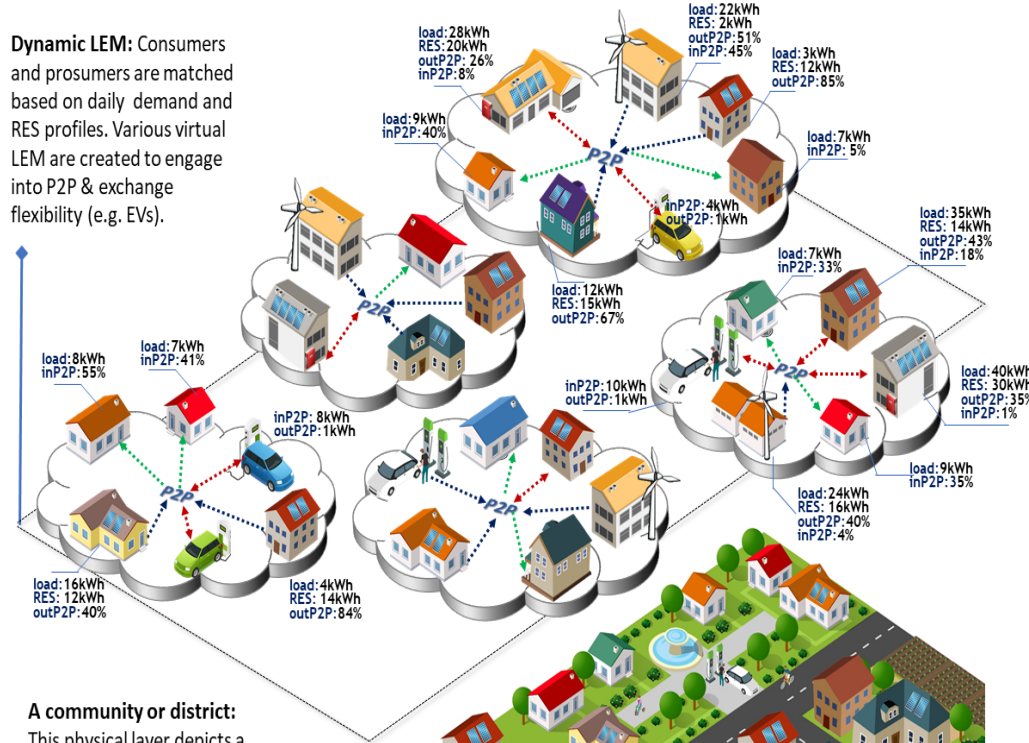
This project has received funding in the framework of the joint programming initiative ERA-Net Smart Energy Systems' focus initiative Integrated, Regional Energy Systems, with support from the European Union's Horizon 2020 research and innovation programme under grant agreement No 775970



# Digital Local Electricity markets: Designs and Data

- Market designs within the energy community
- Pricing flexibility for active consumers and prosumers
- Role of local markets in DSO operations (grid tariffs)
- Market designs to integrate communities and national established wholesale markets
- Introducing incentives to create local markets: P2P schemes.
- Clustering virtual LEM

**Dynamic LEM:** Consumers and prosumers are matched based on daily demand and RES profiles. Various virtual LEM are created to engage into P2P & exchange flexibility (e.g. EVs).



**A community or district:**  
This physical layer depicts a set of houses that might belong to a large community or district. Or perhaps are not restricted to geographical location.



# Panel Discussion

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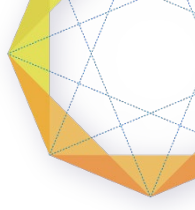
What would you rather donate: personal and other sensitive data or blood ?

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**Code: #742417**

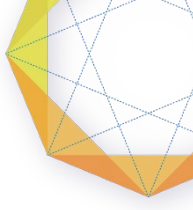
**→Parallel Session 4**

# Questions – Panel Discussion



- What energy related services could you imagine to implement when you get enough personal or sensitive data?  
What are common usages of data?
  - Volume profiles of energy use, forecasting data
  - Business and marketing data
  - Security and military sensitive data, weak spots in the system
- How open will people will be to share personal or sensitive data with the provider of the energy service? (share behavioural patterns to get best price?)
- Will people be open to “pay” with data that the energy service provider can monetize with non-energy businesses (like “app for free” or “app with adds”)

# Questions – Panel Discussion



- Do people know at all what data they share already?
- What are the examples of “abusing” data? (e.g. selling consumption data to marketing companies). Are there reasons to be anxious of such abuse?

(On the Dark web, consumption data are available for some Euros\* ) Do we feel bad, because others monetize our data?

- In E-Land you collected lots of data. Why were people not anxious?
- In case an operator “abuses” consumption or other data for purposes other but energy supply, and people come to know that: what would you think happens?

# Join the conversation on Slido



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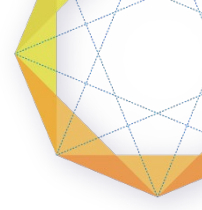
**Code: #742417**

**→Parallel Session 4**

Imagine: your utility offers to you a monthly flat rate for power and average savings of 20%. The prerequisite is to share sensitive personal behavioural data every month. Will you accept?



# Questions – Panel Discussion



- What data is it that we really need to manage the energy system?
- It has been proven that consumption data with a sampling time below 10 ms can be disaggregated so to derive behavioural information. When and why do we need such high resolution data sets?
- Does (personal / sensitive) data help the energy operator if it is anonymized? Examples? Does (personal / sensitive) data help the energy operator if it is aggregated? Examples?
- What is the threat for privacy when energy (consumption / pattern) data is combined with data from other sources (IOT)?

# Join the conversation on Slido



To whom would you willingly give personal or sensitive data (sliders each option 1-5):

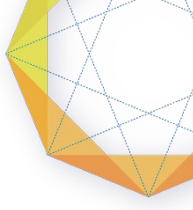
- ( ) energy community you belong to
- ( ) anonymous system operator
- ( ) local energy utility you have a contract with
- ( ) energy trading platform in internet
- ( ) commercial data warehouse (that shares it with the utility)

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**→Parallel Session 4**

# Questions – Panel Discussion



- Is there a cultural, social or educational difference with people to share personal data?
- If we say the customer should be central in the energy system, if we say that the owner of the data is the consumer, what should we do to keep the customer in control?
- What difference does it make if people are asked to give their data to an anonymous system operator, a local utility or an energy community of their neighbours?
- Whom can we trust more: public or private data centers?
- Would we give data to public sector expecting they can fight fraud or illegal business as drugs labs?
- During COVID we have learnt that protection of private sphere is more important than maximizing health protection. How appropriate would it be to force people into providing data for optimally managing hat energy system?
- What should be investigated further when it comes to the question “collecting data for optimizing the energy system”?

# Join the conversation on Slido



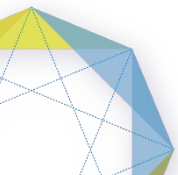
With respect to our today's topic: express in one or two words the main research gap in your country ...

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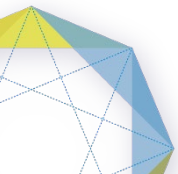
**Code: #742417**

**→Parallel Session 4**

# Results from SLIDO



# Q&A session





**Thank for your participation  
and attention!**

**Please attend the  
Plenary Session from 12:10-  
13:00.**

