In search of viable IoT enabled Business Models
EU Vice-President Maros Šefčovič

“Renewables, decentralized energy, digitalization and smart grids will be the backbone of the new modern economy in Europe.”

Energy Union is

“Deepest Transformation Energy Systems Since Industrial Revolution”
Session: "Novel Business Models for Smart Cities", June 5th, 2018
The 5 Ds of the Energy Transition

**DECENTRALISATION**

**DECARBONISATION**

**DEMOCRATISATION**

**DEREGULATION**

**DIGITALISATION**
# Smart Grids

**Policy Messages to the Mission Innovation**

Ministerial 3: The Clean Energy Ministerial
22nd of May 2018

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**Clean Energy**

We need to accelerate the green transition!

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**Flexibility**

Because we don’t exactly know what will come up.

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**Collaboration is key**

Technology innovation services flexibility.

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**Networks**

Connectivity, innovation, flexibility.

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**Smart Grids**

Digitalization, demand response, battery storage.

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**Drivers**

Climate change electrification, resilience.

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**Decarbonization**

Digitalization, dynamic regulation.

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**Business Innovation**

Local energy systems, energy efficiency.

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**Drivers**

Climate change electrification.

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**Regulatory Sandbox**

Demand/Response

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**Digitalization**

Smart grid arena, mission innovation, national stakeholders EU.
Energy System in Transition

1. Decentralised and smarter system
2. Low carbon energy generation
3. New modes and levels of interaction and management
4. New transmission, generation and balancing technologies and services
Max and Alice is a young couple committed to sustainability, trying to convince their parents to join their lifestyle. They want to make the most of their generation and storage facilities, thanks to a pilot rollout in their town.

Now they can easily set up and manage their home energy system, minimising their CO2 footprint. They learn about SHAR-Q, a smart collaborative platform connecting the capacities of the neighbourhood and wide regional electricity generation and storage capacities.

3rd party added value services can be identified and developed. Demand response programs can be deployed to leverage local prosumers production, helping DSOs to balance the grid and cover the peaks.

Home and office environments can interact through SHAR-Q platform, e.g., to enable the use of energy stored in the EV's battery.

SHAR-Q IS A WIN-WIN FOR ALL MARKET PARTICIPANTS!!

DILO
PROSUMER perspective
DILO GRID
OPERATOR perspective

A Regional DSO connected to SHAR-Q platform collects weather information anticipating future demand and production peaks.

DSO and demand response (DR) partner interact to find the best solution.

SHAR-Q provides the DR partners with the resources available to manage the peak consumption (storage from prosumers, demand reduction...).

DR sends requests for P2P power share through SHAR-Q platform. Prosumers can accept or decline according to their energy needs.

Thanks to SHAR-Q, peak load is under control, collaborating prosumers are rewarded and notified of the benefits gained and a significant reduction of CO2 emissions is achieved.

CONTACT: ATOS Spain S.A. / Juan Rico - Project Coordinator Tel.: 0034-914 634 177 / Email: juan.rico@atos.net

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Aligning BUSINESS MODELS and the policy objectives

EU objectives 2030:
- a binding EU target of at least a 40% reduction in greenhouse gas emissions by 2030, compared to 1990
- a binding target of at least 27% of renewable energy in the EU
- an energy efficiency increase of at least 27%, to be reviewed by 2020 with the potential to raise the target to 30% by 2030
- the completion of the internal energy market by reaching an electricity interconnection target of 15% between EU countries by 2030, and pushing forward important infrastructure projects.
P2P, Social Energy, Energy Efficiency, Decarbonisation, Smart Building Indicators, Self Consumption
Consumer Positioning Progression

Energy users

Imbalances in the grid

The transition medium

A metering point

The subject

An object

Prosumer

Customer

Consumer

Next: digital ID and access rights holder?

Image and the related research Credit to Thomas N. Mikkelsen, VAASA ETT
Organic needs
Public and Private sector gaps

- Facilitate: Public sector smart contract to enable municipal solar or other RES DER, while providing energy poverty matching with producers and other donors;

- IoT services: Verification and enabling P2P transactions; data valorisation;

- Regional Resiliency. The internal energy market where market makers (network operators) will have to manage an increasing number of interactions with market players while ensuring adequacy and security

- Unlock: Energy Efficiency ESCO models savings and systems performance verification for Municipal level systems;

- Unlock: Location based grid charging / within local grid/neighbourhood grid or microgrid;

- Partnerships and collaborations. Scale!
WEB 3.0 or FOMO
Four types of IoT Business models:

1. Anything as a Services
2. Multi Sided Market
3. Partnerships / Barter / Reciprocity
4. Freemium

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PUBLIC and PRIVATE sectors delta

PUBLIC

- Challenges procurement
- Innovation solutions risk
- DEMO scaling up
- Legacy systems locked in platforms

PRIVATE

- Short paybacks
- Scale ups vs Customisation
- Hybrid: Complexity of PPP

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References

1. IoT Business Models Framework deliverable
2. IoT-EPI.eu
3. Cross-Cutting Business Models for IoT study, 2017
4. AIOTI white papers from WGs
5. European-iot-pilots.eu
Thank you!

**RESEARCH & INNOVATION**
- H2020

**PILOTING**
- DEMONSTRATION

**INFRA AND SERVICES**
- 42HA
- 4MW

**DEVELOPING**
- HYDROGEN ECONOMY ECOSYSTEM

**FOCUS**
- DER RES
- ENERGY INNOVATION
- DIGITAL ENERGY SOLUTIONS
- IOT
- ENERGY STORAGE

**Plug & Demonstrate**
- Technology Infrastructures

**Team Expertise**
- RES SYSTMS DEVELOPMENT
- OPERATIONS AND MANAGEMENT
- RESEARCH & INNOVATION
- SCIENTIFIC COMMUNICATION AND BRANDING

**The Future of Digital Energy Is Here**

**Collaborate**

**Enercoutim**
www.enercoutim.eu
Natalie Samovich
n.samovich@enercoutim.eu